

# HOW TO CUT

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*This will be a quick-and-dirty overview of general surgery, a set of skills normally perfected across a five to seven year residency. But since you are in a hurry, I'll lay it out for you in simple words even an intern can understand*

## PAPERWORK

Each Procedure has a set of instructions, conveniently written right there on the patient's chart. This can be handy if your eyes are still a little blurry from mainlining Fentanyl. I'm joking! Procedures are also ranked by Class, with C being the easiest and A being the sort of thing you really want to leave to me. Make sure the patient name on the chart corresponds to the person you are about to cut open. Make sure you are operating on the correct paired organ. Make sure you wash your hands.

+ *You'll need to have a copy of the Procedure and a copy of the Surgical View, which is the piece of paper you'll actually be cutting. The Procedure sheet lists which view you'll be referencing, as well as any special requirements.*

## THE TRAY

You should stock your own surgical tray. Relying on another means you'll be working with their crappy instruments, which is a recipe for disaster. The basic tray consists of three items: Scalpels, clamps and sutures.

### SCALPELS

Scalpels come in many shapes and sizes. You'll want a big one for hacking away and a small one for detailed work, at a minimum. Pick a set that are comfortable, because you'll be using them a lot.

+ *You can get away with a pair of office scissors, but adding a smaller, more precise set will really help out.*

### CLAMPS

Clamps generally come in two sizes, called – you guessed it – large and small. These are more or less standard, and are usually specified by the Procedure.

+ *Basic paper clips in two sizes work great, and you can get color-coded ones if you want to get fancy. To use clamps, place them across the tissue or vessel to be "clamped", usually on both sides before cutting - as in the case of a blood vessel.*

### SUTURES

Sutures are sutures. You use them to close wounds, most of which you have also created. Have a variety prepped and ready to go.

+ *Sticky notes are always applied to the back of a sheet of paper, never the side with the anatomy printed on it. When you "close" a procedure, the page should look as intact as possible. You (or your surgical assistant) can trim off the loose paper edge of sticky notes in advance, leaving only the adhesive portion – this is extra nice, and the Medical Review Board will be impressed. It will also make suturing much easier, which can be a life saver on complex Procedures.*

## OTHER SURGICAL MATERIALS

You'll want a few other items in your tray, just in case. Some of this stuff will be indicated in the Procedure notes, and some of it just looks cool.

### PROBE

A probe is a very handy little tool. Keep one in the tray. Do I really need to be telling you this?

+ *A sharp pencil will work, but I prefer a very fine point pen, preferably with red ink. You can use the probe to poke holes to start incisions without cutting in from an edge – very elegant.*

### PTFE MESH

Polytetrafluoroethylene is great stuff. You can use it to hold various gnarly bits together where tissue has been excised, and it provides a functional matrix for the growth of new tissue in situ. You can also use it to patch your ski jacket.

+ *Cut out PTFE mesh as needed prior to a Procedure, and suture it in place to cover holes – either intentional or otherwise.*

### ELECTRIC LANCET

You'll use this bad boy to cauterize blood vessels and, at a lower power setting, mark the surface of organs prior to cutting. I like to burn my alma mater's coat of arms onto the occasional duodenum, just because I can.

+ *A thick red felt tip pen or a highlighter will work well as an electric lancet.*

### SHUNT

Shunts are semi-rigid appliances that allow liquid to move from one place to another. You'll use them for everything from simple gastrostomy to emptying ascitic fluid into the venous system. Inserting shunts is nasty work, but that's why you have such a nice parking space.

+ *Drinking straws make fabulous shunts. Use a probe and scalpel to create entry and exit holes for the shunt, and surgical tape to hold it in place. The straw should always be*

on the printed side of the paper, with the ends sticking through to the back, neatly trimmed off. If you need a long shunt, tape two straws together.

### **SURGICAL TAPE**

You'll use surgical tape to hold appliances in place. It also makes a great racquetball racket grip.

+ *The very best surgical tape is blue painter's tape. Regular masking tape also works. Avoid regular adhesive tape, because it is very easy to use and sort of boring. Never use surgical tape where sutures are called for! It is only used for weird technical jobs as indicated by the Procedure.*

### **SURGICAL STAPLER**

Some tissues don't take a stitch very well. For these, we have the surgical stapler, which is a brutal but effective solution. You can use a surgical stapler to close really big incisions, like a thoracotomy.

+ *An office stapler is big and awkward, so see if you can find a small novelty stapler. In either case, you staple on the front through to the back of the page. You'll need a clipboard or something to provide backing.*

## **SURGICAL PREP**

To prepare for a Procedure, start by getting your team together. At a minimum you will have an anaesthesiologist, and most likely a surgical assistant. You should carefully read through the notes on what you are supposed to be doing, particularly if you had a rough night. Note the various steps and their order. Note any special supplies you will need. Get your surgical assistant to prepare these and lay the necessary instruments out. If you don't trust your assistant (a wise choice), do this yourself. If you like to have your favorite tunes playing while you cut, cue them up. If you are going to want a beer later, now is the time to start it chilling in the organ transplant cooler. I'm joking!

+ *Assistant: Arrange the surgical view page, where the Procedure will take place, and the patient's chart, which contains the instructions. The surgi-*

*cal tray should be at hand, with the surgeon's favorite tools laid out. Any prep work - cutting out PTFE mesh, trimming shunts, and so forth - is the responsibility of the surgeon. He may delegate, and if he does you must comply, but if it isn't done it isn't your job to point it out. You can if you are feeling charitable, of course.*

+ *Anaesthesiologist: Pick up the stopwatch and reset it. Start it when the surgeon picks up an instrument or says "begin".*

## **GO TIME**

When you are confident that everything is in place, clearly say "begin" and pick up your first tool. This is where the rubber meet the road, my friend - you are a cutter now, and you are in deep. Don't screw up. Remember that you must request instruments from your surgical assistant. Your anaesthesiologist will, no doubt, be shouting dire warnings in your ear the entire time. Ignore him.

+ *Surgeon: Try to stay in character! Your Procedure focuses on specific areas of the anatomy - to reach them, you may be forced to cut across other tissues and vessels. If they are not mentioned in the Procedure, you can safely cut through them, across them, or around them. A skilled surgeon is conservative and follows the bodies natural lines - trace the edge of a kidney rather than chopping through it to reach the pancreas, for example. The Medical Review Board will be watching, so be as neat and precise as you can. If a Procedure does not indicate a specific starting location or approach, your initial incision can start on any edge of the paper.*

+ *Anaesthesiologist: On the surgeon's mark, the activate the stopwatch. Your job is to keep track of time and interject stressful remarks as the Procedure's 60 second deadline approaches. All Procedures must be completed in 60 seconds or the surgeon is penalized. This is usually pretty easy for Class C and more or less impossible for Class A. Any Procedure that lasts for 180 seconds kills the patient.*

+ *Assistant: Assist the surgeon in any way he requires. Don't deliberately mess him up, unless a Complication requires it. If he asks you to hold something, or suture something, or even do the entire Procedure, don't refuse.*

## **WRAPPING UP**

Once you have counted your clamps, sutured, and closed the patient, put down your tools and clearly say "stop". This is a signal for your assistant to hand you that cold beer. I'm joking! You're done, though - let your assistant clean up the mess while you await the decision of your hospital's very wise and very lenient Medical Review Board.

+ *Anaesthesiologist: Note the elapsed time. Collect the Surgical View and pass it along to the Chief of the Medical Review Board.*

+ *Assistant: Clean up the surgical tray and discard any bits of paper or debris.*

## **THE REVIEW**

The Medical Review Board is tasked with maintaining your hospital's quality standards. They will go over your work with a fine-toothed comb, looking for discrepancies and errors. This is pretty insulting to professionals like me and ... well, like me, but in these litigious days, it can't be avoided. Still, if you can manage to avoid it, let me know how you work that.

+ *The Chief of the Medical Review Board will take a look at the completed Procedure and look for problems. The level of rigor is entirely up to the individual Chief, but it is reasonable to find fault with obvious mistakes, disregard for instructions, misuse of materials, and similar shoddy workmanship. Sloppy technique - using large sutures when small would do, hacking away great chunks of tissue when a conservative approach is possible and indicated, and so forth is a less clear-cut area and open for judgment.*