

Review Article





Current ethical dilemmas in obstetrical practice and some suggestions regarding how to resolve them

Abstract

As new ethical conundrums arise in obstetrics, providers are ever-increasingly challenged with having to know the best means of resolving these problems since *Roe v. Wade* was overturned. New ethical challenges have arisen, for example, as to how clinicians should respond when patients would need to travel to another state to get an abortion. A second illustrative example involves minors. In some states in the U.S., these patients legally can request permission from a judge to have an abortion without their having to tell their parents. If these adolescents don't know this, providers must decide whether they should take initiative to inform them of this possibility and if so, when. This question is still more challenging when these patients, too, live in a state that does not allow them the option of abortion

Providers confronted with ethical problems such as those above may struggle to determine how to best resolve these dilemmas. This piece will review some key and especially more subtle, ethical approaches that providers may face to better resolve them. Initially, I will highlight approaches to resolving ethical outcomes that providers may not know or may overlook. These will include how providers may best apply both core ethical principles and an additional, adjunctive framework, known as the care perspective or ethics of care. I will provide specific examples to illustrate each.

Keywords: ethical, care perspective, principle, fetal surgery, Down syndrome, gestational carrier, moral conscience, research

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Introduction

New ethical conundrums have arisen in obstetrics in the U.S. since *Roe v. Wade* was overturned. Thus, providers have been ever-increasingly challenged with having to know the best means of resolving these problems. This piece will review some key and especially more subtle, ethical approaches that providers may use to better resolve these moral issues. Initially, I will highlight approaches to resolving ethical outcomes that providers may not know or may overlook. This will include primarily resolving these problems by comparing their consequences as opposed to using definitions to resolve them and the justifiable use of arbitrary distinctions. I will discuss here as paradigmatic examples, fetal surgery and the treatment of pregnant persons with cancer.

I refer here to the above pregnant patients as pregnant persons. This is because persons who become pregnant may be persons identified at birth as male or female but, later, a different gender identify. Talking of pregnant women inherently excludes this group and explicitly discriminates against them. Researchers may, however, still feel it necessary to exclude pregnant persons from a study for scientific reasons, such as their taking hormones such that if they were included, this could throw into question the research results. These persons could though, even then perhaps still participate by temporarily stopping these meds. There may also be good reasons to not do research on some pregnant persons to protect the fetus. This could include, for example, not doing research that even possibly could cause the fetus to feel pain. I shall elaborate on ethical concerns regarding research to a greater degree subsequently.

I will also discuss here how providers may best apply both core ethical principles and an additional, adjunctive framework, known as the care perspective or ethics of care. I will provide specific examples to illustrate each. These examples will include other conflicts between

fetal and pregnant persons' interests and what providers should do when adult patients they see lack cognitive capacity. This piece will finally relate optimal processes these providers might best want to consider when they run into ethical conflicts that are more problematic and less easily answered such that reasonable persons might reasonably differ. It is hoped that with the grounding provided in this paper that providers may arrive at more complex ethical reflection so as to be better able to come out with resolutions best for both pregnant persons and their fetuses. It is also hoped, as the Care Perspective would emphasize that, above all said and discussed here and in the clinic, pregnant persons, their partners, if they have them, and their providers may retain an optimal caring feeling toward each other that begins both when they first meet and continues after the patient leaves the hospital. This end is often not prioritized but as the Care Perspective suggests, may be most important of all priorities over the longer run.

Material and methods

Providers may encounter seemingly sound ethical rationales that they believe they can follow and rely on. Deeper analysis may reveal, however, that this is not the case. A representative example showing how this can occur involves the society-wide ethical question when, if ever, abortion should be permitted. One approach is to answer this question by asking when the fetus first becomes a person. This, however, pursues only one route to answering this question when there are others. Providers may, though, not know that this is the case.

Different ethical approaches to resolving cases

(Must we ask, "When does the fetus become a person to decide whether, and if so, when we should permit abortions?)

They will have sought this answer by pursuing what may be referred to as the "definitional" route. Using this approach, before the fetus is "a person", abortion is permitted; after this, it is not. This





definitional approach is, of course, additionally problematic because there are different views and different grounds for determining when fetuses have become a person. As problematic, however, is that this is only one approach to making this determination. Another approach might be simply to determine what outcomes we as a society most value: Abortions never taking place or abortions being allowed up to a point but not thereafter. This point may be and has been, for example, when, in most cases, infants can survive outside of the uterus on their own. This criterion is also limited since, empirically, this point may change. New technologies may, for example, enable newborn infants to survive on their own earlier than previously has been the case. 1-4

A somewhat analogous question that illustrates this second approach involves our making criminal laws. Law makers may ask primarily, for example, what outcome they want when someone shoots a person who is pregnant and this bullet kills both this person and the fetus. Should they be tried for one murder or for two? They may determine the law here based on what outcome for this offender they favor. If taking this alternative approach in determining policy regarding abortion, there is no need to first determine when the fetus becomes a person. Rather, law proposers need merely decide which approach they believe preferable. Providers seeking to decide ethical questions by themselves in regard to a patient may similarly then want to ask themselves whether there may be different approaches they can use to resolve the question before them and if they sufficiently know which of these approaches may be preferable and if there is one, why?

Drawing arbitrary lines

(Is it always morally impermissible to draw arbitrary lines as to when providers should and shouldn't perform abortions?)

Here, too, there is a second subtle concern that providers - and others - viewing this same question should be aware of. This is, they may object to policy makers' drawing a line at a specific time at which an abortion is permitted, as at six months' gestation. They may object, as many have on the ground that this line and thus its effect is impermissibly arbitrary. How can it be, they may ask, that one minute before six months, an abortion is permitted, but one minute after this, it is not? The answer is that it is not unreasonable to draw this arbitrary line, because here there are at least two important but mutually exclusive values at stake such that some moral weight may be warranted by each and drawing an arbitrary line may be one and even the best way to do this. There is, that is, the importance of the sanctity of fetal life on one side and pregnant persons' right to do what they want with their own bodies on the other. It may be validly argued that this dividing line should be drawn at a different place or not at all, but placing this line somewhere is not on its face irrational or invalid because it is arbitrary.

Results

Many ethical questions have arisen in recent years. These have involved, for example, new means of contraception, assisted reproduction and surrogacy, age, and what to do when patients are addicted to drugs which could harm their fetus.^{5–11} I will not discuss all of these here but some questions that involve issues also applicable to other cases.

Fetal surgery

(When, if ever, should providers be unwilling to perform fetal surgery?)

A particularly agonizing first paradigmatic question is when patients who want this should be able to undergo fetal surgery. ¹²⁻¹⁸ It

may, for instance, become possible for pregnant persons whose fetus has Down syndrome to have fetal surgery to increase this fetus's later cognitive functioning. 19-23 Here, there would be the usual balancing concerns of risks to these pregnant persons, respecting these patients' autonomy, and benefitting the fetus. 24-26 In this case, however, an additional concern especially would be the social response. That is, if this gain in later cognition could be achieved, persons carrying such fetuses could then be socially pressured to undergo this procedure. Notably, though these fetuses might then be seen as unequivocally benefitting from this procedure, some parents may not want to undergo this because they, even in advance, value these children-to-be just as they are.

Persons who have given birth to an infant with Down syndrome have felt enraged, for example, when just after their baby's birth, providers have said they were sorry that their child had Down syndrome. "My child is as precious as any child," one railed, "and in fact even more so!" Further, still another anticipated ethical concern that would arise if this increase in cognition could be accomplished involves justice. If this procedure is available to some, it may be that it should be available to all, especially because this may so change and arguably add to these children's lives. Pregnant persons may be willing to risk even their life ending for gains such as this. If, then, a line should be drawn to prevent this risk and more serious risks, what criteria should providers use to decide this?

An ethically related conundrum arises when pregnant persons have a condition such as an uncurable cancer and medicines which may prolong their lives may harm their fetus. This is a context in which priority is given to pregnant persons' autonomy as it is in other cases in which patients with capacity may refuse treatments at any time. These patients may lose their decision-making capacity. Then, whether they should continue to be treated for the sake of the fetus may be more open to controversy.

Providers' moral conscience

(When, if ever, should providers not make decisions based on their personal moral beliefs?)

Providers may hold in regard to fetal surgery and in other areas that at some point since it is they who must do the surgery, they are wholly ethically justified and legally entitled to refuse to do any procedure which would violate their moral views.^{27–29} This decision may again, however, be more complex than this at first may appear. That is, providers may make decisions based on biases unknown to them more than they realize. We are all subject to having feelings only some of which we at any one time are aware. Our brains then reflexively seek out logical arguments to support these feelings. These arguments may then be "cherry-picked" or selected out partially rather than impartially without our knowing this.

The practical importance of this human tendency is that providers may make decisions regarding pregnant persons that vary according to their prior biases. With this awareness, providers have an exceptional obligation to seek to identify and distinguish their individual and even idiosyncratic personal biases to try to discern whether they differ from most other providers and thus whether in this sense, their views are outliers. Then, to the degree, if any, that they discern this, they should advise these patients wanting to take greater risks accordingly so that these patients' options and outcomes are not limited by which providers they just happen to see. If this occurs, this would be arbitrary in a way that - contrary to the six-month rule just considered - is in principle ethically unjustifiable.

Providers could offer to help these patients further by referring them to another provider who has a less outlying moral view. This, however, raises yet an additional ethical problem. Their hospitals' even just referring this patient to another provider whose moral view differs would violate their own moral view, though to a much lesser extent. Their dilemma would be much like that of a pharmacist who opposes restricting fetal life to any degree and is faced with whether to refer a patient wanting an abortion-inducing medication to another pharmacist who will. Ethically then such providers would have at least somewhat sound moral ground for refusing to serve the patient in this way regardless of what the law may require. Ethically, such providers may, however, have an ethical obligation to foresee this impasse coming about and do then whatever they can to prevent the patient from suffering due to their hidden, possibly even idiosyncratic moral view.³²

Providers in any case may at least have an affirmative obligation to inform patients who could be significantly affected by their outlying moral view that they have this view as early on as possible. Then, they can seek out on their own another provider if they want to.

An example illustrating the practical ramifications of these considerations is pregnant persons wanting fetal surgery. They should know if their providers have views that would exceptionally limit them early on not only so that they could find another provider if they want but because their pregnancy as opposed to remaining mostly the same over time is progressing.

How might then this be incorporated into a hospital policy so that this could then be best done? Hospitals could inquire regarding such providers' moral views and make this information available to these patients when these views would, based on informed self-reporting, indicate that this would be the case. Here a somewhat analogous situation exists for patients who are Jehovah's Witnesses and need immediate surgery but are unwilling to accept blood.³³ If they do not have this surgery in time, this might make the difference in whether or not they survive. If, then, the hospital to whom this patient comes has already on hand a list of surgeons willing to operate under these circumstances without using blood and, thus, this increasing the risk of death, this could save these patients' lives.

Some might see these two examples, providers refusing to do unduly risky fetal surgery and their not being willing to operate without blood as too dis-analogous to be theoretically useful. In the first instance, for example, the harm providers risk doing is active, whereas in the latter case, this harm would be passive or brought about by omission. The harms involved in both contexts are also much different. Still, both share the gain that hospitals could give patients by acquiring information they need and would want more in advance.

Discussion

The ethical considerations outlined above chiefly involve four principles: respect for persons and specifically autonomy, justice, beneficence and non-maleficence. The first two of these are in ethical terms "deontological". They are not based on consequences. The latter two are. There are significant implications of the difference. The former two may justifiably prevail regardless of adverse consequences. Providers may, for example, be ethically justified in telling patients the truth even when they can foresee that in net effect, this will harm them. Extrapolating this possibility to the fetal surgery example we have been considering, providers might be justified in doing this surgery to respect pregnant persons' autonomy even if they believe, based on consequences alone, that this would not be justifiable.

Principles

Respect for autonomy

(When if ever, should providers over-rule pregnant persons who refuse treatment?)

Respect for persons' autonomy honors the right of competent individuals to make personal choices for themselves. Allowing this choosing requires verification of the competency of the individual if this seems in question.³⁴ However, this principle becomes more difficult to apply when the individual making this choice is pregnant. In addition to these persons' autonomy, their decisions affect their fetus. Suppose here, for example, that on ultrasound at 36 weeks' gestational age, evidence is found suggesting severe pre-eclampsia. Labor is induced but at 5 cm dilation, the fetal heart rate shows evidence of persistent, fetal intolerance of labor, and, thus, providers recommend a caesarean delivery. The patient who appears competent refuses caesarean delivery. What should this patient's provider do?

Courts generally uphold competent patents' autonomy. Here, however, in addition to the fetus's risk being ethically conflicting and thus problematic, this patient may feel stressed and even fear and, as a result not be making the choice that this patient genuinely wants. Generally, providers should seek not to influence patients to adopt their own view. For the above two reasons, the fetus's competing interest and the likelihood or at least possibility that the patient's usual capacity for decision-making may be somewhat impaired, this situation may warrant providers making an exception.

Justice

(When, if ever, should pregnant persons be included or not included in research?)

This principle is widely applicable but often overlooked and/or given less moral weight than it warrants.

Here we may consider again the question we alluded to also above: when should pregnant persons be included in research? We can ask more specifically if persons should be included only if they can be informed and consent prior to delivery or also when they are about to deliver, as well?

When patients are pregnant, they differ from other patients in that the interests of two persons or of one person, a potential person, the pregnant person and the fetus, are at stake. Yet, providers must treat pregnant persons as equally to non-pregnant persons as possible. Otherwise, to the extent that they do not, this could risk these patients rightly seeing themselves as being viewed and treated by providers as if they are a separate category of patients warranting less autonomy than others.

In the law, one side or the other may have what the law calls the "burden" of proving their case. In criminal law, for example, the prosecution has the burden of proving that an alleged defendant is guilty. Extrapolating this term to this clinical setting, providers have the burden of making the case that their treating the above two groups differently is ethically justifiable.

A paradigmatic example of such a dilemma illustrates how this challenge may be applied in reality. This question involves who should be eligible to participate in research. Pregnant persons have, often in the past, been excluded from being able to participate in research because it was thought they and their fetuses should be protected from possible risks. Now it is presumed to a much greater extent that these pregnant persons should be included unless there are more com-

pelling reasons to exclude them. The gain from now including them is straight-forward. We will know better how to treat pregnant persons.

Women discussing participation prior to delivery will have more time to discuss this during pre-natal visits and be less stressed. This may, however, discriminate against women who do not come for pre-natal care, but just come in for care for the first time when they are already in labor. Further, this difference may reflect other factors, such as poverty or conditions that make it harder for these persons to come for pre-natal care. How much moral weight here, if any, should justice count in deciding which patients should be included?

Beneficence

(What should providers do when patients are more severely impaired?)

The concept of beneficence covers actions in which the goal is to improve an established situation. Whereas in the past, *not doing harm* has been given ethical priority over *doing good*, as in the Hippocratic Oath, this priority now is more questioned. It may be that doing good should prevail. Thus, which value should take priority, in any given case, may now need to be argued. As previously presented, the person arguing that one of these consequential values should take priority over the other has the burden, again in a legal sense, to make this case.

This principle may be particularly important when providing care for patients who are mentally impaired and require parental or custodial care. Parents or custodians may request a procedure, such as surgical sterilization, to prevent a child from the consequences of sexual activity or assault. The hygiene demands of a disabled person during menstruation may also prompt caregivers to request more invasive surgery, such as a hysterectomy, to help with these issues as well as to remove their risk of pregnancy.

Suppose, for example, that parents bring in their teenage daughter who has just begun to menstruate. She has spastic cerebral palsy which has left the daughter's legs in a "scissored" position, such that she is confined to a wheelchair. Her legs are, crossed at mid-thigh so that it is extremely difficult to care for her hygiene needs. She is severely cognitively impaired and she became terrified when she just had her first period, in large part because she did not understand what was occurring. She also fought them and cried. What should the provider recommend in this case?

Here, additional complicating factors are our, in part, historically-sourced strong objections to sterilization procedures and our present commitment to do all we can for persons who are in any way impaired. In regard to this latter concern, we should not think in terms of the word "disability", because it may be that people with impairments are limited in what they can do not because they couldn't with the necessary assistance but because the greater society hasn't provided them the means they need to function optimally. Providers seeking to provide these patients maximum benefits may want to ask then how this last societal consideration should affect them when they make their recommendations.

Non-maleficence

(When, if ever, should children being biologically related to their parents make a difference?)

The definition of non-maleficence is "doing no harm". It differs from beneficence, which implies "doing good" or making something better.

Here, let us suppose that a gestational carrier agrees to carry a pregnancy for a person who is unable to carry a pregnancy themselves. The gestational carrier may be inseminated with an embryo created from the sperm from one partner and a donor egg or an embryo from the egg and sperm of the intended parents. In either case, the gestational carrier may do this for financial or philanthropic gain. The gestational carrier agrees to carry the pregnancy, undergo labor and delivery, and then relinquish the child to the donor parents at birth. There is the potential for several harms from this arrangement. The fetus could be harmed through exposure to an unfavorable uterine environment. The health of the gestational carrier could be harmed by a difficult pregnancy and by the grief of giving up the infant. The emotional well-being and parental bonding of the parents could be harmed by a refusal of the gestational carrier to give up the infant. These potential harms may be offset by the benefit of allowing the infertile couple to have a child that is genetically related to them. Is this, however, subtly too problematic by implicitly supporting the view harmful to children that they are more valued if genetically related to their parents than if they are not?

The care perspective

(Should providers seek mediation before they apply ethical analysis?)

Providers as the above parties are limited in their capacity to know how they later will feel. The analysis of what providers should do may involve the above principles and seek to decide which should prevail. This may result in a win or lose outcome. There is, however, possibly, an alternative. For Providers may seek mediation. Mediators seek to meet with parties and non-judgmentally pursue with them all what most deeply they want. They seek to discern and unearth deeper values these parties hold within themselves though they initially may start from a different place. They seek to arrive at an end all can more readily accept. This endeavor and end may warrant providers initially pursuing this when ethical problems arise because this approach places higher value than abstract analysis on these people's subsequent relationships and feelings toward each other. These priorities are favored by a framework other than analysis. This approach is referred to as, among other names, the Care Perspective.

Conclusion

Providers working in reproductive care may face myriad ethical problems. While their greatest training has been in how to provide their patients optimal medical care and this is as it should be, there are subtleties that may be involved in giving these patients optimal ethical care that they may as a result of being so devoted to learning these clinical topics miss. This piece is intended to provide these providers a glimmer of more subtle ethical concerns and means of resolving them. It is hardly comprehensive but I have sought here to provide a few less apparent pertinent perspectives that are particularly of greatest clinical importance. These include, for example, justifiable and unjustifiable resort to ends that are arbitrary and what providers should do when they have less common, personal ethical views. The example of what providers should do when patients want more dangerous fetal surgeries is highlighted in that in part it involves more than other dilemmas the best interests of pregnant persons and of their fetuses being in conflict. Finally, I present the four core ethical principles and examples illustrating each and a key different framework, the care perspective. I suggest why providers seeking mediation may be an optimal first course. All these mini-selections I hope to a small but significant extent may add to these make providers' ethical savvy.

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References

- Annas OJ. She's going to die: The case of Angela C. Hastings Cent Rep. 1988;18(1):23–25.
- Patrizio P, Caplan AL. Ethical issues surrounding fertility preservation in cancer patients. Clin Obstet Gynecol. 2010;53(4):717–726.
- Ali N, Coonrod DV, McCormick TR. Ethical issues in maternal–fetal care emergencies. Crit Care Clin. 2016;32(1):137–143.
- Antiel RM. Ethical challenges in the new world of maternal-fetal surgery. Semin Perinatol. 2016;40(4):227–233.
- Chavkin W. Mandatory treatment for drug use during pregnancy. JAMA. 1991;266(11):1556–1561.
- Chavkin W. Cocaine and pregnancy Time to look at the evidence. JAMA. 2001;285(12):1626–1628.
- Associated Press. Triplets to stay with mom, The Washington Post. 2004;A10.
- Mitchell AA. Infertility treatment More risks and challenges. NEJM. 2002;346(10):769–770.
- Cohen CB. "Parents Anonymous", in New Ways of Making Babies. Bloomington, Ind: Indiana University Press; 1996. p. 88–105.
- Shanley ML. Making Babies, Making Families. Boston, Mass: Beacon Press; 2001. p. 76–101.
- 11. Belkin L. Pregnant with Complications. *New York Times Magazine*. 1997Oct 26:34–39, 48–49.5.
- 12. de Wert G, Dondorp W, Bianchi DW. Fetal therapy for Down syndrome: an ethical exploration. *Prenat Diagn*. 2017;37(3):222–228.
- Hendriks S, Grady C, Wasserman D, et al. A new ethical framework to determine acceptable risks in fetal therapy trials. *Prenat Diagn*. 2022;42(8):962–969.
- Hendriks S, Grady C, Wasserman D, et al. A new ethical framework for assessing the unique challenges of fetal therapy trials. *Am J Bioeth*. 2022;22(3):45–61.
- Baggot PJ, Baggot RM. Fetal therapy for Down syndrome: Report of three cases and a review of the literature. *Issues Law Med*. 2017;32(1):31–41.
- Stagni F, Bartesaghi R. The challenging pathway of treatment for neurogenesis impairment in Down syndrome: Achievements and perspectives. Front Cell Neurosci. 2022;16:903729.
- Stagni F, Giacomini A, Guidi S, et al. Timing of therapies for Down syndrome: the sooner, the better. Front Behav Neurosci. 2015;9:265.

- Silberberg A, Robetto J, Grillo M. Ethical issues in intrauterine myelomeningocele surgery. New Bioeth. 2018;24(3):249–257.
- Smajdor A. Ethical challenges in fetal surgery. J Med Ethics. 2011;37(2):88–91.
- 20. Howe EG. Ethical issues in fetal surgery, *Semin Perinatol*. 2003;27(5):446–457.
- 21. Rousseau AC, Riggan KA, Schenone MH, et al. Ethical considerations of maternal–fetal surgery. *J Perinat Med.* 2022;50(5):519–527.
- Edvardsson K, Small R, Lalos A, et al. Ultrasound's 'window on the womb' brings ethical challenges for balancing maternal and fetal health interests: obstetricians' experiences in Australia. BMC Med Ethics. 2015;16:31.
- 23. Ali N, Coonrod DV, McCormick TR. Ethical issues in maternal-fetal care emergencies. *Crit Care Clin*. 2016;32(1):137–143.
- Samuels T, Minkoff H, Feldman J, et al. Obstetricians, health attorneys, and court–ordered cesarean sections. Women's Health Issues. 2007;17(2):107–114.
- Cantor JD. Court–Ordered care–A complication of pregnancy to avoid. *Obstet and Gynecol Surv.* 2012;67(10):607–609.
- Scarrow SC. Obstetrical delivery of the HIV–Positive woman: Legal and ethical considerations. Obstet Gynecol Surv. 2001;56(3):178–183.
- Kukla R. Conscientious autonomy. Hasting Cent Rep. 2005;35(2):34–44
- 28. Wilkinson D. Rationing conscience. J Med Ethics. 2017;43(4):226–229.
- Wilkinson D. Conscientious non-objection in intensive care. Camb Q Healthc Ethics. 2017;26(1):132–142.
- Begović D. Maternal–Fetal surgery: Does recognizing fetal patienthood pose a threat to pregnant women's autonomy? *Health Care Anal*. 2021;29(4):301–318.
- 31. Chervenak FA, McCullough LB. The ethics of maternal–fetal surgery. Semin Fetal Neonatal Med. 2018;23(1):64–67.
- Ranney ML, Gee EM, Merchant RC, et al. Nonprescription availability
 of emergency contraception in the United Stated: Current status,
 controversies, and impact on emergency medicine practice. *Ann Emerg Med.* 2006;47(5):461–471.
- Korst LM, Feldman DS, Bollman DL, et al. Variation in childbirth services in California: a cross–sectional survey of childbirth hospitals. Am J Obstet Gynecol. 2015;213(4):523.e1–8.
- Joyce T, Kaestner R, Colman S, et al. Changes in abortion and births and the Texas parental notification law. NEJM. 2006;354(10):1031–1038.
- Oyer DL. Playing Politics with the Doctor–Patient Relationship. NEJM. 2012;306:2326–2327.
- 36. Jecker NS. Conceiving a child to save a child: Reproductive and filial ethics. *The Journal of Clinical Ethics*. 1990;1(2):99–103.
- Cohan G, Adashi EY. Made-to-Order embryos for sale A brave new world? NEJM. 2013;368(26):2517–2519.
- 38. Lyerly AD, Mahowald MB. Maternal-fetal surgery: the fallacy of abstraction and the problem of equipoise. *Health Care Anal.* 2001;9(2):151–165.