

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix. Survey Scenario

Imagine that you are in the emergency room at 2 AM with severe abdominal pain and have been told that you have uncomplicated appendicitis. You have been given intravenous pain medicine and a dose of antibiotics. You can have surgery by the open or laparoscopic approach at 6 am or you can choose to continue antibiotics and not schedule surgery unless the antibiotics fail.

Laparoscopic appendectomy

You will not eat until 6 AM, when you will be taken to the operating room and given general anesthesia (meaning that you will go to sleep). While you are asleep, three small holes will be made in your abdomen (belly), and the surgeon will operate through those holes to take out your appendix. Two holes will be 1/5 of an inch long and one will be about half an inch long. If all goes well, you will be discharged from the hospital the next morning, 24 hours after surgery.¹

You will not need antibiotics after you go home. You will be sent home with narcotic pain medication, but may not need it and may need only some Motrin for a few days. There is up to a 10% chance that we may need to convert your surgery to open appendectomy (see below) because of technical issues during surgery.² The overall complication rate for this approach is about 4%.^{1,3} These include:

- Wound Infection, most likely requiring oral antibiotics or opening up the infected small wound in the office to allow it to drain, about 2% risk.⁴
- Deeper infection within your abdomen, most likely requiring a radiologist to drain the infection with a needle under local anesthesia and some pain medication, but in unusual circumstances requiring surgery, about 0.4% risk.⁵⁻⁸
- Other minor complications.
- Bleeding requiring reoperation is very rare.
- The risk of dying from the anesthesia for a healthy person is less than 1 in 100,000.

Open surgical appendectomy

You will not eat until 6 AM, when you will be taken to the operating room and given general anesthesia (meaning that you will go to sleep). While you are asleep, the surgeon will make a cut in your abdomen (belly) approximately 3-5 inches long and will take out your appendix through this cut. If all goes well, you will likely be discharged from the hospital in 2 days, when your pain is well controlled on oral pain medication.¹ Overall, the complication rate is similar with open and laparoscopic appendectomy, but the wound infection rate is slightly higher and the deeper infection rate is slightly lower for the open procedure.² You may have more pain than after laparoscopic appendectomy and would likely be in the hospital for an extra day. The overall complication rate for this approach is about 4%.^{5,9} These include:

- Wound Infection, most likely requiring oral antibiotics or opening up the infected wound in the office to allow it to drain, about a 3% risk.⁴
- Deeper infection within your abdomen, most likely requiring a radiologist to drain the infection with a needle under local anesthesia and some pain medication, but in unusual circumstances requiring surgery, about a 0.3% risk.⁸
- Bleeding requiring reoperation, very rare.

- The risk of dying from the anesthesia for a healthy person is less than 1 in 100,000.

Antibiotic treatment alone

You will be admitted to the hospital, given intravenous antibiotics for 3 days and observed closely.¹⁰⁻¹² If all goes well, you will be discharged on a course of oral antibiotics for 2 weeks.¹³ You will probably not be allowed to eat for a couple of days until it is clear that the antibiotics are working, but will receive fluids intravenously. There is about a 3 in 4 chance that if you choose this, you will avoid surgery.^{11,14} The main risk of this approach is that you still might end up needing surgery:

- The antibiotics may not work and you might need an operation for this episode of appendicitis anyway. There is a 12.5% chance that this will happen before you leave the hospital and another 10.5% chance that you will need an operation within 2-4 weeks after discharge.³ If you do need surgery for an antibiotic failure, the overall rate of complications is about 8% after the appendectomy, twice the complication rate of 4% if the appendectomy were done right at the start.³
- The appendicitis might also happen again later on because you would still have your appendix. There is a 6% chance that this would happen.^{3,11} This includes the risk that your second episode of appendicitis might be a perforated appendicitis, which would require slightly more complicated treatment and pose slightly higher risks. There is about a 1 in 200 chance of that happening.³

eTable. Summary Table Used to Ground Sensitivity Analysis

Treatment	# of Days in Hospital	Incision Size	Recurrence Risk	Complication Rate	Need for antibiotics	Need for Anesthesia
Laparoscopic appendectomy	1 day	2 holes: 1/5 in. 1 hole: 1/2 in.	None	4%	One dose before surgery	Yes (Risk of dying from anesthesia < 1:100,000)
Open surgical appendectomy	2 days	1 incision: 3-5 in.	None	4%	One dose before surgery	Yes (Risk of dying from anesthesia < 1:100,000)
Antibiotic treatment alone	3 days	None	Within 1 month: 23% chance	29% chance of appendectomy with 8% complication rate if you end up having an appendectomy 1 in 200 chance of perforated appendicitis	3 days at the hospital 14 days oral at home	None
			Long Term: 6% chance			

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