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UNIVERSITY OF CALGARY

Decision-making in Practice:

Surgical Actionability and Consent in Pelvic Floor Medicine

by

Shoghi W. Nikoo

A THESIS

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Abstract

In this thesis I explore how patients' problems are made surgically actionable so that decisions regarding and consent to surgery may be produced. I employ ethnographic observations of the material and semiotic practices in which surgeons and patients are engaged. Surgical actionability arises in a cascade of practices that produce diseases such that they meet conditions of actionability. Disagreement between realities of a problem, or uncertainty regarding surgical outcomes, may produce disruptive turbulence in these cascades. Surgeons manage turbulence by shifting sites of decision onto 'patient choice' – if a patient decides she is bothered enough to justify the risks, surgery may go forward. However, patients' decisions rarely take on this 'rational' character; instead, they appear to be non-formal and centre on issues other than risks and benefits. I question the value of 'respect for autonomy' and propose that policy based in care, with a focus on the particularities of disease and decision production, may serve patients better.

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For my dad

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Chapter 1: Introduction

It is about 9:30 on a cold, snowy December morning. Many patients have cancelled their appointments; it is a slow day in the clinic. I watch and listen as a surgeon meets with a patient – she is in her early 40s and has dark, curly hair. She earlier complained of a bulging sensation in her vagina that she has had since she delivered her first child. She says wants to be rid of the sensation, and after asking some questions and physically examining her, the surgeon describes a few surgical options. She describes success rates, how the surgery is done, and some possible complications. After a short discussion, the surgeon says, "You have to ask yourself how much it is impacting what you want to do and whether it's worth the risks." The patient says she wants the surgery and, after writing on a consent form, the surgeon leaves a nurse with the patient to read and sign the form.

This all happened very fast – after only a few minutes this patient's bulging feeling was identified as a surgically actionable prolapse, an acceptable surgery was selected, and consent was given. How was the patient able to make this decision? How was the surgeon able to identify an appropriate surgical option? More fundamentally, how was her bulging sensation identified as surgically actionable? This thesis explores these issues of disease production, decision-making, and informed consent in a pelvic medicine clinic.

Theoretical Foundations

Charles Bosk describes a danger of ethnography as missing "the theoretical forest for the too-richly described trees" (2003:17) – ethnographers, he explains, often run the risk of producing work too far removed from its theoretical roots. A clear foundation in the literature on which this thesis draws will, I hope, make clear the forest – the theory – that engendered these trees – my observations. This thesis explores how patients' problems are made surgically actionable so that decisions regarding and consent to surgery may be produced. It adds to our theoretical knowledge of how doctors and patients negotiate their interactions and the contingent nature of doctors' and patients' work. In this section I will describe the literatures to which this research is indebted and the ways this project contributes to them.

Doctor-patient engagements

Social scientists have long shown interest in interactions between doctors and patients. This literature was a starting point for this thesis – an interest in doctor-patient engagements drove much of my early analysis. In this section I will highlight the key turns in this literature to which this thesis is indebted. I will then mention a limitation in this literature to which I will return later in this chapter. Finally, I will discuss how the perspective I take in this thesis can add to the general study of doctor-patient engagements.

Early research into doctor-patient interactions was highly concerned with "communication gaps" (for a comprehensive review of early research in doctor-patient interactions, see Hauser 1981). Some of the earliest researchers to attend to the medical interview claimed to have opened "the art of medicine" up to "scientific scrutiny" (Korsch, Gozzi, and Francis 1968:855). By the "art of medicine", Korsch and colleagues meant doctors' communication, which they assessed by analyzing the content of hundreds of interactions between doctors and parents of patients at a children's hospital. They reported on how various characteristics of the doctor-patient interaction impacted patients' compliance and satisfaction; whether physicians met patients' expectations to be friendly, concerned, and sympathetic were the most important predictors of patient satisfaction (Korsch, Gozzi, and Francis 1968; Francis, Korsch, and Morris 1969). They

identified "communication gaps" as unmet expectations from the medical encounter, lack of warmth from the doctor, and insufficient explanation of diagnosis and cause. These "gaps" were associated with lower patient satisfaction, which was in turn associated with lower compliance with doctors' recommendations.

The flow of information, doctors' and patients' satisfaction with the interaction, and consequences of "communication gaps" continued to preoccupy studies of doctorpatient communication for nearly two decades (Hauser 1981). Byrne and Long (1976), for example, found in their study of over a thousand tape-recorded interviews that physicians encouraged patient participation in only a quarter of cases. They also identified communication styles with increased patient involvement to often be used as a fall-back when more direct styles do not lead to closure of the conversation. This represented a "gap" in the communication between doctors and patients. Hauser (1981) describes that, while researchers began to wonder how doctors' and patients' social contexts, such as their class and race differences or socialisation, impacted doctor-patient interaction, "communication gaps" remained of key interest to researchers.

Waitzkin's early work also focused on factors influencing the information passed between doctors and patients (Waitskin and Stoeckle 1976; Waitskin et al. 1978). However, the goal of this research, rather than improving compliance, was to "elucidate, more precisely, characteristic patterns which emerge in doctor-patient relationships" (Waitzkin et al. 1978:415). By analysing recorded doctor-patient interviews, Waitzkin found that doctors' ability to withhold information from patients was a key part of the power and politics of doctor-patient interactions, adding a critical dimension to Waitzkin's work – "physicians' ability to preserve their own power over patients in

doctor-patient relationships depends largely on the ability to control patients' uncertainty" (Waitzkin and Waterman 1974:77). By withholding information from patients – diagnoses or test results, for example – physicians kept patients uncertain about their problem, resulting in physicians maintaining control over the conversation. Not knowing what was wrong or how their problems might be addressed, patients had a limited ability to advocate for themselves or to circumvent physicians' authority. The use of technical synonyms for common-sense terms, "correction" of patients' own explanations, and diminishing patients' concerns through relabeling them as "normal parts of ageing" or providing a less-severe label to the patient's disease also appeared to be parts of the micropolitics of the medical encounter (Waitzkin et al. 1978:407-410). Waitzkin claimed a connection between these micropolitics and the "broader patterns of dominance and subordination in our society" (Waitzkin et al. 1978:414) - doctors' assumption that working-class patients cannot understand abstract information, for example, led them to tell these patients less about their problems (Waitzkin and Waterman 1974).

Mishler (1984) built on Waitzkin's critical look at doctor-patient interactions. By applying conversation analysis techniques, he was able to identify the "voice of medicine" and the "voice of the lifeworld" as domains of meaning in opposition in medical interviews. Drawing on Schutz and Habermas, Mishler defined the voice of the lifeworld as "the patient's contextually-grounded experiences of events and problems in her life. These are the reports and descriptions of the world of everyday life expressed from the perspective of a 'natural attitude'" (1984:104). "In contrast," Mishler says, "the voice of medicine reflects a 'technical' interest and expresses a 'scientific attitude'"

(104). Mishler interpreted the medical interview as a conflict of these two ways of assigning meaning to the patient's experience. The patient, using the voice of the lifeworld, expressed her affective and lived experience of her medical problem. The doctor, using the voice of medicine, responded selectively and controlled the interview such that only the technical or 'clinically relevant' parts of the patient's expressions were taken up. For Mishler, the dominance of the voice of medicine dissolved the lifeworld context of the patient's problem and 'objectified' her, limiting the possibility of humane medical care.

Expanding on Mishler's identification of the voices of medicine and the lifeworld, Barry and colleagues (2001) described four ways these voices can interact in doctorpatient interactions. The doctor and patient may both employ only the voice of medicine ("Strictly Medicine"), or both engage with the lifeworld ("Mutual Lifeworld"). These both led to "good outcomes", which Barry and company defined as the encounter ending with an action the patient wanted (usually in terms of a prescription given or not), information and reassurance provided as the patient wanted, adherence to prescriptions, and patient and doctor satisfaction (Barry et al. 2001:492). Poorer outcomes occurred when the patients used the voice of the lifeworld but were ignored ("Lifeworld Ignored") or blocked ("Lifeworld Blocked") by physicians. Barry and colleagues' interpretation of the conflict between the two voices was radically different from Mishler's. Instead of seeing expression of the lifeworld as necessary to humane medicine, they judged the success of medical encounters not on how well they fit a critical ideal but by empirically measuring their features and outcomes – defining success as patient understanding, selfreported adherence, and satisfaction, for example.

The politics of medical interactions were revisited by Waitzkin (1991) in what appears to be a culmination of his previous work. Waitzkin saw Mishler's critique of medicine as "rather general" (Waitzkin 1991:25); by analysing the structural and interactional elements of doctor-patient encounters, Waitzkin expanded Mishler's work by identifying problematic ideologies that are reinforced through the discourse of doctorpatient interactions. Waitzkin identified the appropriate roles of men as workers and women as involved in family, for example, as ideologies reinforced in medical encounters. He also found that doctors would employ an array of strategies to avoid discussing patients' life contexts, even when patients brought them up themselves. This is similar to Mishler's work in that it focuses on what is said and left unsaid. In contrast, though, Mishler saw medicine as inhumane because it did not attend to the patients' contextual experience; he argued that "the physician's effort to impose a technocratic consciousness, to dominate the voice of the lifeworld by the voice of medicine, seriously impairs and distorts essential requirements for mutual dialogue and human interaction" (Mishler 1984:127). Waitzkin, perhaps truer to Habermas's conception of the lifeworld, saw medicine as an institution that reinforces problematic ideologies from patients' everyday contexts: "In diverting critical attention away from the lifeworld, doctors subtly reinforce the ideas that pattern the lifeworld and help win acquiescence to those features of the lifeworld that patients find most disconcerting" (Waitzkin 1991:25). Patients carry with them messages doctors give in their advice regarding appropriate behaviours in marriage, family life, drinking, and smoking, reinforcing behaviours that are consistent with traditional expectations regarding how to engage in these roles – "through messages of ideology and social control, and through lack of contextual criticism, health

professionals subtly direct patients' actions to conform with society's dominant expectations about appropriate behaviour" (Waitzkin 1991:8). In other words, the medical encounter subtly endorses social issues beyond medicine in which patients' troubles often have roots by leading patients to acquiesce to these disconcerting aspects of the lifeworld.

Concern with the problems of medical discourse in doctor-patient interactions has remained a key preoccupation in studies of doctor-patient interactions. Heath, for example, identified doctor-patients interactions as engagements in which "the patient ... transforms himself or herself from an active subject into an object of inspection and investigation" (2006:187). Conflict in the doctor-patient interaction has been traced to doctors' inattention to patients' explanations of their illness – rather than to inherent tensions between the perspectives in which doctors' and patients' are embedded, these authors attribute conflict in medical interactions to doctors' insufficient sensitivity to patients' lay explanations of their diseases (Gill and Maynard 2006). Problems of empathy have also been identified in the techniques doctors employ in delivering bad news: doctors keep the patient in "discourses of rational medicine" by structuring conversations such that order, intersubjectivity, and explanatory rationality are preferred over subjectivity and emotion (Maynard and Frankel 2006:271).

The literature reviewed here has identified the doctor-patient engagement as problematic. What is and is not said in medical interviews, many of these studies have argued, demonstrates such problems as lack of attention to the patient's contextual experience of her problem, conflict in the doctor-patient interaction, and endorsement of lifeworld problems that led the patient to see her doctor in the first place. These studies,

however, focus on what Korsche and colleagues called "the art of medicine" (Korsche et al. 1968:855) – they attend closely to discursive elements of doctor-patient engagements, but do not pay explicit attention to the 'scientific' aspects of medicine as central to the talk they study. In other words, they do not treat presumably 'cognitive' and 'social' factors symmetrically; they leave the 'scientific' content of doctor-patient engagements untouched by their analysis (Berg 1992). One theme of this thesis, therefore, will be what attention to these elements can say about surgical decision and informed consent.

Autonomous informed consent

While the problem of what to tell patients has been of concern in medicine since Hippocrates, the history of 'informed consent' as a concept and a practice can be traced to post-World War II American medicine (Beauchamp and Childress [1979] 2009, Berg et al. 2001; Faden and Beauchamp 1986). Mired in the aftermath of Nazi atrocities and highly public medical abuse cases, Western medical associations began releasing policy provisioning for informed consent practices (Faden and Beauchamp 1986). Trust was largely lost in medical professionals, so responsibility for safeguarding patients' interests shifted to patients themselves – patients could, provided adequate information and requiring their authorisation before beginning treatment or research, ensure that only those treatments or researches that had a beneficial ratio of costs and benefits were undertaken (Berg et al. 2001; Faden and Beauchamp 1986). Legal precedent also began rendering doctors liable for consequences of medical treatment when patients were not adequately informed; in many of these cases, judges ruled that patients had a right to information about treatments offered before agreeing to them (Faden and Beauchamp 1986; Katz 1994). In the context of women's and civil rights movements and the

American cultural focus on individual choice, it is unsurprising that informed consent took the form we see today. The connections between informed consent, western liberalism, and rational subjectivity therefore seem obvious, and have been germane areas of research (see D'Agostino 1998; Nedelsky 1989; Shildrick 1997; and Wolpe 1998, among others). It is not my project to further probe these relationships, though they are important to the existence and shape of informed consent in current North American moral philosophy and clinical practice. I will instead briefly outline the principle from moral philosophy on which informed consent is based; this outline will be a springboard for much of the discussion in this thesis.

Partly in response to concerns of paternalistic medicine, both in the sense of World War II experimentation and, perhaps, the more mundane paternalism such as that described by Waitzkin and Waterman (1974), Beauchamp and Childress ([1979] 2009) outlined four principles that had a hand in shaping and establishing much of modern bioethics: respect for autonomy, beneficence, nonmaleficence, and justice. Respect for autonomy is the principle most often associated with informed consent – Beauchamp and Childress even outline how they envision informed consent in their section on autonomy. They locate their definition of autonomy in moral philosophy, citing Immanuel Kant and John Stuart Mill as having "powerfully influenced contemporary interpretations of respect for autonomy" (Beauchamp and Childress [1979] 2009:103). Respect for autonomy, according to Beauchamp and Childress, is based on "liberty" and "agency" – independence from controlling influences and capacity for intentional action, respectively (2009:100). Berg and coauthors, also drawing on Kant and Mill, similarly define autonomy as "the freedom from external constraints (Mill) and the capacity for selfdetermination (Kant)" (2001:24). An autonomous choice is therefore one that is made intentionally, with understanding of relevant information regarding the choice, and free from influences that determine the choice.

Following this definition of autonomy, Beauchamp and Childress ([1979] 2009) define informed consent as an authorisation of a medical intervention with substantial understanding and freedom from controlling influence. 'Substantial understanding' ethically requires both that the physician tells the patient everything relevant and that the patient understands the information provided. The patient's consent must also be given voluntarily – that is, without coercion or controlling manipulation. Berg and colleagues (2001) discuss informed consent as a legal, as well as an ethical, obligation of physicians – enforced, in the United States, at least, by courts and state legislatures – to obtain patients' consent before engaging in treatment and to disclose as much information as is necessary for patients to "participate knowledgably" in decision-making (Berg et al. 2001:41). Informed consent is, therefore, an ethical and legal instrument for encouraging patient participation in medical decision-making with the goal of protecting or promoting their rights to individual autonomy by providing them enough information to make an educated choice.

Many early studies of informed consent, particularly those done within medicine, have focused on what information is offered by doctors, how well patients understand it, and the degree to which patients were encouraged to participate in decision-making (Sugarman 1999). These studies were largely interested in improving the quality of the information given to patients, often focusing on such new methods of delivery as leaflets and telephone calls. An oft-cited study, for example, identified patients' recollection of

information provided on a surgical consent form as "inadequate" and suggested that the length and legalistic language in these forms led patients to give them only cursory readings (Cassileth et al. 1980). A mismatch between what patients report needing in decision-making – practical information related to daily life management – and what doctors tend to present patients – clinical-diagnostic information – has also been identified (Phillip 1993). More recently, how information is conveyed to potential clinical trial participants, rather than just the content of that information, has been identified as important in obtaining consent – open questions, pauses, increased one-on-one time, and giving potential participants time to consider the information provided have been suggested (Flory and Emanuel 2004; Wade et al. 2009).

Attention to how informed consent plays out in practice has identified the notion of 'patient autonomy' to be unsustainable. The social rules of the hospital, for example, enmesh patients in a process that reinforces their passivity (Dixon-Woods et al. 2006). The "rules of the game" and the power relations in an obstetrics and gynaecology clinic circumscribed women's choices, suppressing ethical ideals of 'autonomy' and 'informed consent' and ultimately rendering them an "illusory goal" (Dixon-Woods et al. 2006:2750, 2742). Anspach (1993) similarly found that the intensive care nurseries she studied were organised such that choices were often made before the parents of neonatal patients were consulted – instead of producing consent, Anspach observed, unit staff framed decisions around the "medical facts", appealed to technology and authority, and presented options with moral precepts – "preempting, persuading, and psychologizing" – in order to produce assent and diffuse dissent from parents (Anspach 1993:98, 163).

These authors show that notions of 'autonomy' and 'informed consent' may not be workable goals.

Corrigan (2003) continued this project by identifying a trend in sociological studies of medical-decision-making that juxtaposed medical dominance with lay understandings and patient autonomy. The argument, as Corrigan described it, was that doctors exercise undue control over the medical encounter and should thus be challenged in order to promote patients' autonomy. We can see hints of this argument in many of the critiques of the doctor-patient encounter reviewed so far – for example, Waitzkin's (1978) early work was concerned with physicians' withholding information as a micropolitial exercise of power, and Mishler (1984) was critical of the dominance of the voice of medicine over the voice of the lifeworld. These arguments, Corrigan explains, are bound up with principlist bioethics and are "premised largely on the autonomous individual and his or her rights" (Corrigan 2003:770). Corrigan troubled this argument by moving debate about informed consent "beyond the current popular oppositions of autonomous decision-making and autocratic paternalism" (Corrigan 2003:772). He identified social processes that impacted participants' decisions to take part in clinical trials, such as their cultural understanding of drug trials and their implicit trust in doctors. By observing and interviewing people who voluntarily consented to participate in clinical trials, Corrigan argued that "ideas of autonomy, freedom and choice belie the extent to which they are both limited and regulated" (Corrigan 2003:789).

This line of research has been taken up by several authors. Many patients, for example, decide whether to participate in clinical trials prior to travelling to the medical centre – long before they are presented with the medical information traditionally seen as

central to promoting patient autonomy (Dorcy and Drevdahl 2011). Felt and colleagues identified a broad context – much broader than the "information paradigm" on which mainstream informed consent debate is based – on which patients base medical decisions (2007:88). In fact, patients often "opt out" of the information paradigm by assembling divergent sources of knowledge that allow them to leave medical information out of their decision-making processes (Felt et al. 2007:101). Schneider (1998) drew on a number of empirical studies, including his own, to show that many patients do not want to make medical decisions; they often prefer, particularly when old or gravely ill, to have their doctors decide their care for them. Hoeyer and Lynoe, in their study of blood donors for genetic research, similarly demonstrated that the "decision to donate must be viewed as something other than an information-based, intentional act" (2006:16). Hoeyer and Lynoe (2006) point out that the process by which prospective research participants decided whether to donate their blood for genetic research cannot properly be characterised in terms of individual autonomy. Instead, Hoeyer and Lynoe argued that this decision is a political act made in an intersubjective atmosphere – some participants, for example, saw their donations as a form of "gifting" or giving-back to their healthcare system (2006:18).

Feminist critics have also taken aim at the abstract individualism on which traditional conceptions of autonomy and informed consent are based. Nedelsky, for example, identified an "irreducible tension between the individual and the collective"; people are both constituted and threatened by the collective (1989:21). She later argued that "each individual is in basic ways constituted by networks of relationships of which they are a part" (Nedelsky 2011:19). Those relations constitute their capacity for autonomy – a person can only be autonomous in relation to other people. She rejects

autonomy as individualism in favour of a relational autonomy, and argues that a multidimensional conception of self that is "particular, embodied, and affective" is a more appropriate subject of law and rights than the concept of a 'rational' individual agent (2011:15).

Fundamentally, such principles as 'respect for autonomy' are constructed from a masculine perspective. Gilligan's (1982) often cited studies of women's psychological development illustrate differences in moral reasoning between men and women; she gives a case study of how a boy and a girl reasoned through moral dilemmas, which highlights that the focus on abstract principles, impartiality, and universalizability belong to a masculine ethics. The boy in her illustration, for example, considered what would be logical, while the girl considered both moral action and the value of life in relational terms (Friedman 2002; Sherwin 1992). As Gilligan says, they show different modes of moral understanding, each sophisticated, that emphasise different ways of grappling with moral problems. Gilligan points out the disagreement between girls' development and categories of relationship – and moral thought – derived from male experience. This observation has been taken up by feminist scholars, such as Friedman when she describes "the defence of theories and concepts that seem more compatible with women's modes of reflection and understanding than do mainstream ethics" and critique of "individualistic approaches to moral theory" as important strategies of feminist ethics (Friedman 2000:211). Smith (1974, 1990) expressed a similar sentiment in her description of the bifurcated consciousness that led her to develop institutional ethnography. Shifting between the embodied mode of action of women in everyday life to the abstract, detached consciousness of men when she did her work as a sociologist made visible the differences

between women's and men's subjectivities and the ways in which women are outside of and subservient to men's subjectivities. By attending to men's mundane embodied needs so that men may transcend these needs and attend to their intellectual work, women's subjectivities are left out of and made subservient to that intellectual work. Intellectual work – sociology in Smith's argument, but also moral philosophy – is men's work, and moral philosophy therefore attends to men's subjectivities. 'Respect for autonomy' may therefore be seen as a masculine concern.

Other authors have questioned the assumption of rationality on which autonomous decision-making is often based. The 'rationality' of moral philosophy, for Hoffmaster (2011) and in this thesis, is the systematic application of formal rules to decision-making - 'rationality' is a conflation of rationality with formal reason, leaving out other possible ways that we may rationally engage in decisions. Throughout this thesis, 'rationality' in inverted commas refers to rationality as formal reason, while its use without inverted commas refers to the more general sense of the word that leaves open other modes of rationality. In bioethics, then, once provided information about their problem and the possible treatments, patients are expected to 'rationally' combine that information with their own values or beliefs and make a decision. As Hoffmaster and Hooker (2009) explain, using fieldwork from Lippman and Fraser's (1979) studies of genetic counselling, women do not base decisions regarding whether to conceive or carry to term babies who may have genetic diseases on 'rational' weightings of the risks; instead, they imagine what it would be like to have a child with a genetic disorder and base their decision on the imagined scenario. Similarly, Bluebond-Langner's study of children with leukemia suggests that a broader conception of rationality is needed to account for dying

children's ability to make sense of and negotiate the world created for them and that they create (Hoffmaster 2011). Patients and parents in these studies did not act in ways typically understood as 'rational,' but demonstrated their creative, nonformal, sophisticated approaches to decision-making.

These studies have shown that informed consent in practice does not always seem to match the abstract concept of individual autonomy on which it is based. Many of these studies, however, are part of what Hedgecoe termed "mainstream medical sociology" insofar as they focus on the doctor-patient interaction and the clinical setting and have missed the connection between the content of medical science and informed consent (2005:1201). By employing the concept of 'interpretive flexibility' from the Social Construction of Technology – recognition that multiple interpretations may be applied to scientific findings and artefacts (Pinch and Bijker 1984) – Hedgecoe (2005) found that informed consent in a Herceptin cancer drug trial was contingent on how clinicians understood Herceptin and HER2, the overexpressed protein tested for in order to determine participants' suitability for the trial. What and when oncologists told their patients about the HER2 test and possibility of receiving Herceptin depended on their understanding of Herceptin as an "ordinary technology" and clinicians' reluctance to raise patients' hopes and lead to potential disappointment (Hedgecoe 2005:1205). When understood as a 'genetic' test – a test used to establish suitability for a genetic trial – the perceived ethical concerns were more grave, and a more stringent form of informed consent was required. When it becomes seen as an 'ordinary' test, one among many that patients may receive in the course of their assessment and treatment, the 'revolutionary' character it once held dropped away and a lower level of informed consent is required.

This "epistemological difference", in other words, impacts how informed consent is done, even though the test is the same (Hedgecoe 2005:1206). Further attention to the 'scientific' content of decision-making and informed consent, as given by this thesis, will build on Hedgecoe's (2005) work in furthering critiques of medical autonomy and informed consent. By examining the practices out of which decisions and consent arise, this thesis will comment on the value of 'respect for autonomy.'

Material semiotic practices

This research examines the material semiotic practices employed by surgeons and patients in the clinic. These practices of talking, looking, touching, and testing produced problems and disposals so that decisions could be made and consent could be given. Attention to these practices has allowed researchers to examine how scientific and medical knowledges take shape in the actual work of scientists and doctors (Casper and Berg 1995). By applying social science methods to scientific and medical knowledge production, these authors have demonstrated that scientific and medical knowledge are situated in, tied up with, and themselves social processes. Studying how medicine is done has added what might be called the "science of medicine" – the material semiotic practices through which diseases and medical disposals are produced – to the study of what Korsch and colleagues call the "art of medicine" (Korsch et al. 1968:855). Furthermore, this research programme has shown that the 'art' and the 'science' of medicine - by which I mean the communicative elements and the content of that communication, including how that content is produced – are bound up with one another. In other words, study of decision- and consent-making by doctors and patients while not taking the content of those decisions and consents for granted can make visible the ways

in which surgical decisions and informed consent depend upon on the work involved in its production.

This perspective is grounded in and informed by a history of constructivist works of actor-network theory and material semiotics that perhaps began with Thomas Kuhn's The Structure of Scientific Revolutions ([1962] 1996), which opened scientific knowledge for sociological study and scrutiny. Kuhn described science as operating in a paradigmatic structure – dominant sets of theories within a scientific discipline define what count as "facts" or "truths" and guide the questions and answers possible in times of normal science. However, anomalies - findings of studies within normal science that do not fit the current paradigm – accrue over time, leading to paradigmatic crises and development of competing paradigms. These competing paradigms use differing lexicons and are taken up through different practices – a new paradigm results in new technologies, new languages, and new ways of engaging with data. These novelties are produced by and themselves produce scientific practices that are incomprehensible to other paradigms – adherents of different paradigms are "bound partly to talk through each other" (Kuhn [1962] 1996:148). Comparisons between paradigms – such as attempts to resolve these scientific crises through appeals to evidence – are therefore impossible. Instead, a switch to a new paradigm is based on a social process by which scientists are slowly won over to the new paradigm as its proponents demonstrate it to be a useful guide for scientific practice. A new paradigm can be said to have gained dominance when normal science flows from it – when it is taken for granted, in other words, as a framework for producing knowledge about the world.

Attention to the scientific 'content' of work involved in producing scientific facts has shown it to be a product of the particularities of practice (Latour and Woolgar [1979] 1986). By taking the scientific laboratory to be "a system of literary inscription, an outcome of which is the occasional conviction of others that something is a fact", Latour and Woolgar suggest that scientific facts are the product of spatially and temporally situated inscription practices – facts are produced by various technical and manual skills that were made mobile through writing (Latour and Woolgar [1979] 1986:105). Their historical ethnography of the chemical structure of thyroid releasing factor demonstrated that instead of a more or less linear path from discovery to establishment as a fact, facts are constructed through a process of solidification and inversion -a technical and social process whereby different camps race to convince a small community of scientific specialists to accept their proposed structure of thyroid releasing factor. What becomes a fact therefore depends on practices of producing and reading inscriptions. Once a structure solidified as 'correct' in the community, the "contradictory statements, partial interpretations, and half-baked chemistry" that characterised the period before solidification become invisible, which herald its 'factual' character – the ability of later scientists to take the chemical structure of thyroid releasing factor for granted, by using the structure in subsequent science and technology, for example, provides it its status as a 'fact' (Latour and Woolgar [1979] 1986:148). Through detailed study of the actual practice of science, Latour and Woolgar were able to demonstrate the otherwise obscured process by which scientific facts are produced.

Medical disposals have also been apprehended by social scientific study (Bloor 1972; Berg 1992). 'Medical disposals' refers to solutions for particularly defined

problems, such as adenotonsillectomy for frequent sickness and red and swollen throat tissue or, in this thesis, surgery for incontinence or prolapse (Bloor 1972). In constructing disposals, physicians first transform problems patients present into solvable medical problems (Berg 1992). Various 'social' and 'cognitive' elements, such as medical criteria, examination and history taking practices, finances, time, and whether the physician already has a disposal in mind are involved in these transformations. These elements play symmetrical and reciprocal roles – the proportional roles elements play are not set and vary from case to case, and how an element is articulated in a transformation is partly dependent on other elements at play. Physicians' routines are what give medicine its consistent appearance in spite of its contingency on these heterogeneous factors (Berg 1992). Still, decision-rules, the practical routines that lead specialists to construct adenotonsillectomy as an appropriate disposal, for example, are flexible, allowing variation between and within specialists' practices (Bloor 1972). 'Biomedical knowledge' is therefore not the operative element in medical work, but is instead one of the elements that can direct transformations and disposals. Furthermore, how physicians' practical routines of history taking and physical examination play out shape the disposal, and an already-selected disposal may shape how history taking and physical examination are done.

Attention to the actual doing of surgery has shown that surgical practice also to be subject to various factors (Pope 2002). These contingencies could lie in the physician's disposition or habitus – "enabling predispositions" that allow doctors to do their work (Pope 2002:371). Similarly, factors related to the patient, such as the existence of previous or comorbid conditions, tissue quality, or her surgical preferences, play a key

role in guiding surgery. External factors, such as a lack of appropriate equipment or assistance, too little time, or restrictions on which surgeries are possible, are also key contingencies in coordinating surgical practice. Some of these contingencies have been described by doctors as factors that impact medical practice over which they have no control (McDonald, Waring, and Harrison 2006). The knowledge practices of veterinary surgeons, too, are contingent – surgeons' familiarity with the anatomical variations they are presented with shapes how and when they use knowledge aids in their practice, for example (Woodgate 2006). Surgery is not 'cognitive' or 'given' but depends on the practicalities of everyday practice.

By attending to material semiotic practices of diagnosing and treating atherosclerosis, Mol (2002) demonstrated how atherosclerosis is multiple, producing an ontology of diseases in medical practice. Different versions of atherosclerosis are produced in each examination, consultation, treatment, et cetera. These versions are made to cohere or coexist through a range of practical techniques generally characterised as coordination or distribution. Through coordinating practices, different versions of a disease are made into a singularity. Distribution is a technique through which incompatible versions of a disease may be made to coexist by being kept spatially, temporally, or conceptually apart. The objects on which medicine acts, Mol (2002) demonstrates, are produced and reproduced, and their various versions made to work together or separately in the everyday practices of medical work.

The literature so far reviewed is part of a rich history that focuses on the material semiotic practices of various actors in various fields. It is from this literature, which has loosely come to be called 'actor-network theory' or 'material semiotics,' that I take my

methodological and theoretical cues (Latour 1999; Law 1999); some elements of my case study embody signatures of actor-network theory and material semiotics. Firstly, this approach tends to recognise that there is no 'objective' or 'true' reality from which facts flow. Instead, facts are consequences of the acts and relations of and within networks (Law 2008). People and objects come together to transform objects, relations, observations, and other things into facts, diseases, information, decisions, consents, et cetera (Berg 1992; Latour 2005; Latour and Woolgar [1979] 1986). As we will see, surgeons do not simply fall back on facts and patients do not simply mix facts with values when making medical decisions; all these things and more are symmetrically produced, cast aside, and reproduced in the circulation of the doctor-patient-clinic networks that produce medical decisions and informed consent. The decisions that lead to informed consents, as I will show, are a few of many effects of actor-networks in the clinic (Latour 2005; Law 1992). Though I do not often use the term 'actor-network' explicitly, I take an actor-network to be an amalgam of people and objects that enable and mediate one another's work in order to produce an ordered social event; when I refer to communities or networks of people and objects working together, I am generally meaning 'actornetworks' in this sense (Latour 2005). Actor-networks are, in fact, themselves effects of relational processes; production of knowledge is both contingent upon and produces a network of things and people that produce and are effects of the production of knowledge (Callon 1986; Law 1992, 2008). This definition of actor-network allows me to understand not only the patient and doctor but the patient's prolapse and the doctor's speculum as parts of the actor-network at work in the doctor-patient engagement.

Second, I am concerned with what Law called "the productivity of practice" (Law 2008:144). The diseases, decisions, and consents I will describe are effects of the practices and circulation of actor-networks at work in the clinic. Informed consent, for example, will be seen as the product of material semiotic practices of such actor-networks as the surgeon and her tools, education, and disposition; the patient and her body, job, and television set; the surgeon-patient with the objects that mediate their touch and conversation; and the clinic with its policies and material space, both of which are hooked into discursive networks that reach the edge of the scope of this thesis. Other language I use to refer to this process is that of 'enactment,' 'performance,' and 'doing' (Mol 1999, 2002). This language will let me talk about the stories surgeons tell as no longer self-evident; rather, the medical knowledge that informs stories and decisions is performed in the tests, references, and conversations between doctors, patients, nurses, and others. The practices through which prolapse and incontinence are presented are contingent, contestable, and political – as Mol (1999) suggests, this will not only show how prolapse or incontinence is made clinically real and surgically actionable, but will trouble what can be meant by 'autonomy' or 'choice.'

This focus on the doings of doctors, patients, and others is a key frame of this research. In this thesis I focus on how heterogeneous materials come together to make 'the clinic' happen. Specifically, this thesis will look at those elements that produce surgical decisions and informed consent – practices of talking, looking, touching, and testing, which involve various tools and technologies. By employing this perspective, I will contribute to the critiques of informed consent and autonomy glossed above by drawing attention to the ways in which networks at work in the clinic enact various

realities of patients' problems as surgically actionable. Recognizing informed consent as an effect of practices throws into relief the limitations of the conception of autonomy on which informed consent policy is based. Reconsidering autonomy to account for its place in the enacted realities of the clinic may open up more realistic and useful possibilities for protecting patients' interests.

Field Setting and Data Collection

The clinic

This study was conducted at a pelvic medicine clinic at an academic hospital in continental North America. The hospital draws complicated, urgent, and emergent patients from many surrounding regions; patients with complicated comorbidities, extraordinary problems, or special needs are referred from nearby and, sometimes, faraway cities. The hospital is a centre for innovation and adoption of new devices and procedures and trains many medical students and residents each year.

The hospital, like many educational and health campuses, was built in phases over the past several decades – new buildings nestle old and old buildings become repurposed as some services move into buildings with modern amenities and technologies. The new and newly renovated glass-and-steel buildings that house surgery, research, and education are juxtaposed with aging brick buildings that house the hospital proper, the women's health building, and the main parking lot. The clinic finds itself in the basement of one of these repurposed buildings. Previously a dormitory, the main wing of the clinic is a narrow hallway with a reception desk at the front, a nursing station in the middle, and examination rooms, storage rooms, and offices along each side. In the other wing are a nursing office, staff lounge, physiotherapy rooms, and a few apparently unused rooms. In

an adjacent building is an old, otherwise-disused operating room that houses the cystoscopy and urodynamics suites. Each examination room has a bed, two chairs, a sink, a rolling stool, and several cabinets and drawers that hold various equipment. The cystoscopy and urodynamics suite is a cavernous room with a nursing station in the middle, two operating rooms along one wall, and an office, change rooms, wash rooms, and several unused rooms in an opposing hallway.

Generally speaking, the clinic helped women with problems of leaks, bulges, and troublingly strong urges to pee. In the language of the clinic, these are stress incontinence, described as leaking urine under such stress as laughing, coughing, or sneezing; urge incontinence or urgency, depending on whether women leaked urine in their rush to the washroom or not; and prolapse, the bladder, uterus or rectum pressing or bulging onto the vagina, sometimes resulting in a visible protrusion out of the vaginal opening. The clinic provides a standard array of treatment options for these problems – pessaries (small flexible devices that sit in the vagina and support pelvic structures), pelvic floor physiotherapy, medication, and, of course, surgery. This thesis explores how surgery becomes selected as an appropriate course of action for a patient's problem.

Surgical mesh and alternative surgeries

Surgical mesh – filamentous sheets of polypropylene – is commonly used in prolapse and incontinence surgery. In stress incontinence, the use of mesh began in the early 1990s when Petros and Ulmsten began experimenting with thin strips of mesh, "tape", to trigger the body to create neoligaments (essentially scar tissue) where the body's own ligaments had weakened. The tension-free vaginal tape (TVT) is a product of those experiments, and is now the most common surgical procedure for stress

incontinence. Today's TVT procedure involves placing a permanent mesh sling under the midurethra, via a vaginal incision and two small abdominal incisions, to support the midurethra when under stress and keep urine from leaking out (Lo et al. 2001; Sarlos, Kuronen, and Schaer 2003). The original logic behind these incontinence surgeries was to restore the body's own structures and supports (Petros and Ulmsten 1990). The use of mesh to restore ligamentous support also appears to be the logic behind the sacrocolpopexy, a procedure for prolapse which uses mesh to attach the cervix or top of the vagina to the sacrum, but through an abdominal incision or laparoscopically. These procedures are commonly done by the clinic's surgeons.

There were two main alternatives to these surgeries. For stress incontinence, the alternative surgery to the TVT was the Burch colposuspension, often referred to simply as "the Burch." This surgery involved opening the abdomen and suturing the anterior wall of the vagina to ligaments or fascia, thereby increasing pressure on the urethra and keeping it from leaking under stress. The alternative to the sacrocolpopexy was another type of suspension of the vaginal apex using sutures – both of these were referred to as 'vault suspensions.' The logic behind the sacrocolpopexy and the vaginal procedure appeared to be similar – suspend the top of the vaginal opening. Both the Burch and the vault suspension using sutures and a vaginal approach were associated with lower success rates than their mesh-using counterparts, and were therefore most often framed as 'alternatives.'

With the TVT as an approved "predicate" device, regulators in Canada and the United States allowed the licensure and marketing of dozens of subsequent mesh-based

device-procedures in the absence of evidence of safety or efficacy (see Hines et al. 2010). The seeming minimally-invasive approach of the TVT – done through a vaginal incision rather than opening the abdomen – seems to have been the catalyst for the increasing use of mesh to correct prolapse, involving sheets or patches of mesh placed over a prolapsing organ, much like, as one surgeon explained to me, mesh has been used in abdominal hernia surgeries. Many of these incontinence and prolapse procedures have been marketed as 'kits' that include a manufacturer's proprietary mesh and tools. In 2008 and 2010, respectively, the Food and Drug Administration and Health Canada issued warnings about synthetic mesh used in prolapse and incontinence repairs. These warnings highlighted higher-than-expected complication rates, particularly erosion – painful migration of the mesh into surrounding tissues. Many of these manufacturers are now targets of litigation. Patients often find out about these issues with mesh devices prior to visiting the clinic through their own research on their problem – word of mouth, the Internet, et cetera – or through lawyers' adverts on television. How this "media hype", as one surgeon called it, impacts the practices that produce decisions in the clinic will become clear in the following chapters.

People in the clinic

This research reports on observations of four surgeons who work in the clinic, the licensed practical nurses (LPNs) who assisted them, several medical students and residents who were training in the clinic at the time of observation, and a few other staff. All of the names I use are pseudonyms, including patients' names, which I rarely knew to begin with. Because my focus is on surgical decision-making this research does not report on observations of other health care workers in the clinic. I will here describe the

key players in the descriptions and examples that follow. A list of these people and their positions in the clinic is given in the appendix for quick reference.

Observations centred on the four surgeons working in the clinic. Dr. Lucy Stalman is a young urogynaecologist – she finished her fellowship only a year or two earlier and has since been working in the clinic. A higher proportion of her patients are initial consultations than the other surgeons, who have been working in the clinic longer. She regularly spends more time with each patient than the other surgeons – probably because of a combination of her overall patient load or because of the type of appointments she has in a typical day. Her clinics flow at a relaxed pace, and she is not averse to down time. Dr. Steve Wilson has been working in the clinic for at least fifteen years, and has a practice in one of the towns surrounding the city as well. He has the LPN assisting him join him during physical examinations. His accent and sense of humour seem to quickly endear him to most patients. Shadowing him makes for a fast-paced day; he will often see one patient while another changes out of or back into her clothes, expects all three examination rooms to be filled at all times, and will not usually check with me or a student shadowing him before walking into an examination room and closing the door. The admissions clerk once described him as "naughty" for getting patients from the waiting room, which is typically the LPN's job. Dr. Adrienne Keys was a fellow at the clinic when it was first formed, giving her at least twenty years' experience working as an urogynaecologist. She has a noticeably intimate interaction style with patients, often squatting at patients' feet and putting her hand on their knees as she talks to them. She is also heavily involved in research, and, on Fridays, sees patients specifically for pelvic pain. Dr. John Mann is also an experienced urogynaecologist. His

clinics fall between Lucy's and Steve's in terms of pace – they move more quickly than Lucy's, but he does not often see one patient before finishing with the last.

A few other people appear in the examples below. Kaitlyn and Jean were the licensed practical nurses (LPNs) I observed most often. Their work processes appeared fairly similar; their jobs appeared to consist of specific duties that took up most of their time. They brought patients to examination rooms from the waiting room, looked over the questionnaire patients must fill out on their first visit, and sometimes asked questions. They then reported this information to the surgeon before the surgeon met with the patient. While surgeons met with patients they would test urine, scan bladders, and perform other tasks as surgeons requested or as fit surgeons' routines; after a patient left they would clean the room and fetch the next patient. As the next point of contact after the receptionist but before the surgeon, they often had to tell patients whether or not they could use the bathroom; they generally told patients they could not, because surgeons often wanted to examine patients before they peed. Lauren, the booking clerk, also sometimes told patients they could not pee until they had seen the doctor. She sat at a computer at the nursing station for most of the day scheduling appointments and liaising with other clinics and doctors. She sometimes joked with me and at the beginning of each day would brief me on what was happening in the clinic. Julie, one of the registered nurses (RNs) I observed, worked with patients who had or wanted pessaries and did some administrative work in the clinic. Nancy was another registered nurse and also worked with pessaries, but sometimes assisted the surgeons as a licensed practical nurse would. Anne was a medical student who shadowed Steve for a day – she told me she plans to be an obstetrician/gynaecologist and appeared to be practicing certain aspects of work, such
as interviewing patients and using speculums. Sara and Cindy were both residents in the clinic. Residents functioned more autonomously than medical students (they would meet with and examine patients independently), but would brief the surgeon in charge of that day's clinic and the surgeon would usually 'double-check' the examination and talk briefly with the patient before the patient left.

Data collection and analysis

The fieldwork for this thesis employed an ethnographic methodology – I went to the clinic, I watched what happened, I asked questions, and I wrote fieldnotes. I then analysed those fieldnotes in a non-linear fashion typical of qualitative research (Lofland and Lofland 1995; Mason 2002). This section will describe how I went about collecting my data and how I then analysed it. Dr. Ariel Ducey, my supervisor and the lead investigator of a related research project on urogynaecological surgery for which I worked as a research assistant and to which this fieldwork contributes, carried out less frequent observations and took the lead in negotiating access and ethics approval. I have drawn upon some of her fieldnotes in the thesis (noted with an "AD" in brackets following the fieldnote excerpt). I independently undertook the coding, analysis, and write-up of data used in this thesis

As we gained entrée to the clinic, Julie generously provided a schedule of the rough goings-on of the clinic. Based on this schedule I spent three or four half-days in the clinic each week, for six weeks. Dr. Ducey also observed, separately, for half-day periods, once or twice week. We observed 80 consultations, 17 cystoscopic and urodynamic tests, ten pessary consultations, and a handful of physiotherapy sessions and consultations with patients with urgency. The settings observed were selected with

analytic intent; I focused observations on surgeons, with some days, especially early on, focused on the other professionals in the clinic – most of whom I do not report on in this thesis – for context and to better my understanding of what went on in surgeons' work. I followed surgeons and other people working in the clinic into and out of examination rooms, offices, and cystoscopy and urodynamics suites. I carried a small notepad in which I jotted *in situ* notes – phrases or quotes to assist the fieldnotes I later prepared. Jottings took note of what participants, their patients, and other people working in the clinic did and said and, especially early on, were as comprehensive as possible (Emerson, Fretz, and Shaw 1995). Fieldwork was done in places that were both politically and practically possible and as suggested by past research, such as patient consultations (Berg 1992), testing theatres (Pope 2004), and such unofficial places as store rooms and hallways (Waring and Bishop 2009). As fieldwork continued I directed my observations toward emergent themes – I spent more time observing surgeons and cystoscopies, for example, as the weeks progressed. When possible, I asked participants questions as I shadowed them; questions were intended to allow me to hear from participants what they oriented to, what they were thinking about, and how they reasoned through their work (DeVault and McCoy 2012). Interviews were done during the fieldwork so I might ask questions as I watched participants conducting their work. This technique was useful for Howard Becker, for example, in leaning what a 'crock' was during his ethnography of medical students (Becker 1996).

Perhaps luckily, I was enrolled in a combined master's and medical degree during data collection; along with my similarity in appearance to the medical students who often shadowed surgeons in the clinic, this allowed me to fall, in some ways, into a pre-existing

role in the clinic. Like medical students, I often acted as a gofer or extra pair of hands and the surgeons would explain their work without prompt. Unlike medical students, though, I was generally ignored during interactions with patients. Still, patients seemed conscious of my presence; some apologised for bringing up a topic they thought that I would find uncomfortable, while others would be uncomfortable with me present for certain things – one patient I discuss below, for example, asked me to leave when her surgeon said he wanted to examine her standing up. My status as a man may also have been a barrier to my ability to understand patients' experiences; my inability to experience prolapse or incontinence as patients did undoubtedly impacted how I thought and wrote about these issues. I have nevertheless attempted to keep the experiences of vulnerability, confusion, exposure, uncertainty, embarrassment, and frustration felt by many of the clinic's patients in mind throughout my fieldwork and analysis.

Fieldnotes were usually prepared within six hours following each field session. Because the envisioned audiences of the fieldnotes included my future self, other people on the current and possibly future research teams and, eventually, readers of this thesis, fieldnotes attempted to reflect the clinic and its happenings in a straightforwardly narrative manner (Emerson, Fretz, and Shaw 1995). These narratives described the settings and what went on during my observations as richly as possible, including the observer's own impressions – initial analytic comments were parenthetically included in the fieldnotes, and memos that elaborated on these comments were drafted throughout and following fieldwork weeks. Fieldnotes were written in the chronological order of the observations – generally organised, as were participants' days, according to the patients

seen. Each day's fieldnotes, therefore, reflected the observer's experience of the participant's day in the clinic.

I analysed the fieldnotes first by uploading them into the QSR NVivo 10 qualitative data analysis software suite where categories, interpretations, and hypothesis were made. These hypotheses and categories were used to guide and concentrate subsequent observations and the questions asked of participants. These categories took the form of codes and memos. Codes were first of a 'housekeeping' style (Lofland and Lofland 1995). I grouped fieldnotes by topic – discussions about patients' problems, discussions about disposals, and examinations and testing. The chronological organisation of the fieldnotes around patient engagements assisted this coding style and made each excerpt understandable once taken out of the context of the fieldnote. These codes were broken down further to create more finely-grained 'types' of conversation or engagement. I then began creating analytic codes, which reflected the themes that I saw beginning to emerge as I did observations. I continued adding to these codes as the fieldwork came to a close. The bulk of my analysis, however, took the form of memo writing, sometimes on my computer, but more often by hand. After writing a short memo - often while in the midst of some other activity - I would open the relevant 'housekeeping' or analytic codes to identify confirming and disconfirming examples. I then copied these examples into a word processing document and would either expand on the document, write a new memo or set of memos, or move on to another idea. When the volume of concepts and ideas became too much to apprehend mentally, I began diagramming the concepts as a "concept chart" to identify relationships between concepts and themes (Lofland and Lofland 1995:198). I then selected relationships that were both

cohesive and well-supported in my data and wrote longer chunks about these relationships that, eventually, became the argument and text of this thesis.

Overview

In this thesis I will show that examining the work of actors in local settings may yet have something to tell us about surgical decision-making and informed consent. In this chapter, I have outlined key critiques of doctor-patient interactions that have, directly or indirectly, informed how contemporary social researchers investigate doctors and patients interacting. I have also outlined the grounding of informed consent in notions of individual autonomy, and described some critiques of each – in general, the actual practice of informed consent appears incongruous with the principles on which it is based. This thesis will demonstrate another way in which the practices that produce informed consent depart from ideals of individual autonomy. It will show that 'patient choice,' the core of informed consent, is a strategy with which turbulence in the production of surgically actionable diseases and surgical decisions may be dealt. This highlights a problem with the principlism on which autonomy is based and that an approach to ethical practice in medicine might benefit from attention to the actual practices of doctors and patients.

In Chapter 2 I describe the practices that produce surgical decisions and informed consent. This chapter analyses the "grubby details" of medical practice in order to characterise how surgically actionable diseases, decisions, and informed consent are done (Zussman 1997:173). In it, I describe clinical practices as 'cascades' – practices flow into one another so that diseases, decisions, and consents may be produced. I also describe the

conditions of actionability that must usually be met in order for surgery to become an appropriate disposal.

These conditions and cascades highlight sources of and techniques for managing disruption, which is the focus of Chapter 3. Turbulence often occurs when there is disagreement between realities of diseases produced by clinical practices, when doctors and patients do not agree about the nature of the patient's problem, or when doctors and patients have different disposals in mind. Uncertainties, both the uncertainty regarding surgical outcomes that is indigenous to surgery and additional uncertainty that can characterise particular cases, can also cause turbulence in the production of a surgical decision. 'Patient choice' becomes a technique for managing these disruptions – by emphasising that patients must decide whether the problem that brought them to the clinic is bothersome enough or whether they are willing to accept the risk of surgery, surgeons shift the site of decision away from the disruption and onto 'patient choice.'

Throughout this thesis I explore what this means for the principle of 'respect for autonomy.' In particular, I argue that patients' work in the clinic cannot be characterised as properly 'individual,' 'rational,' or, therefore, 'autonomous.' The use of 'patient choice' as a technique for establishing or maintaining actionability also troubles the value of autonomy and informed consent as a tool for protecting patients' interests. Instead of promoting a principled protection of 'respect for autonomy' by insisting on policies of 'informed consent,' I argue that attention to actual disease production and decisionmaking in the local practices of medicine can suggest concrete ways of improving and protecting care.

Chapter 2: Producing Actionability and Making Decisions

Various practices in the clinic work together to transform patients' problems into surgically actionable diseases. Surgical actionability must be established before a patient's problem can be considered for surgery – actionability is a requisite for surgical decisions and consent. This chapter first describes how those practices are patterned by focusing on observable routines of disease production in the clinic. It shows that routines fit together, along with some non-routine practices, into cascades of practices that flow from the patient's presentation of her problem to the production of a decision. In this cascade of practices realities of patients' problems are gained and others lost. These realities are oriented toward conditions of actionability, which are the focus of the second part of this chapter. Together, these issues – cascades of practices and conditions of actionability – characterise typical work in the clinic. This frame of cascades and conditions is essential to recognizing one of the ways 'patient choice' functions in the clinic.

Cascades of Practices

In the clinic, I observed how patients' problems were transformed into surgically actionable diseases. The analysis follows Berg's (1992) observation that heterogeneous sets of elements are articulated to transform patients' problems into solvable problems. By treating 'cognitive' and 'social' aspects of medical practice symmetrically, he was able to show that patient histories and physical examinations do not simply 'reveal' facts about the patient and that medical criteria and disposal/treatment options are not fixed 'givens.' Medical practice, he argues, does not adhere to universal decision rules or 'medical knowledge' more generally; instead, doctors act "pragmatically", fitting

elements and "directing" data to match the disposal they are simultaneously constructing. However, despite this apparent heterogeneous and contingent character of medicine, medical practice is not "utter chaos" (Berg 1992:169). Berg suggested that routines facilitate medical action by adding a degree of automatism, keeping physicians from having to continually deliberate what to do next and making consistent what a physician does across patients with similar problems. Routines, according to Berg, keep chaos at bay despite physicians' pragmatic practices.

Drawing on Berg's (1992) insights, I observe how doctors in the clinic organised their work so that a surgically actionable disease could be produced from the problem a patient brings with her to the clinic. In this section, I therefore describe the routines of talking, looking, touching, and testing that allowed a decision regarding surgery to be made. In what follows I blend two related senses of the word 'routine.' Routine, sometimes, refers to what is normally done in pelvic floor medicine – things that any of the surgeons would do and that are generally done in the same way. I will report on these where relevant. My focus, however, is on a second sense of the word 'routine.' Routines, in this sense, are series of practices that link together over time – rather than simply 'routine care,' these routines are sets of practices that flow from one to another. Interviews flow into physical examinations that may flow into cystoscopic or urodynamic tests. This second sense of 'routine' is dependent on the first – only given the existence of common standard forms of clinical practice can these practices link together over time in standard ways that can produce surgically actionable diseases, medical decisions, and informed consent. In other words, the ways practices link together over time to produce disease, decision, and consent are themselves routine. The focus of what follows will be

how clinical practices link together through time to create actionable diseases and the decisions and consents that are the object of this work.

Of course, not all practices that link together over time are routine. A more general concept, one that involves both routine and non-routine practices, is in order. For this concept I draw on Bruno Latour's (1987) 'cascades' metaphor. Latour described how knowledge is made mobile, immutable, and combinable through practices of inscription so they may be collected and used in centres of calculation. Once collected, overwhelming volumes of inscriptions present themselves, and they are managed through the production of yet more inscription – higher-order inscriptions that condense, summarise, reduce, and transform lower-order inscriptions into something more mobile. This process repeats itself as increasingly mobile inscriptions become necessary. A mathematical equation, for example, is a highly mobile inscription based on collections of tables, questionnaires, lists, graphs, and other traces inscribed and re-inscribed so that those traces may be made even more mobile. Equations can be taken up in fields quite separate from those in which they were produced because they are "the end-point of a long cascade" (Latour 1987:238). The cascade of inscriptions that made the equation produced it as mobile. As we will see, the series of practices that transforms a patient's problem into an actionable disease is analogous in many ways to Latour's cascade of inscriptions. Practices here refer to all the doings of surgeons and patients whose effects add up to surgically actionable diseases – those looks, touches, instructions, compliances, discussions, and uses of tools and technology that may be routine or exceptional and fit together as a series of acts with the goal of producing surgical actionability.

Early in a series of practices that may produce a surgical decision are the routine practices of writing, reading, and talking that make up the historical examination. Before seeing a surgeon, a patient would fill out a form that indicates information about their symptoms and background – bladder habits, such as whether she leaks when she coughs, laughs, or sneezes, or whether she has trouble holding her urine for more than three hours at a time, for example. This form appeared to have two functions in the clinic. First, it provided surgeons information they would use to structure their conversations with patients. Second, it framed patients' problems in clinically understandable terms – the form had two lines at the top where patients could describe the "reason for referral", how long it has been a problem, and whether it is getting worse, but most of the form was a checklist of the symptoms patients typically bring to the clinic. These two functions articulate with one another - by coaching patients' problems in medical terms, the form achieves a translation of what might have been a different story in the words of a patient into language immediately graspable by the surgeon. Surgeons, then, can read what the patient wrote and checked off on the form and begin interviews as Lucy begins this interview with Ms. Thompson:

Lucy asks Ms. Thompson if she leaks when she coughs, laughs, and sneezes. Ms. Thompson says she does, and Lucy asks whether she feels urgency, rephrasing the question as, "Did you have to stop on your way to the city?" Ms. Thompson says yes. She also says yes, though not as confidently, when Lucy asks her about prolapse – "Do you feel hanging or bulging in the vagina?" Ms. Thompson says intercourse doesn't feel right. Lucy asks whether she has trouble on insertion or if it feels like "things are too loose"; Ms. Thompson says, "Loose."

Lucy and Ms. Thompson's interview followed typical practice in the clinic. Lucy asks routine questions – do you leak when you laugh, cough or sneeze? Do you feel urgency? Do you feel hanging or bulging in the vagina? The phrasing of these questions may vary between surgeons and from patient to patient; surgeons will often phrase questions in ways that appear to make them easily answerable by patients – Lucy, for example, rephrases her question about urgency in the practical terms of a road trip. Surgeons may also begin the interview with an open question, prompting a longer story, but the routine is not much different – surgeons are still, in the interview, after the same information. Other times, they may not ask these questions directly, apparently gleaning the information from patients' stories or the history form. Though the questions used often differ, surgeons will cover similar ground in each interview – stress incontinence ("do you leak when you laugh, cough, or sneeze"), urge incontinence ("did you have to stop on your way here" or sometimes "do you sometimes leak on the way to the bathroom"), and prolapse ("do you feel hanging or bulging in the vagina"). Sex is also a routine issue in these conversations, usually brought up by the surgeons with such questions as "are you sexually active" or "is sex uncomfortable", but sometimes, as with Ms. Thompson, by the patient. Ms. Thompson mentions that sex "doesn't feel right." This feeling of 'not right' is not a story about Ms. Thompson's sex that Lucy can use; Lucy clarifies "doesn't feel right" by asking about insertion or looseness. Looseness, presumably, tells Lucy something useful about Ms. Thompson's vagina, though the role of Ms. Thompson's 'loose' sensation during sex does not become clear in the interview. These questions begin to build a reality of Ms. Thompson's problem that can be clinically apprehended and surgically acted upon.

After this exchange Lucy asks Ms. Thompson which of her urgency or stress incontinence bothers her more. Ms. Thompson says they are about the same, and Lucy explains that she asks because they are different problems with different treatments, and

knowing which is worse would help prioritise. This demonstrates an important routine in the clinic – to prioritise the problem that is worse. Stress incontinence is most often treated in the clinic with pessaries or surgery, or occasionally pelvic floor exercise; urgency, however, is usually treated with medication. Perhaps more importantly, the most common surgical treatment for stress incontinence (the TVT) comes with a risk of producing symptoms of urgency -a risk of 1-10%, surgeons tell their patients. They treat this risk also as potentially making pre-existing urgency worse (what risk rates might mean for individual patients is discussed in the next chapter). Several patients were advised to "get the urgency under control" with medications before having a surgery for stress incontinence. Some patients, including Ms. Thompson, were asked which bothered them more. The issue of 'bothersome' as a condition for surgical action will be discussed the next section; in terms of clinical routines, though, it is important to note that there exist routines for prioritizing stress and urge incontinence - 'getting the urge under control' or, as we see with Ms. Thompson, "getting on top of both." These routines that build an image of Ms. Thompson's problem that is understandable in clinical terms and contributes to the shift from the talking practices of the initial interview to the looking and touching practices of the physical examination. Physical examinations, of course, involve routines of their own:

Lucy starts the pelvic exam by saying, "Let's take a peek at your bottom." She asks Ms. Thompson if bladder is full, and Ms. Thompson says, "Yes, they wouldn't let me pee!" Lucy smiles and asks Ms. Thompson to cough; as soon as Ms. Thompson coughs Lucy says, "Ok, that was a pretty big gush." Ms. Thompson apologises, and Lucy says not to apologise because everyone's at the same clinic; "You're part of the club!"

Routinely, surgeons will say a phrase similar to "let's take a peek" or "let me take a look" as they move to the foot of the bed to initiate the physical examination. They put on gloves and usually let patients know when they are about to touch them. Lucy's examination of Ms. Thompson followed the standard set of practices used to identify a woman's report of leakage when she coughs, laughs, or sneezes as stress incontinence. She is not allowed to pee so that her bladder is full for the examination. She is asked to remove her pants and lie on her back on the examination table. With her feet in the stirrups, Lucy asks her to cough and watches for leaked urine. As Lucy told another patient, "We want to see you leak"; leakage, as I will later discuss as a 'condition of actionability,' allows Lucy to offer surgical treatment for stress incontinence. Other surgeons have different routines for turning a report of stress incontinence into an observation of stress incontinence – Steve, for example, is less concerned with having the patient leak in the clinic than Lucy, reasoning that if they can produce a leak, it is more likely to happen in an urodynamic or cystoscopic test. Regardless of where they happen, these practices produce versions of patients' problems that are usable in the clinic and justify booking further testing and, perhaps, eventual surgery.

Importantly, we see the routine practice of performing a physical examination after the interview. After asking questions and receiving answers and, sometimes, stories from patients, surgeons routinely ask patients to lie on their backs so they may perform a physical examination. Physical examinations follow interviews. The particular ways surgeons talk to, look at, and touch patients are part of a routine practice that transforms patients' problems into problems that can be apprehended in the clinic. Translating stories, clarifying statements, and rephrasing questions turn patients' problems into things

surgeons can look and feel for during the examination. The checklist Lucy read before talking to Ms. Thompson coached Ms. Thompson's problem into already-apprehensible terms of the clinic. Lucy's questions further solidified this new clinical reality of her bladder. The examination and, particularly, the leak, produced yet another reality – one resulting from looking and touching, instead of reading and talking or, now even further removed, laughing at jokes or sneezing from pollen. These new realities of Ms. Thompson's bladder problems are abstracted from the everyday problems that brought her to the clinic. Those everyday problems are, in a sense, lost in the production and articulation of these new realities. Gained in these new realities is the clinic's ability to talk about, look at, touch, test, and, maybe, modify Ms. Thompson's bladder problems. Lost, though, is the everyday experience of leaking at inopportune times or too-frequently feeling the urge to pee. The routines of the clinic make something new, something useful, and in doing so lose the everyday experience of Ms. Thompson's problem. Loss of the everyday experience of patients' problems is not benign; I will discuss what this loss might mean toward the end of this section.

The importance of these routines becomes particularly apparent when the results of observation do not match the report produced in the interview. We can see this with Ms. Samimi:

Lucy asks Ms. Samimi, "What's going on?" Ms. Samimi says she feels some bulging and soreness on the left side of her vagina that makes it difficult to find a comfortable sex position and gives her pain in her lower back. ... Lucy asks Ms. Samimi whether the bulging came on all of a sudden or has been getting worse over time; Ms. Samimi says she's had it for about two years and it's been getting worse. Lucy reviews several items from the chart, asking for clarification on a few of the things she reads.

Again, we see Lucy ask routine questions. "What's going on" is a common way of beginning interviews, and change over time is often asked, particularly of patients reporting sensations of bulging or pressure in their vaginas. Lucy also asks about what is on the form Ms. Samini filled out earlier – again performing the routine of reproducing Ms. Samimi's bulge in the clinic's terms. These standard questions build a version of Ms. Samimi's bulging and soreness that can be used to organise the physical examination. Once enacted through Lucy and Ms. Samimi's talk, this new bulge can be the object of a physical examination - Lucy knows that there is something to look for and, with the word "bulge", has an idea of what it might be. The bulge enacted in the talk of the surgeon and the patient precedes and makes possible the physical examination. It comes first; a surgeon only does a physical examination if she has done an interview. Ms. Samimi's answers to Lucy's questions produce a version of Ms. Samimi's bulge that is understandable in terms of the clinic. It has, for example, a history – it started two years ago and has been since getting worse. In pelvic floor medicine, prolapses are expected to get worse; gravity, as one surgeon explained to his patient, gradually pulls on pelvic organs, worsening the prolapse. Having performed the interview, satisfied that it is a thing she might observe, Lucy is now able to look for a prolapse.

Lucy starts the examination by saying, "let's take a look." She puts on loose, colourless gloves while Ms. Samimi lies on her back on the examination table. Lucy asks Ms. Samimi to push, saying, "I want to see it at its worst." She looks between Ms. Samimi's legs for a moment and moves to the side and asks her to cough. Lucy takes a speculum out of its packaging, applies a packet of lubricant, and tells Ms. Samimi she'll feel some pressure as she inserts it. Ms. Samimi winces and Lucy asks, "That's painful for you?" Ms. Samimi says it's "pinching." Lucy asks Ms. Samimi to push a few more times, removes the speculum and feels inside Ms. Samimi's vagina.

Lucy performs the routines of donning gloves and sitting between Ms. Samimi's legs, poking around and looking through the speculum, and asking Ms. Samimi to push. The bulge is now done by practices of looking and touching as well as talking. No longer is the bulge only an object of answers and questions, or of uncomfortable sex; it is a thing to be seen and felt. It is, of course, also talked about. Lucy says she wants to see the bulge at its worst and instructs Ms. Samimi to push down. 'Pushing' is a routine practice during physical examinations. Like coughing for incontinence, surgeons routinely ask patients to "push down", "try to push the speculum out", or "push like you're having a bowel movement" when looking for prolapse. These routines both shape Lucy's observations and enable Lucy to make sense of what Ms. Samimi told her in light of what she now sees and feels – the routine work of identifying prolapse, using a speculum and instruction to push, turns the clinically understandable version of the bulge Lucy, Ms. Samimi, and the form produced in the earlier interview into the clinically observable bulge Lucy is looking for now.

Lucy's routine examination, however, could not produce the prolapse Lucy was looking for. After performing the routine practices of the examination, Lucy engaged in a new practice of touching and asking:

After a moment, her left hand still touching Ms. Samimi, Lucy asks, "Is this what you mean by prolapse?" Ms. Samimi sits up and uses her hand to indicate the place she feels it, and Lucy smiles, saying, somewhat excitedly, "That's not a prolapse; it's a cyst!" She asks Ms. Samimi if she ever feels burning or redness there, and Ms. Samimi says yes, seeming to catch some of Lucy's excitement. Lucy explains that it is a cyst on her Bartholin's gland, which she explains plays a role in lubricating the vagina. She says this makes more sense, because, "As I was looking at your vagina I was thinking it looks super normal."

Following the practices of the physical examination, Ms. Samimi's bulge becomes a cyst. Lucy goes through the routine practices of looking through the speculum and feeling for a prolapse and is unable to find what she was looking for. She found no prolapse. She did, however, find a bump and asked Ms. Samimi about it. Ms. Samimi's vagina looked "normal" – Lucy could find no prolapse. After being asked about a bump in her vagina Ms. Samimi sits up and shows Lucy where it hurts. This practice of sitting and pointing does not fit into the regular routine of physical examination. However, it took the routine of looking and touching with Lucy's discerning eyes and hands to recognise no prolapse and ask about the bump on the side of Ms. Samimi's vagina.

Cysts are not urogynaecological problems – patients are not, from what I was able to gather, referred to the clinic for cysts. Cysts might instead be properly categorised as gynaecological issues. How Ms. Samimi came to be referred to the clinic with a "super normal" vagina is therefore unclear; the categorisation, however, appears to be immaterial for the work of the clinic – once Lucy and Ms. Samimi transformed the bulge into a cyst, Lucy proceeds with her routines that may lead to a decision regarding surgery. The bulge that causes discomfort is still there, but it is now a cyst that Lucy can see and get excited about. The routine questions Lucy asked and Ms. Samimi answered in the interview flowed into the routine practices of looking and touching – together, these made up a routine we might call 'looking for prolapse.' This routine, however, did not find a prolapse; instead, it found a "super normal vagina", which led Lucy to ask Ms. Samimi about something she did see, and Ms. Samimi identified it as the thing that made sex uncomfortable and caused "pinching" during the examination. Lucy, excitedly, identified it as a cyst. In this example, the routine did not produce a prolapse; however,

Lucy went through the routine before asking Ms. Samimi about the bump she felt on the side of her vagina. This suggests the importance of routines in the clinic – they are done first, and non-routine work is done only after the routine does not produce a useful version of the patient's problem.

Ms. Samimi was not sent for cystoscopic or urodynamic tests – a cyst did not call for testing. Patients with leaks or bulges, however, were often sent for testing. Ms. Thompson, for example, was sent for a cystoscopic test. During these tests a surgeon inserts an endoscope through the urethra into the bladder so that an image of the inside of a patient's bladder can appear on a monitor. Cystoscopic tests were routinely done after a physical examination and before enactment of diseases as surgically actionable. These tests, too, were highly routinized. They always involve patients changing out of their pants and sitting on an adjustable examination table. The table is situated so the patient is in a sitting position with her back at about a thirty degree angle with the floor. Her feet are in stirrups and the table is raised, allowing the surgeon to easily do her work. This work is done in a series of practices that differ very little between patients. Steve, for example, followed similar scripts, even making the same jokes, in most of his cystoscopies.

Steve, while setting up the cystoscope with Jean, an LPN assisting Steve for today's cystos, asks Ms. Littlecrow how long she has been having her symptoms. She says, "ever since I had my ten pound son." "Always blame the kids", Steve says. Jean says that's why she has her grey hairs, "even though you can't see them right now." "Oh, are you saying you highlight your hair?" Steve asks, teasing. Ms. Littlecrow and Jean both laugh. I cannot see the monitor, but there was apparently some movement, which Steve says is "not like that movie, Alien. It's just peristalsis, your rectum moving." He also mentions that the inside of the bladder looks like "a lunar landscape" and that the folds are because it's empty; "it's like a bag crumpled in on itself."

Steve's ability to converse and joke while he sets up the cystoscopy equipment shows how routines are often tacit, embodied skills. As they talk Jean wheels over a cart carrying a device that looks like a long tube with a handle at one end. She hands Steve two hoses, which he attaches to the handle end of the device. Pressing a button, Steve turns a light on at the end of the tube and inserts the tube into Ms. Littlecrow's urethra. He watches as he inserts it, but once inside, he, Jean, and the patient watch the monitors. The same general flow of practices occurred with all of the surgeons – they would talk with the patient while they attached the scope to the hoses, then attention would shift to the screen as they inserted the tip of the scope into the patient's bladder. He moves the scope around, pressing buttons and pulling on the trigger-piece of the handle; these acts reproduce the bladder as a moving image on the monitor. Patients' problems are, in a sense, inscribed on the monitor during the cystoscopy, enacting versions of patients' bodies and problems that are useful in developing a surgically actionable disease (Latour and Woolgar [1979] 1986; Latour 1987). This is the routine of cystoscopy, a presumably 'technical' activity, which unfolds in particular ways in order to produce a patient's problem as surgically actionable (Berg 1992). Each surgeon engaged in this routine slightly differently – for example, both Lucy and Adrienne usually examined their patients with their hands before using the scope, while Steve and John usually did not. Steve's routine was particularly regular – with each patient I observed him joke that the inside of the bladder looked like a "lunar landscape" and explain that the bladder was like a bag crumpled in on itself. As with physical examinations, though, the work done in cystoscopies was similar despite these differences. Cystoscopes allowed surgeons to reproduce bladders and problems such that problems could be made surgically actionable.

In decision-making conversations, surgeons routinely presented explanations, options, and recommendations as part of the series of practices that produce surgical disposals. We can see this in Adrienne's presentation of Ms. Emberlie's surgical options for her prolapse. Practices of talking, touching, and looking like those described above have produced Ms. Emberlie's problem as a prolapse of the top of her vagina. Ms. Emberlie's prolapse was also quite severe – on examination, Adrienne mentioned several times that she thought it should have been addressed long ago. Adrienne says that she recommends a hysterectomy and a vault suspension – removal of Ms. Emberlie's uterus and a procedure that will hold up the top of her vagina. Adrienne suggests two options: a vaginal surgery that she does not describe in detail, and a sacrocolpopexy, which uses vaginal mesh to 'tether' the top of her vagina to her sacrum.

Adrienne says she's "debating" which way to do Ms. Emberlie's surgery. The first option is to do it all vaginally, which has the option of a quicker recovery time. Option 2 is to do the surgery abdominally, to do a sacrocolpopexy. Adrienne says success rates are better with this surgery – 90% versus 80% with the vaginal approach, but she tells Ms. Emberlie recovery is longer and involves the use of permanent mesh. Adrienne says that because Ms. Emberlie is young she thinks she should be more aggressive. Then, Adrienne says if they do the surgery abdominally, they can either do it through an open incision or laparoscopically. Adrienne says she doesn't do laparoscopic surgery but can make arrangements and the benefit is there is less pain with recovery, but also that the pain of the open procedure can be a benefit because then Ms. Emberlie will be less tempted to strain and will take it easy during recovery. Ms. Emberlie says she's leaning toward laparoscopy, adding that she prefers not to be opened up.

Adrienne presents Ms. Emberlie with an array of options. She can have a vaginal surgery or a sacrocolpopexy. The sacrocolpopexy can be done through an open incision or laparoscopically. Along with these options are various other statements, 'information' Adrienne presents so that Ms. Emberlie might make an 'informed' decision. Laparoscopic sacrocolpopexy comes with less pain during recovery, while open sacrocolpopexy comes with cues that will keep her from straining. The vaginal approach has a success rate ten percent lower than a sacrocolpopexy, but a shorter recovery and does not use mesh. Ms. Emberlie is young, which makes Adrienne think she should be more aggressive. The history of these pieces of information is not visible in their conversation – the information is taken for granted, allowing it to play an apparently 'neutral' role in ordering Ms. Emberlie's decision (Kuhn 1996; Latour and Woolgar [1979] 1986). The history of practices that produced her prolapse as something that can now be addressed surgically has also fallen away – whether or not she had a cystoscopy, the particularities of Adrienne's speculum use, and the particular questions and answers they used in earlier visits, for example, are hidden behind the prolapse that is the object of this conversation. It is, in part, the routine nature of those practices that make this possible – because the practices of prolapse production are a matter of routine for Adrienne and the clinic, focus can rest on the results of those practices, rather than the practices themselves. The results can therefore be treated as neutral in their conversation, allowing for a routine presentation of information.

Ms. Emberlie says she's leaning toward laparoscopy and that she prefers not to be "opened up." Her preference not to be opened up appears to be her rationale for selecting the laparoscopic sacrocolpopexy; interestingly, being "opened up" is not explicitly part of the information Adrienne presents. Ms. Emberlie mobilises interests that originate outside the conversation, or perhaps combines the issues around open sacrocolpopexy Adrienne mentions in her own terms. Ms. Emberlie is active in the decision – not only does she 'choose' which surgery she prefers, she also engages with the 'information' Adrienne

presents about the open procedure in her own way. Interestingly, this occurs quickly – no more than a few minutes. It is hard to imagine that Ms. Emberlie considered all of the issues Adrienne brought up about the surgery in those few moments; instead, it seems as though her decision was not formally 'rational.' I will return to this issue in the autonomy section.

Surgeons usually offered an explanation of patients' diseases to them prior to offering treatment options. These explanation practices appeared to be important in the production of surgical decisions in the clinic. Surgeons described the patient's prolapse or incontinence in medical, anatomical, or otherwise technical terms before presenting treatment options. These descriptions were rarely very long, usually only a sentence or two. Steve's descriptions appeared particularly routine. On the wall of the consultation office in the cystoscopy suite is a poster entitled, "Indications for Kegel Exercises." On this poster are stylised diagrams of women's pelvic floors – the vagina, bladder, uterus, and rectum are depicted in their 'normal' locations, and images of types of prolapse – cystocele, rectocele, enterocele, and uterine prolapse – are shown with parts of the bladder, rectum, small intestine, or uterus, respectively, sagging out the vaginal opening. With most women he spoke with, Steve pointed to this poster as he described which organs are pressing on the vagina – there are pen marks where he repeatedly drew circles and arrows. His descriptions were smooth, as though well-rehearsed. He sometimes drew diagrams on the backs of patients' charts, indicating movement of the pelvic organs with arrows. Posters and drawings enact particular realities of patients' bodies – insides of bodies appear as a diagram on chart or a wall with a pen held up to it. The insides of

bodies are now something that can be understood by looking at an image; what is on the wall is what is in the body.

What is on the wall, however, is other than what is in a patient's body - no particular patient's body participated in the creation of the poster, but the poster is taken to be 'the woman's pelvic floor;' it has a more general, a more abstract, reality than any particular pelvic floor, yet it is also a reality of the pelvic floor of each woman whose attention is drawn to it. The routine practices of pointing and talking that involve the poster recreate the patient's pelvic floor as something that can be understood in a world of 'prolapses-' or 'incontinences-in-general.' In other words, the poster makes knowledge of women's pelvic floors mobile; identification of a woman's prolapse or incontinence with these general realities of prolapse or incontinence is made possible by dropping away the particular practices that contributed to the making of each woman's prolapse, either in her everyday life or in the clinic – as we saw with Adrienne's explanation of Ms. Emberlie's prolapse. This identification makes the woman's prolapse or incontinence real in clinical, surgically actionable terms. Steve is doing more than just explaining what is happening in the patient's pelvic floor; he is reproducing it as a surgically actionable reality. His routine of explanation orders this production, but, as Berg (1992) showed, the production itself is not the product of a combination of such 'cognitive' entities as 'biomedical knowledge' or tests or examination results. It is instead a more complicated articulation of these things with the entities of the room and the poster, the language Steve uses to explain the prolapse, and the eventual goal of surgical actionability. Practices of pointing and explaining identify a woman's prolapse or incontinence as sufficiently similar to prolapses or incontinences in general that surgery can be done to

them. This identification is therefore an important part of the routine practices that produce bulges and leaks as surgically actionable.

Lucy also had routine ways of describing prolapse, telling patients, for example, "What's happening is your uterus is not well supported", or gesturing with her hands and saying, "Your prolapse is a combination of the top of the vagina and the bowel." Though each surgeon used different phrases and metaphors, they often repeated those phrases and metaphors with many of their patients. This suggests the routinized nature of surgeons' explanations – they use similar words each time they give a description, as though following a rough script. These explanations were also routine in the second sense – surgeons routinely included an explanation of the patient's problem after examinations or tests but before describing treatment options. Lucy's description of Ms. Keita's prolapse shows how these descriptions fit into surgeons' routines:

"You have quite the compelling prolapse." Lucy says the uterus "bounces up and down", the bladder comes down, and "you have a bit of a rectocele. So all of the things are coming down." She talks about Ms. Keita's collagen, saying Ms. Keita has a stretchy collagen type that predisposes her to prolapse issues.

Lucy describes Ms. Keita's prolapse using the now-uncontroversial language of "prolapse" and "rectocele." These are now problems Ms. Keita 'has,' instead of problems Lucy is looking for or trying to confirm. Ms. Keita now 'has' a prolapse, and that prolapse involves her uterus "bouncing up and down", her bladder coming down (often called a "cystocele"), and her rectum pressing on her vagina (what Lucy calls a "rectocele"). Lucy's explanations signal the actionable status of Ms. Keita's prolapse – the practices of talking, looking, touching, and testing that precede the description have transformed her prolapse into a surgically actionable disease, and Lucy's use of technical

language to describe Ms. Keita's prolapse indicates the success of those practices. Surgeons' ability to describe a patient's problem in anatomical terms, as well as the use of posters and diagrams that depict standard versions of women's pelvic floors, signals a dropping away of the particularities of the patient's problem, the specific practices and experiences that gave it reality in earlier engagements and in the patient's everyday life. Through these practices of explanation, patients' problems take on a different reality – a surgically actionable reality. Use of these terms confirms Ms. Keita's prolapse as clinically real and surgically actionable. The explanation also set up Lucy's description of Ms. Keita's surgical options.

Lucy says nothing can be done about the collagen, but that they can help support the tissues. She says Ms. Keita has "a few options" and mentions a vaginal hysterectomy, describing the uterus as "bulky" and saying if they "just suspend it, it'll come back down again." She explains that she would then repair the cystocele and rectocele, "mostly using tissues to stimulate scar growth to hold everything in place." She says the surgery usually has about a 75% success rate, "but I'd say it would probably be a little less for you. You're not a *vigorous scarrer*; your scars would be *stretchy*." Lucy gestures with her hands when she says the emphasised words.

Lucy's description of Ms. Keita's first surgical option flows smoothly from her description of Ms. Keita's prolapse and collagen. Lucy positions Ms. Keita's uterus as a bulky object in her body that, subject to effects of gravity and "stretchy" collagen, will cause her surgery to fail if left in; Lucy therefore recommends removing it. She describes stimulating scar growth to hold back the bladder and the rectum. She also tweaks the success rate of the surgery in light of Ms. Keita's stretchy collagen. Lucy presumably mobilised the 75% success rate from medical research literature – the success rate is knowledge made mobile by one or more papers in which it was published, or perhaps through a conference session or a conversation with a colleague, and re-enacted by Lucy in conversation with Ms. Keita. Apparently reasoning that Ms. Keita's stretchy collagen will impact the integrity of the repair, Lucy says, "I'd say it would probably be a little less for you." This demonstrates an interesting integration and tension between the knowledge Lucy mobilised from medical literature and from the practices that made Ms. Keita's prolapse surgically actionable. The tension, which I will describe in more detail in the uncertainty section, arises from the application of population-based knowledge to an individual case – how, I will ask in that section, can this population-based knowledge inform individual practice? The integration might be even more interesting – in light of what she heard, saw, and felt while making actionable Ms. Keita's bulge, Lucy is able to tell Ms. Keita that her chances of success are less than average. Her probability of success is less than three in four because she is not a "vigorous scarrer." Lucy intends for this information to contribute to Ms. Keita's choice. Before Ms. Keita can choose, however, Lucy has more information:

Lucy says the vaginal surgery would have an easier recovery time, and describes the second option. The second option is an abdominal procedure using mesh (I guess a sacrocolpopexy, but I don't have a chance to confirm), which acts as a "scaffold" for the tissues. She says the risk of the second option has to do with mesh erosion or extrusion. "That's the problem", Lucy says; "We could do the first option, which is less risky but may fail. Or we could be more aggressive, but have the erosion risk." She then says they could use SIS (porcine small intestinal submucosa – a biological material that has recently started to be used in urogynaecological surgery in place of synthetic mesh) over the mesh to reduce the risk of erosion, but the use of SIS "has not been studied in that way." She says it's really about patient preference, and she doesn't know what she would choose if she were in the patient's position.

Lucy presents Ms. Keita with her second option: a sacrocolpopexy. She describes how the surgery would work – it would act as a "scaffold" for the tissues. What this means is unclear – it presumably means collagen would form around the mesh as scar tissue, creating a "neoligament" between the vaginal apex and the sacrum, suspending the top of the vagina and keeping the vagina from prolapsing after the hysterectomy (Petros and Ulmsten 1990). It is very unlikely Ms. Keita knows this. Still, she is presented the information and left to make the decision. The risk of mesh erosion, which has received much media attention lately, may be reduced by putting a layer of SIS between the mesh and the patient's tissues – again, how exactly Lucy would do this or how it would work is unclear. But this is no surprise; one of a surgeon's key struggles – and one of the reasons informed consent has a prominent place in medical literature – is translating medical information and treatment options from medical language into language patients can understand (Silverman 1999). Still, the time for decision is now, and Ms. Keita nods as though she understands what Lucy tells her. Ms. Keita asks no questions. Lucy says, "It's really about patient preference." Adding that she does not know what she would do if it were her position appears to pre-empt a request for a recommendation. One option is not clearly better than the other, so it must be Ms. Keita's choice.

After a pause Lucy asks, "Which option are you thinking?" Ms. Keita almost immediately says the vaginal option, then pauses, and says it depends which would let her continue running. Lucy says she wants Ms. Keita to "go back to the things that make you enjoy life", adding that she doesn't want Ms. Keita to change her life just to maintain the surgery. She says that if the surgery fails, they can do the mesh one laparoscopically because the uterus will be gone. Ms. Keita asks when the surgery would be done; Lucy says they are booking into January. Ms. Keita looks uncomfortable, saying she doesn't think she would be ready for it by January, and Lucy says she can sign the papers now and call to book the surgery whenever she wants. Ms. Keita nods. Lucy shows Ms. Keita the consent form, describing the procedures as she writes them into a box at the top and showing her where to sign.

Like Ms. Emberlie, Ms. Keita's decision took very little time to make. It is difficult to believe she considered the information Lucy gave her in the detail I have - she appears, like Ms. Emberlie, to have made her decision using a non-formal rationality (Hoffmaster 2011; Hoffmaster and Hooker 2009). Interestingly, Lucy did not immediately tell Ms. Keita that the sacrocolpopexy can be done if the vaginal procedure fails – which, if it happened, would be sometime in an eventual future; this information came after Ms. Keita made her choice. And Ms. Keita's choice appears to have depended in part on her ability to run after the surgery. Lucy tells Ms. Keita that the surgery is supposed to allow her to go back to the things that make her enjoy her life. This makes sense – surgery should improve quality of life, and if quality of life depends on being able to run, surgery should not impede that ability. Ms. Keita's question, though, suggests a different relation between surgery and everyday life – in line with Parsons's (1951) observation that part of the sick role is for patients to do what they can to ensure the success of their treatment. As Adrienne told one patient, running is bad for women's pelvic floors – even though she runs herself. However, as Lucy says, they can fall back on the sacrocolpopexy if the vaginal surgery fails – even if it fails because Ms. Keita continues running. Ms. Keita, concerned as she was with being able to run after the surgery, did not ask questions about the information Lucy gave. Perhaps this means Ms. Keita deliberately, intentionally integrated her values and situation with the information to make a choice. Or perhaps, as Felt and colleagues (2007) pointed out, she may have 'opted-out' of the information paradigm – the information Lucy gave may not have been essential to Ms. Keita's decision, and her decision therefore employed a rationality separate from a formal consideration of the information provided to her.

Ms. Keita signed the consent form, institutionalising her decision to have the vaginal surgery. Signing the consent form is a part of the series of practices that lead to surgery. Signing the form was, of course, contingent on the decision to have the surgery. The decision depended on how the conversation, which was, in turn, dependent on the practices that led up to it. Knowledges enacted in the conversation and transported from various times and places, all embedded in various histories, were brought together by Lucy and Ms. Keita to produce a decision regarding her surgery – Lucy brought the 75% success rate and that it might be lower because of Ms. Keita's stretchy collagen, Ms. Keita brought her desire to keep running, and Lucy brought in the possibility of doing a laparoscopic sacrocolpopexy if the surgery fails. These were dependent on earlier practices in the clinic – most notably, the identification of Ms. Keita's prolapse as surgically actionable, which was dependent on various practices of talking, looking, touching, testing, and so on. Ms. Keita's signing of the informed consent form depended on her decision to have the vaginal surgery, which was dependent, ultimately, on practices of disease production, explanation, and presentation.

Ms. Keita's case shows us an important contradiction in medical decision-making. "It's really about patient preference"; patients are to choose what they want, to identify which option they prefer. These options, however, are not often articulated in patients' language. As a result of the cascade of practices that produces increasingly abstract versions of patients' problems, the particularities of those problems – patients' everyday experience of those problems – are lost. What is left is the abstract language of "prolapse", "incontinence", risks, benefits, et cetera. This language is foreign to patients – in Mishler's (1984) terms, patients' problems are in the end articulated in the voice of

medicine, alien to the voice of the lifeworld with which patients experience and understand their problems. Lucy and Ms. Keita show us what this means when Ms. Keita says she wants the option that allows her to keep running – Ms. Keita demonstrates that she is attending to issues other than the abstract prolapse that has been produced or the risks and success rates Lucy gave. She wants to keep running, and she wants her prolapse repaired. Lucy responds to this, saying the surgery should allow Ms. Keita to return to her everyday activities. The decision around Ms. Keita's prolapse, then, is to do the vaginal surgery, because they can do a sacrocolpopexy later if the surgery fails – which it might, especially if Ms. Keita runs. Ms. Keita's case was exceptional in its attention to her everyday experience of the outcomes of surgery; decisions usually appeared to circulate around the abstract products of the cascades that made patients' problems surgically actionable, not patients' everyday experience of their problems or surgical options.

In this section I have described some of the routines involved in the transformation of patients' problems into surgically actionable diseases and the production of surgical decisions and informed consents regarding those diseases. These are routines in both senses of the word – routine practices of talking, looking, touching, and testing that make up interviews, examinations, and cystoscopies that come together to make up routine treatment of incontinence and prolapse. Put together, these routines form a cascade of practices. Initial practices of interviews, or perhaps of everyday experiences of bulges and leaks that prompt women to come to the clinic, trigger a series of practices, some of which I examined above. Practices of uncomfortable sex and phoning the clinic lead to initial interviews, which, along with the questions and answers and examinations I

described above, include inscribing the results of those interviews into charts, booking appointments for tests or surgeries, consulting with peers or teaching students, and uncountable work practices of patients, doctors, nurses, clerical staff, partners, family members, et cetera. A long-term, detailed ethnography might trace all of the practices that make up the cascade that follows each appointment at the clinic. This study, however, focuses on the production of medical decisions and informed consent, giving a deceptively linear image of the work in the clinic.

The 'cascade' metaphor, therefore, suggests a progression from one practice and corresponding disease object to another. This metaphor articulates in some ways with Latour's (1987) cascades of inscriptions and translations that make sensible the great many elements accessible to centres of calculation. With each translation, Latour writes, something is gained – demographers can see things in data that are not visible to pollsters or respondents, for example. Something, too, is gained through each iteration of translation to which disease objects are subject in the clinic. Each iteration allows surgeons, nurses, patients, and so on to apprehend the disease in a new way, allowing enactment of the next practice in the surgeon's or the clinic's routine. Eventually, through these cascades of practices, diseases may become surgically actionable; these cascades of practices that make prolapses and incontinences in the clinic produce them as actionable - that diseases are the end-point of these cascades is what gives them their actionability. Like Latour's cascades of inscriptions, the disease could be said to become increasingly abstract – each successive practice creates a reality of the prolapse or incontinence removed by one more step away from the patient's everyday experience of it. The prolapse that is surgically actionable is recognisable as the bulge that makes sex

uncomfortable, but it has also gained different realities through speculums, cystoscopies, and posters, and the reality of it that brought the patient to the clinic, the discomfort it caused during sex, drops away.

Posters, especially, remove a prolapse from a woman's life, because they do not exactly resemble real bodies, but a cartoonish version of 'the woman's pelvic floor.' This is what we might say is lost in these cascades of practices. As Latour writes, "They are only representing it in its absence" (1987:247). The leak or bulge is now a prolapse or an incontinence; the labels 'prolapse' and 'incontinence' reproduce the patient's problem into a surgically actionable one. However, lost in this translation are the particularities of the actual practices that produced them in the first place – John Law might call this "punctualisation" (Law 1992). Pointing to the diagram on the wall does not evoke uncomfortable sex, lying on the table, peering through a speculum, or pushing down; it hides away earlier versions of the bulge behind the poster and the label. It is this label that allows surgeons to offer surgery, but this label is not quite the same as the bulge that brought the patient to the clinic or that the surgeon could feel and see. Earlier versions of a bulge or prolapse, though accessible through practices that produced them or, perhaps, by reading the patient's chart, are lost in the translation that turns the patient's problem into in a surgically actionable disease. A surgeon cannot do surgery on a bulging sensation that makes leaks uncomfortable, but she can do surgery on a prolapse understood in medical terms and by pointing at a poster on a wall.

This loss, this abstraction, separates the decision from the problem the patient started with. Abstraction may be necessary to produce surgical actionability – it is not my argument that the production of an abstract disease is itself problematic. However, a

consequence of this abstraction is that the object of decision no longer exists in patients' language. The decision is framed around the abstract disease produced by the cascade of practices, not the problem the patient initially brought with her or how the surgery might impact her life. Patients sometimes brought up these issues, but most often the decision-making conversation appeared to circulate around elements alien to patients' everyday lives – the disease object, risk and success rates, the surgical approach, and so on. This highlights a contradiction in what patients are expected to accomplish in deciding whether to have surgery or which surgery to have. It shifts the frame of the decision away from what patients want fixed and onto something alien to them. It makes decisions harder than they might be.

Unlike Latour's (1987) cascades, though, my focus is on the local practices of the clinic, not the mobility that results from the cascades of translation and inscription that allow some knowledge to be understood and taken up by centres of calculation. Of course, a surgically actionable disease could not come about without being made mobile – a surgeon must be able to apprehend realities of the problem produced in interviews, examinations, and tests in order for it to be reproduced as surgically actionable. The inscriptions of a patient's problem into her chart may make her prolapse mobile in ways similar to the ways a map makes mobile knowledge of an island's location. My focus, however, is in the local, present process of decisions in the clinic. I examine practices of looking, touching, and talking that produce diseases about which decisions are possible. Still, the metaphor seems apt. Identifying the work that flows as a cascade of practices highlights each act's location in a history of work practices over time and space, each linked to and tied up with one another.

The cascade metaphor highlights another characteristic of the routines that produce surgical decisions and informed consents. The paths from initial interviews to decisions and consents are not linear – we have seen how various contingencies can cause twists and turns in how the clinic's routines play out. Bends in the flow of the cascade of practices that led to Ms. Samimi's cyst highlight this issue. The prolapse that was being formed in their interview found itself ejected from the series of practices as the cyst took its place as the thing that made Ms. Samimi's sex uncomfortable. This interruption of routine is common in the clinic – things often do not go according to plan. This will be the focus of Chapter 3. For now, I present the cascade metaphor as a frame with which to understand how practices link together to produce surgically actionable diseases, surgical decisions, and informed consents. A second concept, that of conditions of actionability, is also needed to understand the work in which surgeons, patients, and others engaged so that actionability, decisions, and consents could be produced.

Conditions of Actionability

We have seen that various practices – uncomfortable sex, questions and answers, looking and touching, watching monitors, and so on – enact prolapses and incontinences as surgically actionable in the clinic. These disease objects are various (Mol 2002) – each enactment of a woman's prolapse, for example, be it a question, a look, or discomfort during sex and her telling of it, produces a somewhat different reality of her prolapse. These variants generally link together through space and time through the cascade of practices that enact them. We have also seen that these cascades have a goal: they are intended to produce surgically actionable diseases. Surgically actionable diseases, however, have certain characteristics, which they gain through the practices in which they

are produced. This section describes two conditions of actionability that must usually be met for a disease to be produced as surgically actionable: bothersomeness and observability. In order for a prolapse or an incontinence to be considered surgically actionable, a patient has to describe being bothered by it – through practices, for example, of inconvenient leakage or uncomfortable sex. Diseases, too, must be observed by the surgeon in order to be surgically actionable. They may be observed through practices of looking and touching, though, as we will see, more complex practices may be involved in attempt to produce observability.

Bothersome

A report by the patient of being bothered is an important requirement for the production of a surgically actionable disease. If a woman does not complain of problems due to her prolapse, the need for a surgery will be called into question; surgeons will therefore search for verification that the patient is bothered. This is what occurred with Ms. Cardiff – she was referred to the clinic for prolapse and Anne, a medical student, performed the initial interview.

Anne introduces herself and starts the appointment by confirming that this is Ms. Cardiff's first visit to the clinic and that she's here primarily for prolapse. She confirms Ms. Cardiff's age and asks when she first noticed her prolapse. They discuss the time for a few minutes – Ms. Cardiff can't remember exactly when it was, but says her doctor mentioned it to her in 2011, shortly before she moved to the city, and that she noticed it shortly after that. She says it has since come down to the vaginal opening. Anne asks if it's been getting worse, and Ms. Cardiff says she isn't sure – she pushes it back in and can't tell if it's been changing over time. Anne clarifies that the patient pushes it up because it's uncomfortable and asks if it's painful. Ms. Cardiff pauses and says it isn't, it just feels like she's sitting on something. Anne asks if she's sexually active, and when Ms. Cardiff pauses, as if

she's thinking for a moment, and says it is. Anne asks why, and the patient pauses again before saying, "It just doesn't appeal to me."

Again we see the work of various elements come together to produce this version of Ms. Cardiff's prolapse. We might say that Ms. Cardiff's prolapse began with her doctor mentioning it to her – presumably after Ms. Cardiff lied on an examination table with her legs in stirrups and no pants on, though we cannot be sure – followed by her noticing it. This is what comes to the clinic – a prolapse, a discomfort during sex, a mention of a doctor, comes to the clinic to be observed, touched, and fixed. A key difference, though, and a difference Steve will soon point out, is that the prolapse was first identified by Ms. Cardiff's doctor, not by Ms. Cardiff herself. We further see a number of pauses in the conversation, as though Ms. Cardiff is not sure whether her prolapse is uncomfortable or why she is not sexually active.

Steve comes out of another patient room and Anne starts describing Ms. Cardiff to him, mentioning that her doctor noticed the prolapse in 2011. Steve asks how she's affected by the prolapse; Anne says it makes her uncomfortable, and Steve says, "Ok, so she does notice it and wasn't just told it's there." He asks if she pees to empty, and Anne says, apologizing, that she didn't ask. He says it's fine and asks about Ms. Cardiff's previous surgeries and whether she has tried using a pessary.

So we can see that, according to Steve, a prolapse is not enough for surgical action; it would not have been enough for her to have been "just told it was there." Ms. Cardiff should notice her prolapse herself – it must bother her. Perhaps contrary to Mishler's (1984) observation that the voices of patients' lifeworlds are suppressed, Ms. Cardiff's practical experience is necessary for the medical work. Rather than ignoring Ms. Cardiff's experience of her prolapse, this experience is required for her prolapse to be surgically actionable. Of course, as I argued in the last section, this context is
eventually lost in the prolapse that becomes surgically actionable – it is required for surgical actionability, but drops away as actionability is achieved.

Julie, a registered nurse who has been working at the clinic for many years, explains this as part of how the clinic is organised. Julie here tells a patient that the degree of prolapse is not as important as whether a patient is bothered by it for the clinic to intervene:

Julie says, "The whole rationale behind the clinic is based on how much patients are bothered." She explains that some patients can have a very serious prolapse and live with it, while others can have a mild prolapse but find it very "frustrating."

Despite the existence of various stages of prolapse in medical textbooks and other reference literature, the degree of prolapse is not, according to the talk of clinic staff, important in decisions regarding surgical actionability. Instead, what matters is whether the patient is bothered by her bulge. Steve gives a similar perspective while in a surgery consultation with Ms. Smith:

Ms. Smith says she wants to know whether she has mild or moderate prolapse, the complications of surgery, and when the best time to intervene is. Steve interjects at that point in her list, saying the best time to intervene is when the patient wants and explaining that some women can have a prolapse the size of a hockey puck and not be bothered; she says she is definitely bothered and later signs a consent form for surgery.

Ms. Falcon's case is particularly interesting. Reading her chart, Adrienne and Kaitlyn, the LPN working with Adrienne, note that Ms. Falcon had recently undergone a hysterectomy and chemo and radiation therapy for cancer. A side effect of radiation therapy, Adrienne later explained to me, is bladder atonicity – cancer patients are often unable to sense that their bladders are full or to empty them fully. As a matter of routine,

Kaitlyn had performed a post-void residual test – an ultrasound scan of Ms. Falcon's lower abdomen – to determine how much urine was left. The scan indicated 400mL was left – much higher than normal. Her chart also indicated that a CT scan showed liquid in her abdomen. The presence of liquid would interfere with the accuracy of the PVR, so Kaitlyn and Adrienne agree that Adrienne will do an in-and-out catheter as a more definitive way of measuring Ms. Falcon's residual urine.

We enter the room and Adrienne introduces herself. Before asking about Ms. Falcon's problem, she says, "One piece we need even before we start is how you're emptying your bladder." She begins to explain that since Ms. Falcon has "some liquid in her belly", the PVR wasn't accurate. Ms. Falcon cuts her off and says, "My bigger problem is my vagina, not my bladder." "Oh", Adrienne says. Ms. Falcon explains that "they took out stuff" (I think she's referring to her hysterectomy), and now her vagina is very small. Adrienne asks if she's sexually active, and Ms. Falcon says she isn't, but would like to be. Adrienne says, "Ok, let's poke and prod and see what's going on." ... Kaitlyn enters the room with a scanner several minutes later, and Adrienne shoos her out, saying, "Why look for more problems than you need."

The PVR was seen by Adrienne and Kaitlyn as not sufficiently conclusive, calling for a more accurate – and more invasive – test. The need for a more accurate test appeared to automatically flow from the insufficiently conclusive PVR and the CT result. Even before asking Ms. Falcon about her bladder problems, as Adrienne did in most other initial interviews I observed, this bladder that might or might not hold 400mL of residual urine required a more conclusive test; a more definite reality of Ms. Falcon's bladder was seen as needed before the work of the clinic could proceed. Ms. Falcon, though, interrupts this new enactment of her bladder's ability to empty by saying her problem is that her vagina is too small. After a pause and Adrienne saying, "Oh", the site of action in the appointment shifts from Ms. Falcon's bladder to her vagina. When it became clear that Ms. Falcon's bladder did not bother her, its ability to empty was no longer central to the clinic's work. Her vagina became the focus of investigation and possible treatment.

Ms. Fowler's case also demonstrates how 'being bothered' is an important condition for surgical actionability. Ms. Fowler came to the clinic complaining of constipation and recurrent urinary tract infections (UTIs) – not typical problems in the clinic. Her doctor had apparently thought her constipation and UTIs were related to her prolapse, and referred her to the clinic. This is a source of some consternation for Lucy, evidenced by the unusually long appointment and the conversations Lucy has with the nurses during the several times she exits the room, once commenting, "One patient won't leave because she doesn't believe me, as though a vault suspension will solve everything."

"So, no prolapse surgery?" Ms. Fowler asks. "Not unless the bulge sensation is bad enough that you want surgery to fix it", Lucy says, "surgery will only address the bulge; it won't help with your other symptoms." She goes on to say that Ms. Fowler's UTIs and constipation seem to be bigger issues. [They talk for several minutes about Ms. Fowler's constipation]. Ms. Fowler again asks, "So, the prolapse is not bad enough for surgery?" Lucy says it can be done, but the prolapse is a separate issue from the UTIs and constipation. She says she can do the surgery, but only if Ms. Fowler finds the bulge to be bothersome to justify it.

Ms. Fowler is clearly concerned about constipation and UTIs – a good deal of the interview is spent discussing her experience with various laxatives. Her prolapse, from Lucy's perspective, is not Ms. Fowler's main problem. However, insofar as Ms. Fowler connects her UTIs and constipation with her prolapse, we might say that her prolapse is bothersome. This makes visible the negotiated nature of 'bothersomeness' – Ms. Fowler wants surgery to fix her UTIs and constipation, and Lucy is trying to convince Ms.

Fowler that surgery for prolapse will not help those issues. It is not clear how Lucy knows Ms. Fowler's prolapse is not causing her constipation or UTIs – likely from clinical and medical knowledges, but where and how was this knowledge produced? These are not details that come up in their conversation; instead of explaining to Ms. Fowler how she knows her constipation and UTIs are not related to her prolapse, Lucy repeatedly states that there is no connection and describes how her constipation can be addressed. Ms. Fowler does not appear to find this approach convincing.

"So you think surgery won't help?" Ms. Fowler asks. Lucy again explains that surgery will only help the bulging feeling; not the other issues. "Wow. I'm surprised", Ms. Fowler says. "Your bowel and UTI issues are not related to the prolapse, even though some people said it was." "Yes, they did."

We do not know whether Ms. Fowler's bulge produces practical problems in her everyday life; she does not say so, and Lucy does not directly ask about the sensation of the bulge. From their conversation it appears she thinks her prolapse is causing her constipation and UTIs; however, Lucy had earlier identified Ms. Fowler's constipation as the result of motility problems – as her stool moves too slowly through her gut, so goes the Lucy's story, too much water is absorbed, making the stool difficult to pass. This is not sufficient reason for Lucy to recommend surgery for her prolapse, because Ms. Fowler's problems – constipation and UTIs – do not fit with the prolapse produced by Lucy and the clinic. Lucy therefore considers Ms. Fowler's prolapse to not be bothersome; by identifying Ms. Fowler's main problem as constipation and infection and separating those problems from her prolapse, she attempts to reconstruct Ms. Fowler's prolapse as not bothersome. Lucy leaves the door to surgery open by saying surgery would be justified if Ms. Fowler found the bulging sensation bothersome, but this does

not happen. Her prolapse therefore emerges from this encounter as not surgically actionable.

With Ms. Wong, too, Lucy uses bothersomeness as a condition of actionability in effort to dissuade a patient from surgery. Ms. Wong has fibroids in her uterus that cause heavy bleeding during her periods, particularly, she says, when she does heavy exercise – which she enjoys and is part of her job. Ms. Wong has been taking medication Lucy previously prescribed to reduce Ms. Wong's fibroids.

Lucy starts the conversation by asking, "How are your periods?" "I've had almost none!" Ms. Wong responds. "So it's working!" Lucy exclaims, "Wonderful!" Lucy opens the chart and says Ms. Wong's fibroids don't appear to be shrinking, but says her symptoms have been gone, which appears to be Lucy's main concern. She asks Ms. Wong how much longer she has medication for; Ms. Wong says nine days. They agree that this is bad timing – it wouldn't be great for the patient to have a period over the holidays. Ms. Wong mentions several times that if she gets a hysterectomy she'd have to have it in January because February and March are very busy work months for her, and she's the only one who does her job (a hysterectomy did not come up earlier in the conversation, but I get the sense that they have talked about this as an option in an earlier visit). They spend several moments in silence, thinking about what she should/can do.

Lucy and Ms. Wong agree that now is not a good time for Ms. Wong to have a period. Ms. Wong also says that she wants a hysterectomy before February and March – a hysterectomy will eliminate her periods and she appears to expect that will have recovered by February. The silence that follows Ms. Wong's suggestion foreshadows Lucy's disagreement:

Lucy suggests keeping Ms. Wong on the drug she's on for another month then transitioning to the pill. Ms. Wong asks, "I thought I could only use this medication for three months?" Lucy explains that the manufacturer recommends it to be used for three months, and to keep the patients on it longer would shift responsibility to the doctor if anything were to go wrong, but she has colleagues who have kept patients on for longer with no problems, so she doesn't think anything will go wrong. She adds that the three month recommendation is because the trials lasted only three months, so that's what they can put on their label. She says one more month probably isn't going to make a big difference, and it'll keep her stable over the holidays.

Lucy describes her suggestion for Ms. Wong: stay on the medication for one more month, then switch to a standard contraception pill. Lucy explains that this will keep Ms. Wong from menstruating during the holidays, and she can use the pill continuously until the end of March, thus not having a period during the busy time at her work. Instead of answering Lucy when she asks Ms. Wong what she thinks, Ms. Wong asks about the hysterectomy again.

Ms. Wong asks again if she can get the hysterectomy in January; Lucy makes a face and says, "I think we can get you medically" [with medication rather than with surgery]. She describes some extreme cases of fibroid patients – losing half of their blood and being in and out of the ER. "If we do the surgery and you have a complication", Lucy says, "we'll think, 'we had this surgery for just a bit of spotting?'" Ms. Wong says it's sometimes spotting but sometimes she gets it "really bad", and that those occasions are why she wants the surgery.

Here the conversation shifts to how bothered Ms. Wong is by her fibroids. Unlike earlier examples, though, Lucy deploys the condition of being bothered as a way to dissuade Ms. Wong from surgery and to instead continue with medication – she downplays the extent to which Ms. Wong is bothered, her apparent logic being that if Ms. Wong's fibroids were more severe, surgery may be appropriate; since they are not so severe, she constructs Ms. Wong's fibroids as not meeting this condition of actionability. Lucy emphasises that the risk of a complication must be weighed against the potential benefit of the surgery. Lucy explains to Ms. Wong that some women have much worse bleeding – they may lose "half their blood" and have to go to the emergency room. Ms. Wong does not report bleeding quite that heavily, and Lucy does not think surgery is right for her – "just a bit of spotting" must not bother Ms. Wong as much as losing half her blood would. They do not discuss the particular risks of hysterectomy – this perhaps occurred in an earlier visit – but these must be what concern Lucy. Hysterectomy before menopause, Lucy told another patient, also increases the risk of heart disease later in life. The riskiness of a surgery may influence the threshold of how bothered a patient would have to describe herself as being in order to meet the condition -a woman who loses half her blood and is in and out of the emergency room appears, in Lucy's eyes, to be a better candidate for surgery. As in earlier cases, Lucy places the site of decision onto the possibility of risk and the degree to which Ms. Wong's experience of bleeding justifies taking that risk. This time, however, she frames the possibility vaguely and enacts Ms. Wong's bleeding as relatively mild, allowing her to disrupt the production of surgical actionability. Interestingly, this appears counter to the "rationale of the clinic" that Julie described and that we saw earlier: patients with prolapse can be bothered with even small bulges, but Lucy presents Ms. Wong's bleeding as not bothersome enough to justify surgery. This renegotiation demonstrates that even patients' perceptions of their own bodies may be re-interpreted in these cascades. How bothered Ms. Wong is by her fibroids is not a fact taken for granted; like in the production of the chemical structure of thyroid releasing factor, the bothersomeness of Ms. Wong's fibroids has yet to reach a consensual reality (Latour and Woolgar [1979] 1986).

Ms. Wong describes a few more ways the bleeding impacts her life, and Lucy asks, "Were you ok when it was controlled?" Ms. Wong says she was, adding, "I guess I answered my own question." Lucy describes how she thinks they can manage Ms. Wong's symptoms so she can have her holidays and work without bleeding problems – the same plan she described earlier. They agree that she will stay on the drug she's on now for another month and switch straight to the pill when it runs out.

Ms. Wong's agreement with Lucy's plan appears to centre on the plan's ability to ameliorate the way Ms. Wong is bothered by the fibroids. Lucy points out that Ms. Wong was not bothered by the fibroids while she was on the medication. Ms. Wong agrees -itis the bleeding that bothers her, not the fibroids or uterus themselves. Here we see, as Berg (1992) showed, that construction of the disposal and the establishment of the conditions necessary for its appropriateness for surgery are tied up with one another; they are produced together. Continuing medication thus emerges as an acceptable course of action. An acceptable course of action, then, is one that addresses the problem that bothers the patient. This is a somewhat different function of bothersome as a condition of actionability. In addition to the disease causing the patient to be bothered, the disposal selected must match that bother. Just as Steve, Ann, and Ms. Cardiff had to establish the bothersome of Ms. Cardiff's prolapse, Lucy and Ms. Wong had to establish that Ms. Wong was bothered enough by her bleeding. This time, though, we see that they produce the bothersomeness and the disposal such that they match one another. Lucy reproduces Ms. Wong's bleeding as relatively minor – after all, she does not lose half her blood and is not in and out of the emergency room. Crucially, Ms. Wong's bleeding is established as not bothersome when Ms. Wong is on medication. This allows continuing medication to emerge as an appropriate disposal. We saw a similar process with Lucy and Ms. Fowler – Lucy and Ms. Fowler in the end separated Ms. Fowler's bothersome constipation and UTIs from her prolapse so that antibiotics and a cystoscopy, rather than surgery, could become appropriate disposals. We therefore see that bothersomeness as a condition of actionability shapes the production both of patients' problems and of disposals in the clinic.

So being bothered is a condition of actionability – without expressing that she is bothered by her prolapse, a patient's prolapse cannot emerge as surgically actionable. Opportunities to express bothersome arise differently in each encounter - in many conversations, the patient explicitly says what her main problem is. Often, though, surgeons begin their work with a presumption of what is bothering the patient - this is what we saw with Adrienne and Ms. Falcon. Ms. Falcon's chart suggested her bladder may be atonic, and Adrienne immediately became caught up in the routine of establishing her bladder's tonicity. Only by interrupting this routine was Ms. Falcon able to shift the focus of the encounter onto her vagina, which, she said, was what was really bothering her. Ms. Fowler, similarly, did not have all the opportunity she may have to indicate whether her bulge was bothering her – Lucy identified Ms. Fowler's constipation as her main problem, and Ms. Fowler did not argue this point; however, her attempts to interrupt Lucy's addressing of constipation were met with assertions that her prolapse was not connected to her constipation – there was no question of whether the bulge was bothersome in itself. Bothersome, therefore, can be said to arise from the routines of talk that make up initial encounters in the clinic.

In order for prolapse to become surgically actionable, the existence of a problem is not enough; identification of the problem as something that bothers the patient in her everyday life is needed for it to gain a surgically actionable reality in the clinic. Similarly, a disposal for that problem is produced so that it matches the bother – the action, as well as the problem, should meet the condition. Though most of these examples have all been about prolapse, this condition of actionability likely held for incontinence as well. However, this requirement was less visible for incontinence, perhaps because it takes less

work for leakage to be enacted as bothersome – if a patient leaks urine when she coughs, laughs, or sneezes, whether she is bothered is rarely, if ever, questioned. In cases of stress incontinence, though, a condition of surgical actionability that also became apparent was observed leakage in the clinic.

Observability

A second condition of surgical actionability was observability. If the surgeon can see the problem, she can act on it. This was particularly visible with stress incontinence and leakage – surgeons looked for leaks before offering surgery. Leaks were produced in several ways. We can see some of these routines in Sara's examination of Ms. Bone. Sara is a gynaecology resident and Ms. Bone leaks when she coughs, laughs, and sneezes.

Sara summarises Ms. Bone's "main problems" and explains what the pelvic exam will entail, telling her, "Don't worry if you pee; we want to see that." Sara instructs Ms. Bone to lie on the bed and gets a speculum. ... She stands to the side looking down between Ms. Bone's legs as she instructs the patient to cough. Ms. Bone coughs four or five times, and Sara says, "I don't see much leakage." Ms. Bone describes her habit of "bracing" before she coughs, saying she can't make herself relax. Sara says, "Ok", as she gets into position at Ms. Bone's feet. After completing her examination routine, Sara says, "Unfortunately, there was no leakage", Sara tells Ms. Bone. "Hopefully we'll see some when Lucy comes."

Sara wants to see leakage; "unfortunately", she does not. She hopes they will see some when Lucy double-checks Sara's physical exam. Several of Sara's actions appear aimed at producing a leak. She tells Ms. Bone that she wants to see a leak. She asks Ms. Bone to cough several times. She hopes that Lucy will be able to produce a leak. Ms. Bone, too, appears sensitive to the importance of observable leakage; she explains that she habitually braces when she coughs – a commonly reported habit among women who leak when they cough. Lucy does not see leakage in her brief exam either and subsequently sends Ms. Bone for an urodynamics test. This test involves filling the patient's bladder with saline and, among other things, asking her to cough and bear down. These actions sometimes lead to leakage of saline out of the urethra, which counts as 'objective' stress incontinence and makes that incontinence surgically actionable. In order for Ms. Bone to have surgery, she will have to leak during the urodynamic test.

Lucy appeared to be particularly dedicated to producing an observable leak with her patients. Most surgeons asked patients to cough during physical examinations; coughing in the clinic can produce a leak in patients who leak when they cough, laugh, or sneeze in their everyday lives, but can also produce particular observable realities of patients' pelvic floors – making prolapse visible, for example. Coughing was a common practice used by all of the surgeons. Lucy, however, took coughing as a tool for producing leakage further than other surgeons in the clinic; with Ms. Bear, for example, she goes to greater lengths than I observed with other surgeons in attempt to produce a leak.

Lucy begins the pelvic exam, saying, "don't be embarrassed if you pee; the point is to get you to leak." Ms. Bear does not leak on coughing while lying down, so Lucy has Ms. Bear stand, telling her to wrap the sheet around her "like a toga" and to put one foot on a stool; Ms. Bear still doesn't leak, so Lucy instructs her to do jumping jacks. Lucy and I leave the room while the patient does them; outside, Lucy says to Adrienne, "they never pee for me", and starts reading a chart. A few moments later Ms. Bear calls through the door. Lucy and I re-enter the room, and Lucy explains to Ms. Bear that it's "sort of a standard" for them to pee before a surgeon can recommend incontinence surgery.

Lucy and Ms. Bear go to great lengths to produce leakage that Lucy can see. The practice of leakage is, here, more complicated than for other patients I observed – Lucy seems determined to produce a leak. As Lucy explains, it is "sort of a standard" for

surgeons to observe leakage before surgery can be recommended. Ms. Bear does not leak while lying down, so Lucy has her stand up. She does not leak while standing up, so Lucy has her put a foot on a stool. Again, she does not leak, so Lucy asks her to do jumping jacks. These practices appear to progressively increase the likelihood of leakage; however, Ms. Bear still does not leak. This could be for any of various reasons – some patients feel inhibited, and consciously or unconsciously contract their pelvic floors, keeping themselves from leaking; others reflexively brace their pelvic floors when they cough, keeping themselves from leaking; still others may have peed shortly before coming to the clinic.

Ms. Bear calls us back into the examination room a few moments later, saying she leaked. Interestingly, Lucy does not appear to look for evidence of the leak – she trusts Ms. Bear's report. This suggests some flexibility in observability of leakage as a condition of actionability; Lucy does not actually observe the leak, but trusts Ms. Bear's report of it. This makes one wonder why, if she were to trust Ms. Bear's report anyway, Lucy needs to observe the leak. This perhaps suggests some flexibility in the condition of observability – in this case, the leak did not have to be observable per se, but did have to occur to produce actionability.

Other surgeons were not so motivated to produce leaks during physical examinations. All four of the surgeons required it before recommending surgery for stress incontinence, and all four sent patients for urodynamics or cystoscopy if they did not. They varied, however, in their commitment to observing leakage prior to or without sending patients for testing – as Steve said once about another patient, "Patients are inhibited here; she won't leak." Instead of trying to get patients to leak, Steve tested for

leaks in cystoscopic or urodynamic tests – whether he does this with every patient is uncertain, but this appears to be his routine. There are several possible reasons for this difference in routine – Steve may consider trying to get patients to leak in the clinic a waste of time, considering that the ability to fill patients' bladders with a pump ensures the patient's bladder will be full. Perhaps he wishes to save time in the clinic, spending the minutes Lucy spends trying to get patients to leak consulting patients instead – this likely makes sense from a billing perspective, allowing him to make more money in a day than if he were to see fewer patients because he tries to get them to leak. Or perhaps Lucy simply had time that day to spend trying to get Ms. Bear to leak. Or maybe Lucy, recognizing that urodynamic tests are uncomfortable and delay scheduling surgery, does more work to make it possible to avoid those tests. Whether in the clinic or in the cystoscopy or urodynamics suite, though, observing a leak seems to be an important condition in making stress incontinence surgically actionable.

The importance of observing leakage for the production of a surgically actionable stress incontinence is particularly apparent when there is a glitch in the normal leak production routine. For patients who indicate that they leak when they laugh, cough, or sneeze in their pre-interview checklists, it is Lucy's routine to keep them from using the toilet until after the physical examination in hopes that when she asks them to cough she will observe a leak. It is the LPN's job to ensure this routine is followed by declining to allow patients to pee until after the examination is done. With Ms. Laplante, however, Jean forgot.

Lucy asks Ms. Laplante if it's ok if she fills her bladder a little, because the reason she didn't see any leakage before was probably because her bladder is empty; she adds that she needs to see the patient leak if she's going to recommend surgery. Ms. Laplante says "sure" and Lucy and I leave to get retrofill equipment – a large graduated syringe, a flexible catheter, iodine swabs, a plastic tub, and a bottle of what I assume is saline. ... Lucy says it's a "bummer; we let you pee and now we're filling you up again." She laughs and Jean apologises, saying it's her fault. Jean tells Ms. Laplante, "You're gonna feel a little poke, and it's gonna feel weird." Lucy inserts the catheter and plunges the syringe, which is now attached to the other end of the catheter. "Oh my goodness!" Ms. Laplante says. Lucy says it feels extra weird because of how fast it filled and that it's the "wrong" temperature to be pee, "whatever temperature pee is." She adds that Ms. Laplante will feel the urge to pee; Ms. Laplante says she already does and Lucy tells her it should pass. Lucy needs as Lucy works between Ms. Laplante's legs. "I'm always here to help", Jean says. Lucy finishes with the retrofill and packs everything into the tub, which she gives to Jean. Jean goes through the equipment in the tub and throws some of the items in the trash, putting the rest in the sink. Lucy asks Ms. Laplante to cough and says, "There we go, that's a good leak."

I was not able to find out whether Lucy's patients are asked to come to the clinic with a full bladder, but patients are unlikely to leak when they cough immediately after peeing. Lucy therefore asks Ms. Laplante for her permission to refill her bladder – with a catheter, a plunger, a bottle of saline, and a few other things, Lucy, Jean, and Ms. Laplante produce conditions that would allow for leakage to occur. This production, however, requires some additional work – a catheter has to be inserted into Ms. Laplante's urethra and room-temperature salt water pushed into her bladder with a plunger. "Oh my goodness!" Ms. Laplante says.

This practice, effective as it seems to be in producing a leak, is not commonly done. Perhaps if Steve were to perform retrofills with his patients, he might observe more leaks in the clinic. It may be that the retrofill itself makes patients more likely to pee, regardless of how full a patient's bladder is – having a catheter inserted, saline pushed into the bladder, and the catheter removed might have an uninhibiting effect. But Steve's view seemed to be, as he said, that patients are inhibited during physical examinations

and require the controlled setting of urodynamic or cystoscopic tests to produce a leak. There may be reasons in addition to observing leakage for sending patients for cystoscopic or urodynamic tests. In this case, each surgeon has a slightly different routine practice. Whether by sending patients for cystoscopic or urodynamic tests, engaging in a retrofill, or instructing the patient to do jumping jacks, observable leakage is an important condition for surgical actionability for stress incontinence. Without seeing a patient leak, a surgeon could not label the incontinence as surgically actionable and proceed with informed consent. As we have seen, though, leakage is contingent on various situational factors - how recently the patient has peed, whether the patient's bowels are full, and whether the patient has a habit of 'bracing' when she coughs, for example. Ms. Bone had to go for an urodynamic test to see if they 'really' had a problem the clinic can call stress incontinence and surgically intervene on. Ms. Laplante leaked after a retrofill, and was able to go on to consider whether she wanted a TVT. The routines of production of a surgically actionable stress incontinence is partly contingent on achieving an observable leak in the clinic.

As bothersomeness was primarily visible in cases of prolapse, observability as a condition of actionability was visible primarily with stress incontinence. This is likely because it requires less work to make prolapse visible – the surgeon can see and feel it, or she cannot. Similarly, there is rarely question that a woman's leaky bladder bothers her, though there are exceptions – having to choose between treating stress or urge incontinence, for example, may lead to a stress incontinence being reproduced as not bothersome enough for immediate intervention. In these cases, a patient will often begin a medication regime to get her urgency "under control" before a surgery for her stress

incontinence is considered. But usually, it takes little work to establish a patient's stress incontinence as adequately bothersome.

I have here highlighted two conditions of surgical actionability in the clinic: bothersomeness and observability. Conditions of actionability become most visible when they are not present and the routine chain of practices leading to a surgically actionable disease begins to unravel. I have provided a few examples of this unravelling in order to illustrate these two conditions of actionability in the production of surgically actionable diseases. We have seen various practices produce diseases that meet these conditions – routines of talking, looking, retrofilling, and sending for tests all act to produce diseases that may be surgically actionable. They produce bothersome and observable prolapse and stress incontinences. These necessary conditions for the production of a surgically actionable disease are a key part of the routines, the cascades of practices, which can lead to surgical informed consent.

These have been the typical ways surgical decisions are reached in the clinic: through cascades of practices that produce disease objects that meet conditions of actionability. Cascades of practices reproduce patients' problems as diseases about which surgical decisions can be made. In this reproduction, surgical actionability is gained at the cost of appreciation for the everyday experiences that brought patients to the clinic in the first place. Conditions of actionability are those conditions that must, usually, be met in order for a disease to be considered viable for surgery. Cascades of practices and conditions of actionability are both flexible – cascades flow messily and are contingent on the variable work of heterogeneous actors in the clinic; conditions are usually

necessary, but exceptions are possible if circumstances align themselves in ways that make exception reasonable. Furthermore, cascades of practices and conditions of actionability represent two frames of reference that can be used to understand the function of 'patient choice' I describe in Chapter 3.

Chapter 3: The Strategy of 'Patient Choice'

In Chapter 2 I described the cascades of practices that produce surgically actionable prolapses and incontinences, and two of the conditions that were important in establishing surgical actionability in the clinic. These practices flowed from one to another, usually in the form of routines. Following routines and engaging in some nonroutine practices, doctors and patients were able to reproduce bulges and leaks as prolapses and incontinences apprehensible in the clinic and about which surgical decisions could be made – decisions that also had a routinized character. So far, I have described how various entities in the clinic come together more or less unproblematically to produce surgical decisions and informed consents. Sometimes, though, there is turbulence – and this turbulence must be managed. This section describes two common sources of turbulence in the flow of surgical actionability and decision-making: disagreement and uncertainty. Disagreement, though manifesting itself as between the patient and the surgeon, between disease objects, and between meanings of surgical complications, is rooted in competing realities. Uncertainty was described by surgeons as intrinsic to surgery and can be compounded by particularities of a patient's case. 'Patient choice' appears in these examples as a key strategy for managing disagreement and uncertainty.

Disagreement

The general story I have given so far is one of agreement. A few exceptions aside, my examples so far show agreement between the various versions of a problem produced in the clinic and between surgeons and patients about the nature of patients' problems and how to address them. Ms. Fowler and Lucy were a notable exception – for Ms. Fowler,

the cause of her constipation and UTIs was her prolapse. Lucy, instead, saw them as separate problems and did not recommend that Ms. Fowler pursue surgery unless the bulging sensation itself was a problem for her. This demonstrates two competing realities of Ms. Fowler's problem – Ms. Fowler's reality of the prolapse causing constipation and UTIs, and Lucy's reality of the prolapse as a separate issue. Fundamentally, disagreements in the clinic appear to be rooted in competing realities. John and Ms. Snow demonstrate part of what I mean by 'competing realities.' Like many of the patients in the clinic, Ms. Snow describes a bulging sensation in her vagina and wants to have it fixed. After asking her some questions of a similar style we have already seen, he examines her:

John performs the physical exam, first with a speculum then with his fingers, apologizing for the pain when Ms. Snow winces. He says he wants to examine her standing up; she looks at me, makes a "pffwwwt" noise, and jabs her thumb at the door. She and I laugh and I leave the room. I later ask John whether he wanted to examine her standing up to see if the sacrocolpopexy is still working; he says partly, but more because he did not see as much of a bulge as he expected when she was lying down and wanted to know if it was bigger when she stood; "And it was", he says.

In addition to the version of the bulge Ms. Snow brought with her to the clinic – made real through her everyday experience of it – John and Ms. Snow produce two versions of Ms. Snow's problem: prolapse-lying-down and prolapse-standing-up. These are in competition with one another – there is a small prolapse and a big prolapse. However, because the goal of the cascade of practices in which they were produced is surgical actionability, John sets aside prolapse-lying-down. Like Berg's (1992) physicians, translation of the problem into something solvable is done with the disposal of surgery already in mind; in a sense, they co-produce one another. Prolapse-lyingdown, John explained, was not big enough; standing therefore became an act that allowed prolapse-lying-down to be replaced by prolapse-standing-up. This is also a demonstration of the condition of observability – John was trying to observe the prolapse and wanted to see one that was big enough to justify surgery.

So by 'competing realities' I mean different versions of a disease in competition; these differences can result in turbulence in the cascade of practices producing surgical actionability. The example of John and Ms. Snow showed that different versions of a prolapse may be produced in typical practice – this is likely John's typical practice for producing a surgically actionable prolapse. Competing realities can, however, cause disruption in the production of actionability, as we see with Lucy and Ms. Cuthand.

Ms. Cuthand is suffering from prolapse; she later says she is 35, but that she "definitely" does not want kids. "The reason I ask", Lucy says, "is because you'll want to delay the surgery until you're finished making your family." The pelvic exam is next; Lucy instructs Ms. Cuthand to "push down for me" and lets her know "I'm just going back in for a second" before finishing the pelvic exam. After taking off her gloves, Lucy points to a poster on the wall, explaining the prolapse to Ms. Cuthand. She says they could try a pessary, although she had already tried "most of what we have in stock; there are a few others we could try, but we probably won't find one that will work." She also describes a surgery, saying they can remove the uterus and suture the vagina up "so it doesn't fall down, like a stocking." She says a good thing about this option is that, because it is done vaginally, it has fewer risks, but an 80% success rate. Because she's "younger than most of my patients and will probably have to come back", Lucy describes a second procedure that uses mesh to hold things in place and has a 90% success rate. "It's a choice; I'd never force one or the other on a patient, but it's worth considering."

Lucy seems to be steering Ms. Cuthand toward surgery. Having already tried many of the pessaries in the clinic, and not expecting to be able to find a new one that will work, Lucy says surgery is "worth considering." Ms. Cuthand's prolapse was seen by Lucy before, and reading Ms. Cuthand's chart, Lucy was easily able to enact it in the visit as surgically actionable. She presents Ms. Cuthand some options and tells her it's her choice. After a pause, though:

Ms. Cuthand says, "I want to wait before I have surgery, maybe until 50." Lucy says, "Fifty might be stretching it. We can try a pessary, but if we don't find one, gravity will make it worse and worse. You can always call me if you change your mind." As Lucy leaves the room, Ms. Cuthand asks, "Do you have a paper or form with information on it?" Lucy says no, "But there is a website I can give you." We leave Ms. Cuthand in the room and talk to Nancy in the hallway about which type of pessary might work. Lucy pokes her head into Ms. Cuthand's room and says, "Nancy's going to try to fit you a pessary, so pants off!" Ms. Cuthand chuckles while Lucy closes the door.

Lucy clearly sees surgery as the best option – she had already given up on a pessary, and anticipates that without treatment Ms. Cuthand's prolapse will get worse and worse. The connection between the severity of the prolapse and success of the surgery is unclear, but Lucy presents worsening of the prolapse as undesirable. It is also unclear whether worsening of the prolapse would make it bother Ms. Cuthand more than it already does, though this appears to be Lucy's assumption. Lucy goes ahead and describes Ms. Cuthand's options. But, after a pause, Ms. Cuthand says she wants to hold off on surgery until, if she can, fifty. She wants to keep trying pessaries. Lucy, doubtful though she is about waiting another fifteen years, is amenable to giving another pessary a chance. She calls Nancy, a registered nurse who works often with pessaries, over to try to fit Ms. Cuthand with a new one.

Though they seemed to have different ideas about what to do, the disagreement between Lucy and Ms. Cuthand was not just about what course of action to take. Lucy, guiding the conversation as a surgeon does, enacted and engaged with Ms. Cuthand's prolapse and her history. She figuratively gathered about her the various pessaries Ms.

Cuthand had tried, Ms. Cuthand's young age, what happens when Ms. Cuthand pushes down for her, and various other practices and their effects to enact Ms. Cuthand's prolapse as in a 'last resort' situation. Everything else was tried; it was now time to think about surgery, and, considering Ms. Cuthand's relative youth, the one that uses mesh was probably the best option. Thus Lucy's presentation of the surgical options. Ms. Cuthand, however, was not ready for surgery – she did not enact her prolapse as a 'last resort' case. There were still pessaries to try, even though Lucy said it was unlikely they would find one that work. The disagreement between Lucy and Ms. Cuthand was, therefore, also about the reality of her prolapse – whether or not it was a 'last resort' prolapse. The disagreement was as much a disagreement about the reality of her prolapse as it was about what should be done about it. The reality of Ms. Cuthand's prolapse as potentially treatable with a pessary, once brought into the conversation, was easily, but it seemed reluctantly, taken up by Lucy as she said they could try another pessary and called Nancy over. Lucy's 'last resort' version of Ms. Cuthand's prolapse caused little turbulence; after all, Ms. Cuthand can always give Lucy a call if she changes her mind. Some disagreements, however, are more disruptive.

As we have seen, surgical decisions depend on the production of a surgically actionable disease. Surgical actionability involves placing knowledge about diseases and treatments mobilised into the encounter alongside the disease object so that a list of options and, sometimes, a recommendation can be offered to the patient. Production of these options is dependent on routines of talking, looking, touching, and sometimes testing that produce a surgically actionable disease object. What has not yet become visible is the importance of agreement between the results of these disease-producing

practices. We saw hints of this in Lucy's work with Ms. Samimi's bulge – the results of the talk practices of their interview suggested prolapse, while the looking and feeling practices of the examination produced a "super normal" vagina. This disagreement was resolved with Lucy's question and Ms. Samimi's pointing. John and Ms. Michon also faced a disagreement of this kind – the results of a post-void residual test, an ultrasound test done in the clinic that measures how much urine is left in the bladder after a patient voids, did not match the urodynamic test, part of which involves filling patients' bladders with saline and having them void. This is a problem for John and Ms. Michon, because Ms. Michon wants surgical treatment for stress incontinence.

Susan brings John Ms. Michon's chart, saying she wants to sign for surgery. She tells John that Ms. Michon asked her if she could just sign and she had to tell her, "You need to see the doctor first!" After flipping through the chart he asks Susan to test Ms. Michon's "residual." As she walks Ms. Michon to the bathroom I hear her say, "No pushing!" John chimes in, "No pushing!" He explains to me that a high residual would make her a bad candidate for surgery because, since she is already retaining urine and one of the complications of surgery is difficulty voiding, she would likely be "catheter dependent" (would have to self-catheterise in order to void her bladder).

Ms. Michon's stress incontinence has been enacted as clinically real, but not yet actionable – during her urodynamic test her bladder did not empty enough, which, according to the knowledge John mobilises, increases her chance of having to use a catheter to empty her bladder if she gets the surgery. This is a problem. So in the consultation, now weeks later, John asks Susan to measure how much residual urine is in her bladder after she pees. She pees into a special apparatus that measures how much urine she expels and other various measures about the flow. Susan then uses an ultrasound machine to measure how much residual urine is left in her bladder. John appears interested in comparing the result of the clinic test with the urodynamic test – if her PVR is normal, maybe surgical action will not be so risky. The routine practices of peeing into the apparatus and smearing jelly onto her abdomen have entered into the series of practices that may or may not lead to the actionability of her incontinence.

After the PVR, John asks Ms. Michon when she last went to the bathroom, and she says around noon. He checks his clock and says, "Hmm." He asks her whether she pushed, and she says she didn't. He explains the problem to her – the previous UD showed a lot of residual urine, but clinic ultrasounds have shown low residual urine. Ms. Michon mentions that she was also trying to keep from having a bowel movement at the same time; John says, "Oh, so you were inhibited. Hmm." He says he's "happy" Ms. Michon said she didn't strain when she peed, because it indicates to him that she may not have residual void problems.

The ultrasound measurements performed in the clinic do not match the test performed in the urodynamics suite; the results of the testing practices produced conflicting realities of Ms. Michon's bladder. In the clinic, her bladder empties fully; in the urodynamics suite, it does not. There are various possible reasons for this discrepancy – despite what she said, she may have pushed to fully empty her bladder; she may have peed recently so her bladder was already empty; or she may have been 'inhibited' in the urodynamic test. John searches for a way to resolve the discrepancy through his questions; the discrepancy stalls actionability. He is 'happy' that she did not strain when she peed, but does not go further than to say that she 'may not' have problems voiding.

John tells Ms. Michon that they have two options: They could go ahead with the surgery, though they wouldn't know how safe it is, or they can redo the urodynamic test. He adds that it's always possible to have to catheterise after a sling; the real question is how long after. He says that usually one in a hundred women need to catheterise, but in her case, it might be more, but "we don't know whether it'll be two in a hundred or five in a hundred for you." He then says that the UD test isn't so accurate that he expects redoing it will change the decision.

He says that if the test is "good", it will reduce her risk of having to catheterise; if it is "bad", it will increase that risk. The problem, he says, is that they don't know by how much. He says, "So you have to make a fundamental decision about whether you're willing to accept the risks associated with the surgery."

Instead of enacting her bladder in such a way that he can set one of the realities aside and move forward with surgical actionability, as he did with Ms. Snow and prolapse-lying-down, he says that the urodynamics test is not so accurate that he expects redoing it will change the decision. He reframes the purpose of the urodynamic test – earlier, it was expected to provide some information about her bladder. This information would then participate in decision-making by suggesting to John whether she would have to catheterise after surgery. Now the test gives some information about risk. Her risk of having to catheterise is elevated above that of a patient for whom none of the tests suggested urinary retention. For most patients, John can cite a one-in-a-hundred chance that they will have to catheterise post-surgery. Ms. Michon, however, with these conflicting realities of her bladder's ability to fully void existing in tension in the encounter, is more likely to have to catheterise. But it is unknown by how much – because two realities of her bladder are in play, and with John unable to set one aside, he cannot enact the results of the urodynamic test as a contraindication for surgery. The test is therefore no longer so accurate that another set of results will impact the decision. John says, alongside an apparently speculative estimate of the risk, that she has to make a fundamental decision about whether she is willing to accept the risks associated with surgery – those risks whose rates are not known, but may be about 2% or 5% and are certainly higher than a patient who did not have a high residual in the urodynamics test. The site of decision, therefore, shifted away from how Ms. Michon's bladder functions and toward Ms. Michon's willingness to accept the risk of catheterizing after surgery.

Once the site of decision was shifted away from the realities of Ms. Michon's bladder, the tension between the test results became unimportant. Another urodynamic test was not necessary; one reality – able to fully void or not – did not need to be selected over the other in order to turn her incontinence into a surgically actionable one, because the decision no longer hinged on her bladder's ability to void. The decision is now about patient choice. Ms. Michon must decide whether she is willing to accept this risk of two or five in a hundred of having to catheterise after surgery. This strategy removes from the conversation the turbulence produced by competing realities of Ms. Michon's bladder function and aligns the conversation with, in perhaps a simpler form than articulated in biomedical texts, precepts of autonomy and informed consent (Beauchamp and Childress [1979] 2009; Berg et al. 2001). The turbulence caused by the conflicting realities of Ms. Michon's bladder is overcome by shifting away the site of decision and emphasising that it is the her choice.

After another pause, Ms. Michon says that she came today to ask for the surgery, and that she still wants it. "Even after everything I've said today?" "Yeah", she says. John tells her about the consent form, how to fill it out and who will help her, and that he doesn't know exactly when it will be but that it'll be sometime in the next six months. She tells him she appreciates what he is saying. She thanks him, and we leave the room.

Despite John's warnings that she is at an elevated risk of having to catheterise, Ms. Michon decides to have the surgery. Several acts made this possible – John shifted the site of the decision away from the uncertainty and onto whether she is willing to accept risks, and she shifted that site again. She does not comment on the risk of having to catheterise, but recalls that she came to the clinic to ask for the surgery and says she will stick with her original plan – apparently analogous to how the research participants Dorcy and Drevdahl (2011) described made their decision to donate tissues to a clinical trial. John confirms that she wants surgery even after what he told her about catheterisation, and although she says she appreciates what he is saying, it appears that she does not base her decision on a 'rational' consideration of the risk; instead, she sets that risk aside and focuses instead on her previous plan to have her leakage fixed.

Disagreements can also occur in what it means for something to go wrong in surgery. Despite complications of pain and bleeding from a previous surgery they do not mention by name in this interview, Ms. Kim had come to the clinic for prolapse surgery. They had done a physical examination and discussed her options in a previous visit, but a decision had apparently not been made and she is back to consult John again.

Ms. Kim asks John what her previous surgeon did to "botch up" her surgery. John does not seem to like that language. He tells her that her procedure was not "botched up"; instead, she experienced complications, which can happen to everyone. He summarises her situation as going for the procedure and having a bleeding complication and asks, "Can we agree that this happened to you?" In an exasperated and angry tone of voice she explains that the previous doctors did not believe her when she said she was having problems, despite a puffy face and bruising around her eyes (I assume from internal bleeding, but I do not have a chance to ask). "I was the talk of the hospital," she says; "he told me I looked like a mess, and I felt like one. It was not a good experience." John says, "I am not denying that you had issues with your surgery; you definitely did."

Ms. Kim sees the problems that occurred with her previous surgery as her surgery being "botched up" – her previous surgeon made some mistake, and Ms. Kim suffered for it. John, however, sees Ms. Kim's problem differently. For John, complications are inevitable. They happen at predictable rates – rates knowable through textbooks and through experience – and some women will get them. Adrienne once told a patient that she can do a surgery on a hundred women and not know who will have complications. She can pick up on some risks, but some apparently good candidates will do poorly. I will return to this issue in the next section; for now, suffice it to say that complications are a fact of life in surgeons' practice. For Ms. Kim, her post-surgical bleeding was "not a good experience," and her surgeon was to blame.

John says that if she wants no risks, he can't offer a surgical treatment – she can use a pessary or try physiotherapy, but surgery is inherently risky. In order to have surgery, he says, she needs to understand and accept, and convince him that she understands and accepts, the risks. "There is no way I will take you for any surgery if you don't accept the risks. All of the risks with this surgery are rare, but they could and do happen." He adds that if complications do occur they can go back and fix them, but she is still dealing with unresolved issues from her last surgery. She says, "Yeah, I'm scared."

John explains that, while the risks that come with the surgery are rare, surgery is inherently risky. Complications can and do happen – they may not happen often, but someone will eventually have one. In a surgeon's practice, they are unavoidable. John seems unsurprised that Ms. Kim had a complication with her previous surgery – it happens every so often, and it is, according to the story the surgeons tell about complications, probably not the first time he has seen a woman who had one. Complications are things to be accepted; they are a risk taken in surgery. John therefore directs the conversation around risks; Ms. Kim must convince John that she accepts the risks inherent in surgery. Accepting the risks, for John, involves understanding complications as inevitable and recognizing that something bad might happen to her; complications will, eventually, happen to someone, and it was Ms. Kim's bad luck that the bleeding complication happened to her. Surgery is, as Adrienne described it, a gamble. Ms. Kim, however, her previous surgical experience still fresh in her mind, does not appear willing to accept those risks; she is still living the experience of looking and feeling like a mess. Her suffering is apparent in her voice. She still experiences the consequences of her previous surgery – those consequences are not just 'complications;' they are real in a different way for her than they are for John. Where he enacts 'complications' as unfortunate but inevitable events that occur at particular rates and can be remediated, she is embedded in the practicalities and affective consequences of her post-surgical bleeding. She is scared.

There is another pause, and he says she can think about it and decide later. He again gives pessary or physio as options, or, "since your prolapse is not terrible, you can choose to live with it as well." He reviews each surgical option again. … He says they can also do the ligament one, and if it doesn't work they can do the mesh after, but that this means they will do two surgeries. She makes eye contact as he says they can try the mesh option after the ligament option, she frowns, looks at the floor, and says, "yeah, two surgeries" when he says it would mean two. She looks toward the floor for a few seconds and John says, "I'll leave you to think about it some more. We've talked about this at length for a while, and now you've got to make a decision." John invites Ms. Kim to think about it at home and I leave the room with him.

Neither John nor Ms. Kim appears to be willing to commit to surgery. Surgery entails risk, John explains, and Ms. Kim does not seem ready to 'accept the risk.' No longer loudly voicing her anger with her previous surgeon, she now stares at the floor, quietly repeating what John tells her, giving a general appearance of uncertainty and discomfort. Rather than agreeing with John about what it means for something to go wrong with surgery, she withdraws. Earlier in the conversation John notes that she has some unresolved anger from the consequences of her previous surgery, which seems to make him apprehensive about offering her surgery; after all, she must accept the risks, and she appears to still be hung up on the consequences of her previous surgery – consequences that might be repeated. He offers her some time to think and suggests non-

surgical treatments. Their unresolved disagreement about the meaning of surgical risks and consequences produces turbulence in the production of actionability – Ms. Kim cannot 'accept the risks' of surgery, so John cannot offer her surgery.

Despite this, we still see management of the disruption caused by the disagreement between meanings of Ms. Kim's complication. As we saw with Ms. Michon, John emphasises that it is her choice whether the risks are or are not acceptable. The disagreement between meanings does not demand solution – John and Ms. Kim may disagree about what complications mean and still agree to surgery, if only Ms. Kim accepts the risks. Surgery can be a painful, scary thing and yet accepted. Ms. Kim, however, does not appear to accept the risks, and the turbulence remains. John invites her to think about it at home, effectively ending the conversation. Perhaps with time, he seems to suggest, she will have a more agreeable understanding of complications and will be able to accept the risks – or, maybe, she will not have surgery. The proverbial ball is now in her court.

We have seen that disagreements and controversies can impact how a disease comes to be seen as surgically actionable and how decisions regarding surgery are made. Surgery may not be selected at all, if the actors do not converge on surgery as an appropriate disposal. Ms. Cuthand, for example, did not see her prolapse as a 'last resort' case as Lucy did; there were still pessaries to be tried, despite Lucy's doubt that one would work. Disagreement between realities of a disease can also produce turbulence in the cascading practices that may produce a surgical disposal if a disagreement disrupts routine, as we saw with Adrienne and Ms. Brown. Different, competing prolapses brought together in decision-making conversations also cause turbulence. Divergent

realities of a disease may coexist if they are distributed, but in decision-making conversations various prolapses or incontinences produced in the clinic are coordinated so that actionability may be determined and a surgical decision produced (Mol 2002). When brought together, a technique other than distribution is needed to manage the turbulence produced by the meeting of divergent versions of a disease. A common strategy for managing disagreement, which we saw with John and will see again in the next section, was to resort to 'patient choice.' Turbulence is managed by shifting sites of decision away from the source of turbulence and onto patients' understanding of and willingness to accept the risks of surgery.

Epistemological Uncertainty

Adrienne explained to one patient that surgery never comes with guarantees. "In surgery, you never know. You can't know," she said. Steve once commented, "Surgery is the big X factor." He said that "even when you do a great surgery, you just can't know what the results will be." Uncertainty of the results of a surgery has implications for surgical decisions – if the results of a surgery cannot be known before the surgery is done, how to produce a decision about whether a patient should have surgery? How to produce informed consent when outcomes of surgery cannot be predicted? This type of uncertainty – the unpredictability of the results of treatment – has also been acknowledged as a source of uncertainty in medicine. Fox (2002), for example, mentioned it in her listing of current and future directions for research into medical uncertainty. She argued that the unpredictability of individual medicine is tied up with evidence-based medicine and, as I argue below, highlights a limitation of an evidence-based approach to medicine. This is not quite the uncertainty Waitzkin and Waterman

(1974) described, though it is uncertainty of a similar kind; rather than the uncertainty patients find themselves in regarding their problems, I refer to the uncertainty both the patient and the surgeon inevitably experience regarding the outcome of surgery. Parsons also discussed uncertainty of a kind I mean: "Sometimes, it may be known *that* certain factors operate significantly, but it is unpredictable whether, when and how they will operate in a particular case" (1951:449). This is the uncertainty Adrienne and Steve describe; they know that some patients will have complications, but they cannot predict to whom those complications will occur. This section explores the character of this uncertainty and how decisions are made possible in light of it.

The statistical knowledge we saw mobilised in decision-making engagements do not reduce this uncertainty; that knowledge cannot be applied to individual cases. There is an epistemological gap between the individual and the population: "direct application of knowledge derived from population-based studies is likely to fulfill the goal of public health. The application of the knowledge to the individual, however, is problematic" (Tonelli 1998:1236). Failure to recognise the differences between clinical research and clinical practice may in fact cause harm, Tonelli (1998) argues, by leading to the devaluation of patients' individuality, a subtle shift of care away from individuals and toward populations, and denigration of the complexities of clinical judgement. Gifford (1986) described risk this way. Women diagnosed with benign lumps in their breasts were considered, epidemiologically, to be at greater risk for developing breast cancer; however, the language of risk conveys the "clinical and lay uncertainty concerning the prediction and control of unhealthy outcomes" for individual women (Gifford 1986:212). Translation of epidemiological risk into clinical risk is illusive at best, so Gifford

describes two senses of risk: the 'scientific' dimension of falling into a group of women statistically more likely than others to develop breast cancer, and the lived experience of risk as something patients suffer. Weir, too, demonstrated that "clinical risk comprises an unstable amalgam of incompatible forms of reasoning" (2006:19). In her examination of perinatal risk as a tool of biopolitical governance, she observed that clinical risk combines epidemiological reasoning, based in calculation, with incalculable individual clinical care. Individual care is therefore characterised by uncertainty in the sense I describe below: risk rates mobilised from epidemiology and randomised controlled trials do not eliminate uncertainty in surgical decision-making.

Importantly, this is not about the limits or bounds of medical knowledge that, one day and with appropriate research, may be filled and made to work. This is about the limits of what can be known in clinical practice. As Steve said, even with surgeries that look great and for women who are not at risk for complications, complications may occur. This is what makes surgery "the big X factor" – the uncertainty I observed and discuss are not simply gaps in current medical knowledge, but are based in the inability to predict how surgery will go. Furthermore, what we see in the clinic, and what I show below, is an epistemological gap between outcome data provided in medical literature and the particular outcomes of patients. Because of the basic problem of applying population-based statistics to individuals, as Fox, Gifford, and Weir discuss, surgical decision-making is characterised by uncertainty despite the wild proliferation of statistical knowledge in medicine. This highlights a limitation of evidence-based medicine encourages physicians to employ medical research literature in their practice (Evidence-Based Medicine Working Group 1992); however,

because of the incommensurability between populations and individuals, uncertainty cannot be eliminated by applying knowledge from medical research literature.

The unpredictability of the results of surgery therefore becomes a source of turbulence in decision-making processes – turbulence that requires management. Turbulence resulting from uncertainty is managed, in part, with statistical knowledge. However, the epistemological gap between populations of patients and individual patients means statistical knowledge cannot eliminate uncertainty. Instead, statistical knowledge deployed in these engagements changes the meaning of uncertainty so that it may be rendered manageable – it enables 'patient choice.' 'Patient choice,' thus enabled by transforming uncertainty from a possibility to a probability, is a strategy by which uncertainty is managed in the clinic. After describing how uncertainty characterises decision-making in the clinic and how practices of decision-making manage that uncertainty, I will briefly discuss the implications of this uncertainty on the value of evidence-based medicine.

Uncertainty of the sort I have been describing is particularly salient in surgical practice, where treatments might be characterised as less reversible than in many other areas of medicine. Surgical decisions in the clinic were made without complete knowledge of what will happen after the surgery. Such knowledge, as several of the surgeons explained, is impossible. Uncertainty is often visible in how options are presented to patients. We saw how Ms. Bear's leak was reproduced as surgically actionable in Chapter 2; now, Lucy presents to her some surgical options:

Lucy tells Ms. Bear, "It [the TVT] has an 80 to 90% cure rate; if asked subjectively, 90% of patients will say they're cured, and an objective test of pad weight shows 80% don't leak." She explains how the procedure is done and says, "The risks are small." She describes bladder perforation, again calling it a "bummer." She says 1-10% develop urgency and "no one knows why", and that six months of medication is usually enough to "calm the bladder down" in half of those women. She says that one in three "don't pee well", so they have them selfcatheterise for two weeks; she says that is her "limit" before she wants to "go in and adjust the tape." She mentions the mesh lawsuits that are advertised on TV, saying, "You can't believe American TV." She says the suits are mostly from prolapse, which has bigger pieces of mesh, and are because of either erosion or the mesh contracting. She says that because the TVT is small, 1-2% will feel, or their partners will feel, the tape in the vagina, and that it can be treated either with oestrogen or by trimming "the eroded bit of the tape."

Lucy gives Ms. Bear a good deal of information about the tension-free vaginal tape. Much of this information is in the form of rates – 80 to 90% success rates, 1 to 10% risk of developing urgency, and 1-2% risk of erosion. These rates, like the 75% success rate Lucy described to Ms. Keita, are likely traceable to medical literature. In fact, she gives a glimpse at how the success rates are produced – through "subjectively" asking patients and "objectively" weighing a pad before and after instructing a patient to cough or jump. These rates arise from the coughing and jumping of many patients – not to mention, for example, the acts of writing and publication done by researchers. These rates, however, do not say whether or not Ms. Bear will have a successful procedure or one or more of the complications Lucy describes. Ms. Bear may be one of the 90% who "subjectively" report cure, one of the 1-10% who develop urgency, or one of the 1-2% who feel the tape in her vagina. Lucy does not indicate which group Ms. Bear will fall into, just that these groups exist. As Adrienne said, "You can never know." As Fox put it, the knowledge mobilised here by the surgeon is "based on aggregate statistics that apply more accurately to large populations of patients than to individual cases" (1988:576). Lucy also describes for Ms. Bear two other options -Ms. Bear is expected to pick the option she thinks is best for her. Lucy's description of the alternatives, though shorter,

resembles her explanation of the tension-free vaginal tape:

Lucy says, "An alternative to the TVT is the Burch", which has a lower (75%) success rate and can be done two ways. The first is abdominally, making a scar like a C-section scar, or "one person in the city does it laparoscopically, with little cameras in there." She mentions that women who chose the Burch did so because they are "very fearful of mesh." She then mentions the third option, bulking agents, "the same stuff that people put in wrinkles", which has a 50% success rate but costs \$3000 to \$4000. After clarifying that the "problem with mesh is not a reaction, but an issue with the mesh" and that it can be "easily fixed" and Lucy answers affirmatively to both questions, Ms. Bear decides on the TVT.

Again we see information derived from population-based methods presented. Lucy describes the success rate of the Burch procedure and how it is done. She also gives the success rate for the bulking agent – Botox, I later find out. Interestingly, she frames the Burch as an option for women who are afraid of surgical mesh, making the TVT appear to be the reasonable choice. This scene, like Ms. Keita and Ms. Emberlie's decisions, plays out very quickly; Ms. Bear's only questions were about the TVT – whether erosion occurs because of a reaction to the mesh and whether erosion is easily fixed. Though we cannot access Ms. Bear's thought process – and besides, her decision appears not to be formally 'logical' – the decision seems to have be centred on the possibility of erosion. The low probability of an erosion happening may factor into the decision, but, importantly, Ms. Bear attends to practical concerns about erosion, not its likelihood.

We see a similar situation with Ms. Longhorn. Ms. Longhorn had seen Steve some weeks ago and is in again, this time to see Lucy – probably because Lucy has a shorter wait list – and to re-sign the consent form. In this appointment she decides, for a second time, whether she will have the tension-free vaginal tape surgery and whether
Lucy will do it for her. Her leak, too, had been reproduced as stress incontinence, and Lucy describes the TVT as a surgical option:

Lucy describes the TVT, saying it is to "support the bladder" and has "about an 85% success rate. If you subjectively ask patients if they're better, 90% will say yes, and if you objectively test, 80% will not leak on a pad test." She says the TVT is a "day surgery" with "deep sedation or general anaesthetic" and involves "two incisions in the pubic hair and one in the vagina." She says the pain is "like getting kicked in the pubic bone; half of women only need Tylenol and they feel better, while half need something stronger." Lucy lists the risks of infection and "puncturing organs," saying, "Studies have shown a one to ten percent risk. We're usually able to complete the procedure, then drain the bladder and it heals like biting your cheek. It's more of a bummer than a major problem."

Lucy describes the TVT and its success rate in a similar manner as with Ms. Bear. This time, instead of giving a range, she gives the midpoint between the 'objective' and 'subjective' success rates, suggesting the communication of this information is flexible. Nevertheless, the rate of success she provides share the characteristic described in Ms. Bear's case: they are not immediately applicable to Ms. Longhorn, so it is hard to know what they mean for her.

Lucy presents more than just rates. She discusses how the surgery will be done, what kind of anaesthetic she would use, what the pain would be like, and other possible complications of the procedure. Some of this information appears to be of a different quality than rates – she describes them in terms meaningful to Ms. Longhorn as an individual person – the pain is like "being kicked in the pubic bone", for example. These terms are immediately understandable. Being kicked in the pubic bone is an imaginable experience; Ms. Longhorn can imagine what it would be like to be kicked in the pubic bone and take that into consideration as a decision takes shape.

How, then, is a decision produced for Ms. Longhorn? Ms. Longhorn is

particularly concerned about "media hype" about surgical mesh. Prolapse surgeries that used large pieces of mesh had relatively high rates of erosion, and manufacturers of these meshes are now involved in class action lawsuits, particularly in the United States, which are commonly advertised on television. Patients, like Ms. Longhorn, have often seen these advertisements before coming to the clinic, leading them to express concern and ask questions about mesh.

Ms. Longhorn asks about the media coverage about mesh, and Lucy says, "Most of the hype is related to larger pieces of mesh, about the size of your hand, used in prolapse surgery. The pain from that is because of erosion, and that's what most of the law-suits are for. Some of the erosions can be treated with oestrogen, and sometimes we have to trim the bit of the mesh that is coming out." She says the chances are "incredibly small" with the amount of mesh used in the TVT; "very rare, but not zero." She adds that sutures can also erode, so there aren't any riskfree alternatives. Ms. Longhorn mentions that she got a bladder infection after a stress incontinence test, and Lucy tells her to remind her on the day of the surgery and she would "send you home with some antibiotics." Lucy adds that "about one in three patients can't pee properly, so we send them home with a catheter and it usually fixes itself"; Ms. Longhorn says, "oh, because of swelling and it goes down" and Lucy says "yeah", but does not elaborate. She then says, "There is a five to ten percent chance urgency symptoms will worsen, and I can give you medication for that." She asks if Ms. Longhorn has any questions; Ms. Longhorn says no, and that what Lucy said was pretty much the same as what Steve said and thanks her for "alleviating my concerns about the mesh." Lucy gives Ms. Longhorn the consent form, saying, "It's a little different from last time; they changed this week," tells her how to fill it out, and takes her into the hallway "so Nancy can witness it."

The decision to sign the form hinges, in Ms. Longhorn's case, on alleviating concerns about mesh. In order for Ms. Longhorn to consent to have Lucy do her surgery, Lucy gives a sufficiently allaying story about surgical mesh and TVT. This story is largely made up of statistical information. Information about the population of women who have had the TVT surgery is enacted by Lucy in this conversation through

statements like "incredibly small" and "very rare, but not zero." She suggests that the chances of mesh-related complications are low – both relative to the hand-sized pieces of mesh and on the TVT's own terms. What the rates Lucy gives mean for Ms. Longhorn in particular is probably impossible to know – the risk and protective factors that impact Ms. Longhorn's probability of experiencing success or complication are complex and variable. More importantly, as Latour and Woolgar ([1979] 1986) showed with thyroid releasing factor, knowledge both about Ms. Longhorn and about the TVT are produced in local, particular, and precarious chains of practices. Applying what is known about Ms. Longhorn to what is known about the TVT, therefore, is not an act that involves neutral 'facts' so that the results of Ms. Longhorn's surgery may be predicted.

A reliable prediction may be impossible, or at least impractical; it is also unnecessary. Uncertainty in Ms. Longhorn's case did not cause disruption in the production of a surgical decision – quoting and interpreting statistics was enough to alleviate Ms. Longhorn's concerns about mesh and allow her to sign the form. The statistics, rather than being meant to provide a prediction of how Ms. Longhorn's surgery will go, are instead reassurance. She does not need to know whether or not she will have a successful surgery, she just needs to be reassured that complications are rare. Population-based data may be incommensurable with particular cases, but their mobilisation in this engagement was an effective technique in the production of Ms. Longhorn's consent.

We have seen that the statistical nature of what is known about mesh and the TVT allow Lucy to tell Ms. Longhorn a reassuring story about the TVT, but does not allow her to tell a story about what would happen to Ms. Longhorn. Lucy is able to tell Ms. Bear

the success rate, but Ms. Bear appears more interested in erosion as a practical issue. This did not produce disruption for Ms. Bear or Ms. Longhorn; their decisions did not seem to have required a prediction. Uncertainty did not produce much disruption in the production of these decisions. Often, however, there were additional uncertainties – uncertainties that produce disruption. For example, it was unclear whether Ms. Michon was at an elevated risk for urinary retention problems if she were to have a tension-free tape. These two realities of her bladder – one at regular risk and one at elevated risk – added a level of uncertainty beyond the usual problem of not knowing what will happen to a particular patient were she to have surgery. In addition to the common trouble of predicting the results of surgery, it was unknown whether Ms. Michon's bladder could fully empty or not. These examples of additional uncertainty introduce turbulence into the routine decision-making practices of the clinic, making visible surgeons' techniques for managing uncertainty and maintaining actionability.

We saw with John and Ms. Michon that uncertainty was managed by shifting the site of decision onto questions of whether a patient is willing to 'accept the risk' or is 'sufficiently bothered' – as in cases of disagreement, 'patient choice' appeared to be the most common strategy for managing uncertainty. Because of the uncertainty regarding her bladder's ability to empty, it was difficult to enact surgery as a superior course of action. In explaining this to Ms. Michon, John enacts a probabilistic reality of her chances of having to catheterise. "For you," he says, "the risk might be two in a hundred or five in a hundred." A statistician might cringe at this application of a population-level reality of the risk to an individual case; nevertheless, it was a technique of making Ms. Michon's situation meaningful. Note that making her situation meaningful does not

reduce the uncertainty – they enacted a no more certain prediction of the outcome of her surgery, but they can now divide one hundred by two and by five and incorporate two and five percent into the conversation. Defining the risk in fractional terms does not reduce the uncertainty – in fact, it adds a layer of uncertainty. In addition to the uncertainty that results from the incommensurability of the statistics of medical literature and Ms. Michon's particular case, John gives Ms. Michon a range of possible probabilities. A range of possible probabilities – even less certain than one probability – adds turbulence to the decision about Ms. Michon's prolapse.

Success or complication rates are not exactly the probabilities for the patient engaged in the decision-making conversation. They are facts enacted through largesample statistical study – practices worth study in their own right. The 90% risk generally associated with the sacrocolpopexy is not 90% for a particular patient, but is 90% for the sample of patients in the study or studies in which 90% was enacted as the sacrocolpopexy's success rate. This is related, also, to a consequence of the abstraction of patients' problems that occurs through their translation in the cascade of practices that turn them into surgically actionable diseases. The rates and risks surgeons provide in these conversations described also exist in the abstract language that separates problems from patients' experience. The use of risks, then, is another example of the ways patients are placed in a contradictory position by the requirements of informed consent – they are asked to make a decision about something removed from the problem they want fixed.

As we saw with John and Ms. Michon, surgeons will often tweak these rates. As Lucy told Ms. Keita, a sacrocolpopexy had a 75% success rate, "but I'd say it would probably be a little less for you. You're not a *vigorous scarrer*; your scars would be

stretchy." Based on results of practices that made Ms. Keita's body surgically actionable, Lucy tweaks the success rate provided in the literature. Still, the rate itself is brought in from enactments made mobile through publication of statistical study of the sacrocolpopexy. Informed consent, which involves the communication of information and the provision of consent, appears here to be a way to avoid inherent and emergent uncertainties in surgical decision-making. These unresolvable uncertainties are sidelined when surgeons shift the focus of conversations from uncertainty onto whether patients will accept the risks that have been described to them. Faced with the uncertainty around Ms. Michon's bladder function or the epistemological gap between the population-level information Lucy describes and Ms. Bear's individual case, John and Lucy leave it to their patients to decide whether or not to have surgery.

Lucy and Ms. Wong, previously described, present another interesting case of this relationship between informed consent and uncertainty – rather than employing informed consent to combat uncertainty, this time Lucy employs uncertainty and informed consent to disrupt production of surgical actionability. Ms. Wong has heavy bleeding during her periods, which Lucy and Ms. Wong have established to be due to uterine fibroids. Ms. Wong wants a hysterectomy to stop the bleeding, but Lucy wants to keep Ms. Wong on medication for at least a few more months. Lucy discusses with Ms. Wong one way to think about possible complications: "If we do the surgery and you have a complication, we'll think, 'we had this surgery for just a bit of spotting?' " Here Lucy emphasises the possibility of a complication and that Ms. Wong is suffering 'just a bit of spotting.' These are two closely related ways in which 'patient choice' may be mobilised in cases of uncertainty – complications may occur, and the patient should be sufficiently bothered to

justify taking the risk of surgery. In this case, we can see that Lucy deploys the uncertain, but extant, potential for risks as a way of disrupting actionability. Lucy provides a scenario in which Ms. Wong has a complication and they regret the surgery. The mere possibility of this scenario was used to organise the decision; despite the unknown probability of its occurrence – or even what it would be – its possibility was enough for Lucy to use it as a way to encourage Ms. Wong to try a pharmaceutical intervention for a while longer. The uncertainty surrounding these complications did not explicitly enter into the conversation except by Lucy saying "if." "If" it happens, they might regret it. Lucy does not know – probably cannot know – whether Ms. Wong would have a complication. Lucy was able to employ the uncertain possibility of a complication to cause turbulence in her conversation with Ms. Wong.

Uncertainty may similarly be avoided if the option of an alternative to risky surgery arises. One of Adrienne's patients had a painful complication after a sacrocolpopexy. She experienced pain, especially when moving or standing, and wanted Adrienne to fix it. Adrienne had seen this complication before, and had a treatment for it; however, she could not guarantee that it would work:

Adrienne says it [the mesh] is a hammock, and that unhooking the hammock could end three ways. First, the scar tissue could hold it up and it will still do its job without causing the pain. Second, scar tissue will not hold it up and she will re-prolapse. Third, scar tissue won't hold it up, so she'll re-prolapse, but the second side bears the load and the pain continues. She adds that there's no way to know what will happen, and that she's seeing another woman today who had "exactly that [the second possibility] happen." She says some women want her to try, and others decide to just live with it – even if she thinks it's time to do something about the pain. Ms. Habib says, "I can't live like I am now, but I can't go back to how I was before either." Adrienne says, "That's the gamble. Surgery is a gamble." There is a pause in the conversation before Adrienne tells Ms. Habib she wants to re-examine her; "I want to convince myself, because I think it will help."

Adrienne has some idea of what might happen if she 'unhooks' the mesh, but "there's no way to know." She even had a patient later that day who had the second possibility – 'unhooking' the hammock led to failure of the surgery. She emphasises that it is Ms. Habib's choice – as she says, it is her patients that want her to try that makes her adjust the surgery, not her own judgement. It is also a gamble. The outcome of surgery cannot be known; following Adrienne's 'gamble' metaphor, every surgery is a roll of the dice with the hope that it will be successful and will not have complications. And it must be Ms. Habib to roll the dice; after Adrienne hands her the dice, there is a pause in the conversation – a routine pause that, in most conversations, signals that it is the patient's time to choose.

Despite shifting the conversation toward whether Ms. Habib will make the gamble, Adrienne asks to re-examine her. This represents a common tension in decision-making processes characterised by uncertainty: the surgeon leads the conversation through questions, prompts, explanations, and sometimes suggestions, yet often insists that patients make the final decision. Ms. Habib's case suggests that the emphasis placed on patient choice is not always done for the sake of patient choice itself – surgeons will steer their patients in a direction they think is best, and only when they are not sure which option to steer them toward does 'patient choice' become an ordering factor in the conversation. We also saw this with Ms. Bear and Ms. Longhorn – the 'choice' appeared to be obvious, involving little deliberation and no emphasis on its status as '*her* choice.' Emphasis on patients' 'choice' appears to be a technique with which uncertainty may be dealt. As we have seen, the knowledge surgeons produce and mobilise is contingent on

various factors at work in medical encounters – the difference between knowing and not knowing 'what is best' is not clear. Surgeons sometimes 'know' and sometimes 'do not know,' but knowing or not knowing is dependent on various heterogeneous factors in addition to medical knowledge or reasoning. Uncertainty is an indigenous factor in most surgical engagements, and 'knowledge' is not neutral or given. There are no permanent lines separating situations in which surgeons know and do not know what is best; this knowledge is a factor that may or, apparently as often, may not arise out of the particular circumstances in which that knowledge is produced. Informed consent then appears to be a technique with which uncertainty may be dealt.

In the end, Ms. Habib does not have to decide on what adjustment to make to her repair – Adrienne examines her and feels a "fold" in her vagina. Her vagina has apparently not healed properly after her last surgery, leading to two parts of her vagina adhering to one another, creating a "fold." Adrienne then proposes, "What we can do, are two things." She describes "releasing the fold" as a minor surgery that she could even do in the clinic, but is hesitant to do so just in case there is bleeding or she ends up having to put in a suture. Adrienne says it may not fix her pain, but it's not very aggressive and will not compromise her repair. Before Adrienne mentions the second option Ms. Habib says she is ready to do the fold release surgery here and now; Adrienne suggests doing the surgery a few days later, when she is scheduled to be in the operating room and can take advantage of the extra equipment should she need it. Ms. Habib agrees, and Adrienne puts a hand on Ms. Habib's knee and says, "I somehow think this will be better. How much better I don't know, but it's not a big risk." Ms. Habib could be described as lucky – she did not have to make the gamble of adjusting her repair. It is still unknown what

will happen, but because it is not "aggressive" and does not involve the same risk as adjusting her repair, releasing the fold is not the same kind of gamble. It may not help much, but it postpones the need for a decision about whether to take the risk of a more "aggressive" surgery, and Adrienne appears to hope that releasing the fold will be sufficient. In this instance we can see that, even in surgery, situations are not 'all or nothing' – even in surgery there are intermediate steps. Intermediate steps, such as releasing Ms. Habib's fold, may be used to avoid or delay larger steps, such as unhooking Ms. Habib's hammock. Releasing the fold becomes an intermediate surgical option that allows Ms. Habib and Adrienne to avoid, or at least postpone, deciding whether or not to unhook the hammock. A course of action, once again, was made possible without reducing uncertainty.

These excerpts have shown that despite mobilising medical research literature in decision-making engagements, as evidence-based medicine demands (Evidence-based Working Group 1992), uncertainty is not reduced. Timmermans and Berg (2003), too, examined the relationship between medical uncertainty and evidence-based medicine. Drawing on their interviews with medical residents, they argued that evidence-based medicine in fact adds more uncertainty to medical residents' practice – evidence-based medicine highlighted that medicine's scientific base is "riddled with unknowns and uncertainties" (Timmermans and Berg 2003:164). However, the uncertainty in the clinic, instead of relating to the uncertainty inherent in the practice of concurrently learning and practicing medicine, relates to the uncertainty that results from the unpredictability of surgical outcomes. This uncertainty persists despite mobilisation of evidence from medical literature; evidence from medical literature is incommensurable with individual

cases – a characteristic of evidence-based medicine that has been identified by other critics (e.g., Hunter 1996; Tonelli 1998; Davidovitch and Filc 2006, Nevo and Slonim-Nevo 2011). Evidence therefore cannot add certainty to medical decision-making.

Instead, the suggested practices of evidence-based medicine maintain actionability despite uncertainty by giving uncertainty new meaning. It is not only a question of whether or not a complication will happen, for example, but whether the probability of that complication is high or low enough to impact the decision-making process; 'a one percent chance' or 'two or five in a hundred' is, perhaps, more useful than 'elevated risk.' This shows the ambivalent function of risk rates in decision-making conversations. On one hand, they are abstracted from the patient's everyday experience of her problem; but on the other, they provide some meaning to the uncertainty surrounding the results of surgery. Of course, useful meaning often comes from outside the realm of statistical knowledge as well – surgeons add such qualifications as "very rare, but not zero"; describe how complications may be avoided or managed; and describe what it might be like to have a complication. The pain from a TVT is like getting kicked in the pelvic bone. A bladder perforation is a "bummer." These meanings stand beside the meanings given by statistical knowledge in allowing surgeons and patients to make sense of the uncertainty that characterises surgical decision-making so that decisions may be made and consents may be given.

The role of statistical information is therefore to maintain actionability by allowing emphasis on 'patient choice.' Surgeons provide what information they can – success and risk rates, how surgery is done, and, sometimes, an idea of what surgery might be like or what a complication might mean. Sometimes, when one option appears

superior, surgeons may steer patients toward it; for example, Lucy framed the Burch procedure as selected by women afraid of surgical mesh, and Adrienne recommended releasing Ms. Habib's 'fold' before adjusting her repair. At other times, one option does not seem better than the others. In these cases, emphasis is placed on patients' choice – Ms. Michon, for example, had a "fundamental decision to make." Turbulence is produced in decision-making processes, and deferring to patients' choice, following precepts of informed consent and evidence-based medicine, is one way with which that turbulence may be dealt. Given the relevant information, congruent with definitions provided by proponents of informed consent and evidence-based medicine, patients are to make their choice.

My hope, in this section, has been to show how 'patient choice' appears as one of the ways turbulence caused by uncertainty was managed in decision-making conversations. I wanted to show how actionability was maintained so that decisions could be made despite uncertainty. Because surgeons could not predict the results of surgery, decision-making in the face of uncertainty was common in the clinic. The process outlined by informed consent – providing information and retreating from the decisionmaking – was a key strategy used to combat this uncertainty. This information, including results from medical literature as demanded by evidence-based medicine, gave uncertainty new meaning, failing to reduce uncertainty but nevertheless aiding maintenance of actionability. By shifting the site of decision onto whether the patient feels bothered enough or is willing to accept the risks, knowledge of a patient's specific risk became unnecessary. What mattered was whether patients were willing to accept the risk or thought they were bothered enough to justify the risk, not how likely the risk was.

Framing choices thusly, surgeons were able to back away from the decision, shifting responsibility for the decisions onto the patient. Informed consent, evidence-based medicine, and patient choice therefore become techniques with which the uncertainty inherent in surgical decision-making can be managed.

Chapter 4: Implications and Conclusions

In this thesis I argued that cascades of routine and non-routine practices transform patients' problems into surgically actionable diseases. In these cascades actionability is gained, but the particular experiences that led the patient to come to the clinic are lost and, once actionability is achieved and a decision is made, the practices that produced actionability are punctuated (Law 1992). Diseases must usually meet conditions of actionability for surgical actionability to be established or maintained; in order for a prolapse or an incontinence to be considered surgically actionable, the patient must report bothersomeness and the disease must be observable to the surgeon. Conditions of actionability are, of course, flexible; as surgery appears to become an appropriate disposal, the importance of conditions that are not met may be adjusted. Turbulence may occur in these cascades, often because of disagreements or uncertainties. Disagreements may be between the realities of a patient's problem or between surgeon' and patients' ideas about those realities. Uncertainty often resulted from the inability to predict the results of surgery; turbulence occurred when that indigenous unpredictability was compounded by additional uncertainties in a patient's case. This uncertainty was framed as risk, thus giving it an apprehensible meaning in decision-making conversations. Turbulence was managed by referring back to conditions of actionability and emphasising 'patient choice' - surgeons would ask patients whether they were sufficiently bothered to accept the risk of surgery. I now move to one of the key implications of this work: whether we can, or ought, to call decisions made in the clinic 'autonomous.'

Autonomy

In this thesis we see two sources of doubt regarding 'respect for autonomy.' First, there appears to be an irreconcilable chasm between the principle of autonomy and the actual practices of the clinic. Actionability and decision in the clinic were accomplished not by individuals considering neutral information but by communities of actors with information produced as already partial. Second, the use of 'patient choice' as a technique for managing disruptions in the production of surgical actionability and decisions calls into question the value of promoting autonomy per se. I will argue that attention on how the actualities of care might be identified, protected, and improved, might better serve patients' interests.

The first problem I identify with autonomy in the clinic draws on the loosely material semiotic perspective I have employed in this thesis. This problem has also been previously identified; Law (1992) and Mol (2002, 2008), for example, questioned whether actors can be properly described as autonomous agents. Actors, Law (1992) writes, are not located in or only in bodies – they penetrate and include these bodies, but what we might call 'actor' is found in the patterned network of relations of things and people that get work done. Agents are therefore not "complete, autonomous, and final" as individual autonomy appears to assume, but are fluid and contingent and share their agency with the other elements that produce the action. Mol (2008) similarly argued that we do not start out as individuals – we cannot be removed from the groups of things and people that make our problems real in whatever situations we find ourselves in. We exist, as Nedelsky (1989, 2011) and Friedman (1987, 2000) point out, within and as a result of networks of people. Our problems, too, exist in and through fluid networks – sometimes

bed sheets and partners' bodies, sometimes examination tables and speculums, sometimes catheters and kind nurses. This is what I saw in the clinic. A woman's prolapse may not, as we have seen, make it to surgery if she does not have uncomfortable sex with it or find the bulging in her vagina uncomfortable in some way. If a woman is not able to leak in the clinic, the decision to have it surgically intervened on may be more difficult. A woman's inability to fully empty her bladder may disrupt the production of a surgically actionable incontinence. These practices that make our problems real occur through the work of various actors – ourselves; our partners, families, and friends; doctors and nurses; various equipment and technologies in the clinic; and so on.

Mol (2002), in her study of atherosclerosis, identifies another important problem with the idea of autonomous patient choice. The "politics of who" that promotes 'patient choice' isolates the moment a choice is made, separating decision-making moments from the histories that lead up to them. The information professionals are to give patients also does not start out neutrally – information is a product of various actions involving the use of, and choice between, various technologies to produce facts, which facts to present, what words with which to present those facts, and so on. The act of agential choice, according to both Mol and Law, is tied up in the other practices and entities that make up the choice and the chooser; medical decisions are not made individually, but as parts of networks of actors engaged in various practices unfolding over time.

We see support for these points in the clinic. Choices were not made by individuals, but by collectives of actors – patients, to be sure, but also doctors, nurses, cystoscopic or urodynamic tests, speculums and examination tables, and so on. We saw this in the routine practices that produced prolapses, incontinences, and sometimes, as in

Ms. Samimi's case, other diseases. Ms. Samimi's cyst was produced by practices of talking, touching, and looking, which were in turn dependent on various other entities charts and checklists, gloves and a speculum, an examination table, and so on. These various things worked together to re-enact the bulge Ms. Samimi brought to the clinic as a cyst. Lucy's ability to identify the bulge as a cyst, her explanation of it, depended on her mobilisation of knowledge that depends on the existence of a whole field of actors invisible in the clinic – researchers, textbook authors, mentors and colleagues, academic journal articles, and all those other things and people that created knowledge of cysts and made that knowledge accessible to Lucy. The cyst could then be considered as an object of surgical intervention. Only after all those actors we could and could not see have come together and done their work was the cyst made into a surgically actionable object and a decision regarding surgery made possible. So the cyst became a cyst because of the practices of the examination; the bulge that causes discomfort during sex gained a new reality as a cyst on Ms. Samimi's Bartholin's gland. It took a community of actors to produce Ms. Samimi's cyst (Latour 2005; Law 1992).

Both Ms. Samimi and Ms. Thompson's cases reiterated the now unsurprising observation that what is known about patients' diseases is not neutral (Berg 1992; Callon 1986; Mol 2002). Ms. Samimi's cyst or Ms. Thompson's prolapse were end-points of cascades of practices that began with the problems Ms. Samimi and Ms. Thompson brought with them to the clinic. These cascades are never neutral (Mol 2008). A bulge that makes sex uncomfortable is 'bad' – it begins as 'bad' as the patient presents it as a problem, and it continues to be 'bad' as it is reproduced as something to be surgically repaired. It is already partial. The cascade of practices that produce it as surgically

actionable therefore has the goal of making something 'bad' so that it can be repaired. It therefore makes sense that when Lucy identifies it as a cyst, she immediately describes how she can remove it. Ms. Samimi's decision to have surgery was hardly a decision at all – her presentation of something 'bad' that gets in the way of sex begins a cascade of disease producing practices that already carry the assumption that a surgery will probably be done. This, too, was Ms. Michon's reasoning behind her decision to have a surgery despite her vaguely elevated risk for having to catheterise – she came to the clinic wanting surgery, and surgery she will have. It would likely have taken much more disruption than conflicting realities of her bladder function to derail an eventual surgical disposal – surgery was the assumed outcome even before her incontinence was established as surgically actionable. To talk, then, of individuals deciding whether to have surgery, presented with 'the facts' and assigning to those facts our values so that we, autonomously, might make a decision, seems a strange idea indeed.

The expectation that decision-making conversations that properly respect patient autonomy incorporate patients' values and interests is also problematic in practice. Ms. Keita told Lucy her decision regarding which surgery to have was based on which would allow her to keep running – a concern separate from the 'information' Lucy provided. Decisions are made not only by communities of actors that include the patient and more, but also with concerns and interests other than the information presented by the surgeon. The problem here, though, goes deeper than simply recognizing the need for patients to be able to express and incorporate their individual values and interests into the decision-making process – as Mol (2008) points out, we may not know what is important to us beforehand and our values may change between or even within situations. Promoting a

principle of autonomy, as Berg and her coauthors (2001) point out, is quite complex; as we account for the particularities of disease and decision-making in practice, it begins to become clear that an orientation based in particularity, rather than in abstract principlism, might better promote caring practice.

The use of 'patient choice' as a strategy for managing disruptions in the production of surgical actionability and decision also troubles the value of the principle 'respect for autonomy.' Promoting patient choice – their right to self-government and freedom from constraint – is central to 'respect for autonomy' and informed consent (Beauchamp and Childress [1979] 2009; Berg et al. 2001). As we have seen, however, choice is a strategy with which turbulence in the cascades that produce surgically actionable diseases, decisions, and informed consents may be dealt. 'Patient choice' in the clinic is not promoted for its own sake, but is resorted to when routine practices fail to produce a surgically actionable disease or uncontroversial decision.

This use of 'patient choice' was often uncomfortable for patients – Ms. Kim, for example, stared at the floor and mumbled repetitions of what John told her. Part of her discomfort, to be sure, resulted from the painful complication she suffered with her previous surgery; this conversation, though, appeared to do little to ease her decision. Ms. Kim's decision was, too, one of non-decision – she did not decide not to have surgery or to wait a while and reconsider, but found herself doing so as John told her she had a decision to make, invited her to think about it at home, and left the room. Other surgeons pre-empted requests for advice by saying, "I don't know what I would do if it were me"; decisions, as we have seen, can be quite difficult, and when one option was not clearly superior to another, as the tension-free vaginal tape often was to the Burch

colposuspension, surgeons generally did not give recommendations. Patients were, in a sense, made individual – an uncomfortable and, in most circumstances, improbable position (Nedelsky 1989, 2011).

When disagreements, uncertainties, or other problems are not extant or do not cause disruption, we do not see emphasis on the decision as dependent on 'patient choice.' In these cases, such as Ms. Emberlie's, Ms. Keita's, or Ms. Michon's, patients appear to engage in a non-formal rationality (Hoffmaster 2011; Hoffmaster and Hooker 2009). They do not consider, and are not asked to consider, the risks or to weigh those risks against how bothered they are by their problems. They did not attend to the abstract realities presented them as the 'information' on which they would base their consent; they instead attended to practical concerns or earlier considerations. Decisions arose comparatively smoothly. We also saw that decisions tended not to be made 'rationally' – because they had a non-formal quality or employed non-formal strategies to make their decisions. Many bioethicists, including Beauchamp and Childress ([1979] 2009), do not require that patients be 'rational' actors; nevertheless, this is an important point to make, for the basis of autonomy in Kantian and Millsian moral philosophy assumes some degree of 'rationality.' Patients' decision-making appears to normally follow a nonformal rationality; it is only when disruption must be overcome that we see 'rationality' enforced in the clinic. Similarly, decisions often did not circulate around the risks or benefits surgeons described, but on other issues altogether, such as Ms. Keita's desire to run. To shift the site of decision onto the risks of surgery and emphasise to the patient that she must make her own choice appears counter to how decisions were actually made in the clinic. Based on these observations, it seems contrary to good patient care to

emphasise an apparently unnatural strategy of decision-making when decisions are difficult. This, I think, troubles the value of 'autonomy' – 'patient choice,' when it is emphasised, appears to be uncomfortable, unnatural, and difficult. Promoting autonomy, then, without attention to how autonomy is used and actually plays out in practical realities of medicine, seems problematic.

With these problems in mind I consider what might be a better approach to policing medical practice to promote patients' interests. In her study of diabetes, Mol (2008) argues that emphasis on patient choice does not always result in desirable outcomes for patients. The 'logic of choice' assumes that we start out as separate individuals, that we are more or less equal, and that our choices are confined to specific moments. As we have seen, however, this results in too little flexibility and care in the work of our medical professionals. I do not, however, intend to argue against individual autonomy or to advocate for its reformulation – Nedelsky (2011) does this very well, and besides, I think there is a more important shift to be made. This shift is to sideline arguments about principles of autonomy or self-determination or liberalism and focus instead on what actually happens in health care and wonder how it can be better (Corrigan 2003; Mol 2008). Can we make the decision whether or not to have surgery easier? Can we make the cascades of practices that lead to surgical decisions less arduous and less uncomfortable? Health care, ethically done, should have these concerns at heart because, as we have seen and as several of the authors mentioned above have said, socalled universal principles, whether they be of autonomy, informed consent, or something else, do not appear to be of great help in medical decision-making.

Decisions are hard, and are harder when made alone. We sometimes saw this in the clinic – some patients brought in their husbands. Others went home so they could take some time to consider the decision and, perhaps, involve others. But surgeons effectively eliminated the possibility of involving themselves in the final decision-making. Schneider thoroughly explained that many patients do not want to autonomously choose their care; they want, as he says, "more and less than autonomy" (1998:44). Many of us want to be informed about our care, but would like to leave the final decision to our doctors, who may be more adept at making these choices. And perhaps the surgeon should participate in the decision-making. What I propose is not a shift to a 'paternalistic' relationship between us and our doctors, but a shift away from an idealised but, as I and others have shown, impossible relationship based in liberal autonomy. Perhaps, instead of advocating for our autonomy and individuality, we should be advocating for something else. Perhaps, as both Schneider (1998) and Mol (2008) suggest, we should be advocating for care.

Under Mol's (2008) 'logic of care,' a surgeon would not try to remove herself from decision-making. Instead, the surgeon would mobilise her expertise and experience, as well as what she saw and knows of the experience of all the patients she has previously worked with, in helping us come to a decision. There would, of course, be room and time for us to bring in partners and consider decisions while engaging in our everyday lives. We would also, however, have answers to questions we might pose to our surgeons, such as "what would you do, if you were the one who leaked when you coughed or laughed? If you leaked, would you use a pessary? Would you be concerned about the risk of urgency or retention or erosion?" Surgeons in the clinic did not answer these questions – better to

let the patient decide. Providing care instead of choice, as Mol (2008) argues, would involve attempts to answer these questions. Answers to these questions would not be paternalistic, but would, perhaps, be helpful.

Some of the work in the clinic hinted at ways routine practice may be improved. Women who were runners, for example, were concerned about whether they could run again after their surgery. Surgeons were generally sensitive to this: Lucy told Ms. Keita she wants her to "go back to the things that make you enjoy life" and that she does not want Ms. Keita to change her life just to maintain the surgery. If the surgery fails, they can deal with it later. Surgeons recognised that there is much more to our lives than the problems we want them to fix, which is important for caring (Mol 2008). Consultation for surgery in the clinic was often done such that women's happiness, more than just their prolapses and incontinences, were accounted for. Steve, as I observed with several patients, would ask what they do for a living and consider the type of job a patient had in whether or which surgery he would recommend. John, too, often asked about sex, saying once that he would have been "more supportive of a synthetic mesh option if she was not sexually active." Surgeons may already "support" one decision over another; they do not always leave patients alone to make their own 'autonomous' decisions. Surgeons might add to these practices by routinely engaging with the kinds of lives patients want to live, or the practical ways they want their lives to change, and consider those practicalities as they work with patients to produce a decision. Done with care, as Schneider (1998) argued, these practices can help make decisions smoothly and spare patients the isolation of deciding without the surgeon. This may also address the contradiction I identified earlier in this thesis – by routinely shifting the conversation back onto the practical

concerns that brought the patient to the clinic, or drawing attention to what practical issues might arise from the surgery, patients may be better positioned to decide what to do.

The conceptualisation of moral decision-making I propose here is also in line with Hoffmaster's (1990) 'contextualist morality.' "Contextualist morality rejects the claim that morality can be exhaustively expressed in a set of explicit propositions and thus the identification of morality with moral theory that follows from this claim"; morality, according to Hoffmaster, is something achieved by "muddling through" the moral problems presented to us (1990:250). Rather than beginning with theoretical conceptions of what is moral, Hoffmaster argues that we should begin, instead, with the problem with which we are presented, including the social and historical contexts in which it is located. The creative, individual ways in which patients make decisions "betrays the universalizability of morality" (Hoffmaster 1990:254). Hoffmaster argues for a "nuanced understanding of the practice of morality that can serve as a basis for improving that morality" (1990:257). This has been my argument, also: that decision-making cannot be properly understood or improved by such universal principles as 'respect for autonomy.' Instead, after careful observation of actual decision-making practices, better results might be yielded by asking such questions as "how this might be improved?"

My point, however, is not to offer a list of ways medical practice might be improved, to criticise the clinic's failings, or to celebrate its successes (see Mol 2008 and Schneider 1998, among others). Instead, my goal in this section has been to trouble the value of autonomy as a starting point for considering how best to serve or protect patients. The process by which decisions and consents are produced cannot be properly

characterised as 'autonomous' as traditionally defined. We negotiate what is wrong with us with doctors, nurses, and technologies, coming to a surgically actionable diagnosis only after much work. We are relational in Nedelsky's (1989, 2011) sense, but also more immediately with the other actors that enact our problems as actionable – Law wrote, "people are who they are because they are a patterned network of heterogeneous materials" (1992:383). We are constituted in Nedelsky's social networks, but also in the networks of things and people in each local moment, such as those moments we observed in the clinic. Further, we are ourselves active in these acts – perhaps contrary to Waitzkin and Waterman's (1974) concern that patients were kept in the dark and therefore nonparticipatory in their care. Patients lied on their backs with their legs in the air and talked about the uncomfortable sex they had or the embarrassing experiences of hunting for the nearest washroom. In another clinic it might be something else. These positions and the other things we say and do while receiving care and caring for ourselves, uncomfortable as they may be, position us as active – we put ourselves in those positions so that the bulges that make sex uncomfortable or the leaking that makes us always watch for the nearest bathroom might not bother us anymore. Patients in the clinic want to no longer bothered by leaks and bulges, and they are active in seeking treatment (Mol 2008).

What I have sketched here is not necessarily in opposition to what such bioethicists as Beauchamp and Childress ([1979] 2009) or Berg and her coauthors (2001) describe. What I propose, though, is a different starting point. Instead of beginning with abstract principles, I have argued that beginning with Mol's (2008) conception of care and Hoffmaster's (1990) proposed method of "muddling through" ethical problems will provide a more useful perspective from which to understand, protect, and improve

practices of care. Decisions about whether to have surgery and what surgery to have are more complicated than current informed consent procedures or traditional conceptions of individual autonomy allow. We do not simply consider the information provided us by our doctors along with our own values. We are active in the translation of our problems into surgically actionable diseases. Decisions are not 'rational' weightings of costs and benefits, but complicated and non-formally rational negotiations. The work of patients and doctors in the clinic is too particular to be properly characterised or governed by a set of abstract principles. Respect for the particularities of each case, with focus on how our lives might best be improved by our visit to the clinic, might be more useful than abstract principles for ethical organisation of medicine.

Conclusions

This thesis has shown how cascades of routine and non-routine practices transform patients' problems into surgically actionable diseases. Conditions of actionability must usually be met if that disease is to be considered for surgery – a patient must both be bothered by a bulge or a leak, and that bulge or leakage must be observable either in the clinic or in cystoscopic or urodynamic tests. Disagreements between surgeons and patients or between competing realities of a disease may produce turbulence in surgical decision-making. Uncertainty, an inescapable factor in surgery, can also cause turbulence. Most common among the strategies surgeons employed to manage this turbulence was 'patient choice;' patients were given summaries of the relevant 'information' and told that they must decide whether the surgery was worth the risks.

These observations have important implications for the principle 'respect for autonomy' on which informed consent is based. By studying how cascades of practices

through which surgical decisions and informed consents are produced, we find that the principle on which informed consent is based appears to be deployed as a strategy for managing turbulence in that cascade – patient choice is promoted in part because it is useful instead of for its own sake. That this may or may not be contrary to the spirit of the principle is beside my point – I argue, alongside other authors (Hedgecoe 2005; Mol 2002, 2008), that close attention to how diseases, disposals, and decisions are produced can be more useful in protecting patients' interests than an appeal to abstract principles. Emphasising care by surgeons for patients, by policy makers for all those engaged in caring work, and by patients and families for themselves and one another may lead to practices more sensitive to patients' interests.

This study provided insight into the role of 'patient choice' in maintaining actionability despite disruptions to the cascades of practices that produce patients' problems as surgically actionable and lead to surgical decisions and informed consents. Future research, however, might take note of a few of the limitations of this thesis. First, my focus on the doings and sayings of doctors and patients largely left out the ways in which the work I described is textually coordinated. Such texts as the history questionnaire patients fill out on their first visit, the various texts included in patients' charts, and the consent forms surgeons gave patients are obvious texts that deserve attention in future research. Other texts might also profoundly coordinate work in the clinic – the scheduling software Lauren worked with, for example, would give insight into how much time was allocated to each patient, which in turn impacts how patients and surgeons do their work. Professional guidelines and research articles that suggest to surgeons how to do their work also deserve attention. My focus in this thesis has partly

been on the routines surgeons employ as a way of ordering their work. Another way in which work is made standard is through texts (Smith 2005). Closer attention to texts would also demonstrate how the local practices I observed were made translocal so that they could be acted upon in later appointments or with other doctors. Attention to the writing and reading practices involving the texts of the chart could also contribute to my observation that the particularities of patients' problems are lost in the production of actionability – examining how patients' problems are inscribed into charts and how those inscriptions are read in later appointments can elucidate the text-mediated process by which patients' problems are transformed into surgically actionable diseases. Analysing texts would also open up the ruling relations that pattern the work in the clinic – those "translocal forms of social organization and social relations mediated by texts of all kinds" – "the corporations, government bureaucracies, academic and professional discourses, mass media, and the complex of relations that interconnect them" (Smith 2005:227, 10). The focus of this study was not on the institution of the clinic, but such a focus would undoubtedly have much to say about the work I have described.

Second, I followed surgeons and other health care workers, but not patients. This focus allowed me to examine the work done by surgeons and patients while surgeons were present, but work patients do when they are not in the clinic has remained largely invisible to this thesis. What patients did and thought while 'taking time to think' about their surgical options, for example, may have further informed the argument of this thesis. Future research would also benefit from following patients by providing opportunities to ask informal questions of patients as they engaged in their work, both in

and out of the clinic. This approach would also give researchers more intimate access to patients' experience of their work than was achievable in this thesis.

Finally, structured interviews did not make up part of the data of this thesis. Formally interviewing doctors and patients would, no doubt, provide important contributions to my argument. Although observing the work done by doctors and patients was central to my argument and its substantiation, interviews will allow future researchers to hear from participants about their work processes and what they orient to in their work (DeVault and McCoy 2012). Interviews could be used to elicit doctors' and patients' perspectives regarding the arguments made in this thesis and flesh out gaps inherent in observational research (Mason 2002). It was unclear, for example, how Ms. Keita and Ms. Emberlie made their non-formally rational decisions. Interviews with patients such as Ms. Keita and Ms. Emberlie might elucidate what they were orienting to as they selected an option. Similarly, interviews might uncover more detail in surgeon's routines, highlight conscious departures from those routines, and give researchers access to patients' and surgeons' reflections on the work that produces actionable diseases.

By pursuing these and other avenues of research into the practices that produce surgical decisions and informed consents, we might better come to understand what it means to provide care. We have seen that advancing 'patient choice,' or its correlatives, informed consent and individual autonomy, may not always be in patients' best interests. Attention to the practices that produce diseases as surgically actionable, more than just the "art of medicine" of Hedgecoe's "contemporary medical sociology" (Hedgecoe 2005:1201; Korsche et al. 1968:855), has shown that a primarily principlist approach to furthering patients' interests is inappropriate (Corrigan 2003). To further those interests, I

have argued that we, as doctors, policy makers, and critics, should focus instead on the actual practices of medicine. With this focus, as I have begun here and Mol (2008) and Schneider (1998) have begun elsewhere, we can identify concrete ways in which care may be improved. This, I hope, will be a fertile avenue of future research.

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Appendix: List of Participants

Dr. Lucy Stalman	Surgeon
Dr. Adrienne Keys	Surgeon
Dr. Steve Wilson	Surgeon
Dr. John Mann	Surgeon
Kaitlyn	Licensed practical nurse
Jean	Licensed practical nurse
Lauren	Booking clerk
Nancy	Registered nurse
Julie	Registered nurse
Dr. Sara Doe	Resident
Dr. Cindy Walker	Resident
Anne	Medical student