Rough medicine: a rough transcript of the rant [Unfinished!]

I've been asked surprisingly often for a transcript of the "surgery at sea" rant and bellow, given so often at various re-enactments. Of course, there is no set script, and only a rough set of shouting points. Despite this, I'll attempt to put across some concept of the information given, for those who want an idea of naval medicine during the Great Age of Fighting Sail. Was it Great? You decide.

Ahoy there! How are you feeling today? Ah, pity. You'll let me know if that changes.

Don't step too close to the quarantine tent, there. They'll be up and about again soon enough, now that we're safe ashore.

Hm? Oh. These soldiers may talk a lot about cannon and musket, but I'm a naval surgeon. There are *three* great enemies. Boredom and terror, is life aboard ship. Disease, accident, and combat.

THIS is the first of the three great enemies. Here, in this rattling bottle. Yes, those are teeth. Out at sea for months at a time.

Who among you has their own kitchen. Aye? How long do fresh greens last? You're right, not long enough. Eat your greens.

Who here eats their greens?

So few?

That does not bode well. *Eat your greens*. If you don't eat your greens you don't get enough of something called "anti-scorbutics." It's a lovely little, fancy little word which means "Things That Stop The Scurvy." If you don't eat your greens, you don't get enough Things That Stop The Scurvy, and then, unsurprisingly perhaps, You Get The Scurvy.

The Scurvy. Ever notice how illness in the eighteenth century always seems to start with a The? Makes it much more impressive, I think. The Flux. The Influenza. The Malaria. The Scurvy. You don't eat your greens, you get The Scurvy. And the FIRST thing that happens - the famous thing, right - the first thing that happens is that all your teeth fall out and your gums swell up with thick, black, pestilent blood. Which I need not point out then makes it very difficult to eat your greens.

Oh yes, that's the funny part. Funny. Obviously you've never had all your teeth fall out and your gums swell up. Sure, that's the part that Hollywood loves to tell you about. They think it's funny. Ha. Ha. So funny. And I need not point out that having your teeth fall out and your gums swell up with pestilential blood does not make it easy to begin to eat your greens.

But it does not end there, no. Who here has ever had a broken bone?

They part again.

Who here has ever had a cut that left a scar?

Why look at all of you LYING. And then *they* open up again.

And very slowly, you Stink, and you Bleed To Death. THAT is the Scurvy.

Oh, Lind, you say, Lind? Yes, Lind does rediscover the cure for The Scurvy. So famous Lind. He's not the first, nor the last. Folks keep rediscovering the cure. Lind DID apply SCIENCE, though. He had a dozen men on his ship with advanced cases of The Scurvy. Lassitude. Ulcerated skin. Teeth. Bones. So he divided them into pairs. One pair got to drink a litre of cider a day. One pair drank sulphuric acid. One pair got vinegar. One pair drank sea water. One pair got oranges. And one pair got mustard and radish. The pair he gave oranges, lived. He's once again rediscovered the cure to The Scurvy. And Lind told the navy to boil down lemons to give to sailors. Yes, yes, YOU know that Reduction By Ebullition destroys the Antiscorbutic Properties. But the Navy looked at his evidence, and replied that lemons and oranges is expensive, and sailors is cheap, so they would continue to treat The Scurvy with … exercise and small beer.

But The Scurvy is far from the only disease your surgeon will be fighting out at sea. Typhus. The Pox - The Pox? Ah, familiar with the Pox are you? Knew by the look of you. The English call it the French Pox. The French call it the Neapolitan Pox. The Russians call it the Polish Pox. The Poles call it the Turkish Pox. Of course. Dark glasses and prosthetic noses, The Pox. The gift that keeps on giving.

— And then there's The Gangrene. The Flux. Bad Air…

The Gangrene means death. Your bits have died on you, and you're rotting. If it isn't off, it'll poison the rest of you. Your own body an' blood become your death. Ever smelled bacon, gone all rusty? Humans is a lot like pork. Quick work to have it off, if you catch it early. Chisel work. If you wait, all wrongly hopeful, we'll, then it'll be a saw. The Gangrene's not much for hopeful. The Gangrene means Death.

The Flux is when you've gone fluxatious. You heat up like a boiling kettle, with the sweats and the chills. Without a good febrifuge, you'll cook yer own brain, as it were, while your body is tryin' to cook out whatever ails you. There are plenty of diseases as can cause a Flux, and even wounds by times too.

Bad Air. The Miasma. After all, infectious theory is not invented until the 1800s. But more on infectious theory later. For now, know that everyone is just as sure that either your own bodily fluids or bad smells are what cause disease. We can combat the first with heroic phlebotomy, which you might also call venesection - which is to say we'll bleeeeeeeed you a pint or four (what? mess? pain? don't worry, I have this bleeding bowl to catch and measure, and I wear an apron as you see, plus I hardly feel any of the pain), until you are feeling better - or else we'll overpower that bad smell with some other bad smell, like burning sulfur.

And that's all the boredom. But once in a while comes the terror. Boredom and terror is life aboard ship. You heard me earlier. Terror. Actual combat.

With those French and you English always busy fighting over someone else's dirt, someone is going to get hurt. Yes, I saw you ogling those muskets. See, while those soldiers might have showed you all about how noisy those dreadful machines are, what they did not show you is *these*.

This is a musket-ball. THIS is what it looks like when they see it, when they load it in the gun, all nice and shiny and round.

THIS is what it looks like when I get to see it. Blood-soaked and spattered, A tangled mess of lead. This is what you get when a lead bullet hits bone. And you can't just leave it in. All that lead and dirt... you leave that in, you're looking for The Gangrene, and The Gangrene means?

Yes. Death.

No, it has to come out. Every shard of lead, every scrap of cloth, every sliver of bone. Got to come out.

Luckily, you have the perfect tools ready-made. Ever notice how your finger is exactly the size of the hole a musket-ball punches into a man? No?

Oh, yes, there's some as will use a probe. That's basically a long, metal rod used for poking and prodding and rummaging about in the hole, looking for the lead. A useful thing, but your finger is always ready to hand, isn't it? And far more sensitive.

So first you rummage about in the - what? Anaesthetic? No, no, that doesn't get invented until the middle of the *nineteenth* century, but more on that later. Tell you what, we've plenty of spare bullets around. Like this one. See those teeth marks? We'll give you a bullet to bite, just so as you don't bite your own tongue.

Where were we? Ah, yes. With your finger shoved deep in that hole, a good surgeon can easily feel the difference between *scraping* your fingernail across splatttered lead, an' *scraping* yer fingernail across the raw *bone*. After we find the bullet with that most sensitive of instruments, the human touch, then we need to get it out.

Now, we need to get ALL of it out, remember. If we leave in any of the spattered lead, if we leave in any of the dirty cloth it may have taken with it, if we leave in the grit and grime, well, that leads to The Gangrene, and The Gangrene, as we've said, means? That's right. The Gangrene means Death.

For that, then, we get to use a bullet extractor. As you see, an Extractor is basically just a long, metal rod with a screw on the end. See, we slide it in, tap around until we're sure we've found the bullet, and TWIST it in. There. Now, be sure that you've screwed it into the bullet, here, and not, say, the bone nearby, since with a nice, smooth PULL .. like that .. we haul the bullet out again. And all the bits of ragged cloth. And all the shards of bone. To be sure, have a scrape around inside with your fingernail again.

Then, pack the hole full of nice, clean lint, and stitch our man back closed again. Yes, yes, the French and the English and the Spanish and the Dutch all derided the First Nations for using moss for the same job. Lint it is.

Of course, we'll need to watch him a while, for signs of Laudable Pus. What's that? I said Laudable Pus. "*Infection*?" Oh, we've not invented THAT yet, either. This is an age of *Reason*. Of *Science*. And you expect me to believe in tiny, invisible monsters crawling into his wounds and making him sick? No, no, I think NOT. Benighted superstitious rot.

A surgery *does* have two barrels nearby, yes. One is for any "spare" parts cut off, so that they don't litter the table. The Leftovers. The other, yes, *is* full of water. Anti…*septic*? What? No. If my hands get too slick with blood to hold my tools securely, if my saw is glutted with bone chips and cannot cut, then a quick dunk to rinse them, and straight back to work. Work and Laudable Pus. YOU might call it "infection," but every surgeon of the day knows that Laudable Pus is a sure sign of healing.

No sign of Laudable Pus in the days after the surgery? Obviously the body then is not fighting the injury hard enough, so we'll need to re-open the wound, rough it up a bit to "irritate" it, and stitch him back up again. Hopefully this time, we will have to drain off that pale yellow pus, else we'll need to do it AGAIN. Or even AGAIN.

And yet, those are not the worst. Disease? Musketry?

No, of the Three Great Enemies, the third is worst by far. None of these *soldiers* need fear it, landsmen as they are, sojering through their day, but a naval man knows the worst of it.

Splinters.

No, not "oh, oh, I've got a wee sliver so I need to get the tweezers and have a bit of a cry," but I mean SPLINTERS.

See, when they fire that cannon - did you see them fire that cannon over there? - when they fire that cannon.... No. You don't fire a cannon AT someone.

Anyone here who has fired a cannon at someone and actually HIT them, I'll give you five dollars right now, on this barrel-head.

No. I don't mean to say that no one ever gets *hit* by a cannon ball, they do. When *Shannon* fights *Chesapeake* off the coast of Boston in 1813, there are several men who get hit by cannon shot. They all have something in common.

They don't need surgery.

They're what we in the medical industry technically call "dead," and they don't need a surgeon.

In fact, a cannon ball passes within two feet of our gentleman here. *Hold still will you?* A cannon ball passes within two feet of our gentleman here, but *misses* him. He's lucky. He doesn't need surgery either. He's got what is called The Wind Of The Ball. See, the cannon ball passing by so close has rattled up the air so badly that it has rattled up his insides so badly... that he's all hemorrhage and internal bleeding. There's nothing a surgeon can do for him. Oh, he *MIGHT* live, but basically he's *dead*, and he just doesn't know it yet. No, *he* doesn't need the surgeon.

See, when that lovely and terrible piece of machinery there throws its big piece of metal, you don't aim at the other guy. You aim at their *ship*. When a cannonball hits the side of a ship you do NOT get a nice little cannonball-sized hole that Johnny Depp can wave out of. No. What you get is a very small DENT in the hull of your ship, and inside you get hundreds of SPLINTERS, moving at, say, fifty miles an hour. Like this one. A foot or two long, a couple inches thick, jagged and razor-sharp hardwood splinters, all across your gun-deck. THAT is a splinter.

And THAT is why you need surgery.

See, it is not the getting *out*. A good tourniquet (Petit's, for instance, best to be had - yes, yes, I know he's a Frenchman, but even so a lovely little machine, invented in 1718, but even without, every sailor knows how to make a tourniquet - you sir, say, you know how to make a tourniquet, right? no? Lord. not sailin' with YOU, then), and a nice, smooth pull, and we could get it out. Might even avoid bleeding to death. No, the trouble is that this ragged, jagged splinter would leave a ragged, jagged wound. And that ragged wound would mean The Gangrene. And you remember, The Gangrene means? Yes. Death.

So, that's why we take it off. The arm. The leg. A nice, clean, simple wound, instead of that messy, ragged wound. Much better chances. And this is why you're *lucky*.

Because I'm an Edinburgh-trained surgeon.

Yes, yes, some wit always points out, "Edinburgh, but that's a COLLEGE, a *trade* school!" True, but it is a tradesman you *want*. A doctor? Oh, a *doctor*! A *physician*! He's got a *doctorate*, hasn't he? He isn't going to touch you! No. Physicians. Feh.

You write a physician a letter, listing your symptoms and including a sum of money and, if you've included *ENOUGH* money, he might deign to write you back, "drop by the apothecary and buy the following, take morning and evening for a month, and you'll get better." Don't bother writing to tell him if you DO get better, for really he needn't care. He already HAS your money.

Touching a sick person! *Touching* the wounded! That's a *tradesman's* work, that is. What you want aboard your ship is a *surgeon* - hard to put a man back together by post.

And the Edinburgh-trained surgeons are the best in the world.

Men come from all over Europe to train in Edinburgh. The English, the Scot, the German, the Dutch. Even from across the world, as far as Africa and China. Oh, yes, there *are* schools in France. Lots of good things to say about France.

If you want to die in the cleanest hospitals in Europe, make sure your surgeon studied in France.

If you want to *survive*, make sure your surgeon studied in Edinburgh.

Why?

Speed.

A well-trained Edinburgh surgeon can do a leg in under three minutes and an arm in under two.

Speed is what saves lives.

No anesthetic - what? You've forgotten already? Oh, *RUM*. You can always trust someone to want to soak up the rum. But any university student can tell you that by the time you've had enough rum to dull the pain, you're looking at alcohol poisoning and a stomach pump. And even if it DID work, alcohol is just the thing to help you BLEED faster. And isn't THAT just what you want when going under the knife? No. *Speed*. Speed saves lives.

And more than one life. Alex Jack was the surgeon aboard *Shannon*, when she fought *Chesapeake* off the coast of Boston in 1813. And into his five-fooot-by-five-foot-by-ten-foot space down in the orlop deck, for that whole eleven minutes of actual fighting, he had seven men arriving every minute. For surgery. *Because they were winning*. Swift, aboard *Chesapeake*, saw thirteen wounded arrive every minute of the fight.

Speed.

And why are the Edinburgh surgeons the best? Because they're the *fastest*. Because they know the "Edinburgh Cheat."

You know the Edinburgh Cheat? No? That's because you're a bunch of illiterate, uneducated landsmen. But here, today, you're getting a free college education. That's right. Don't say I didn't do anything for you.

See. The first thing we need to do is put the patient down - no, not like *that*.

We need a couple of strong men to act as surgeon's assistants. No, true, not all were men, lots of women have served as surgeon's assistants, just like they've done other safe jobs aboard, like powder monkey, carrying bags of explosive gunpowder past burning candles through the heat of battle onto the gun deck among the burning slow matches, you know, *safe*… but *strength* helps. You want to lay the patient down on your operating surface - often a couple of sea chests shoved together and covered by canvas, here in our five foot by five foot by ten foot space down on the orlop deck. Our patient definitely wants them to hold him down well, because I don't advise you to get into the habit of punching your surgeon in the middle of your operation. *Restraint* is the word.

One above and one below.

A good surgeon will have good assistants, but as often as not those acting the part are either men unfit for combat duty, else some of the women aboard. Of *course* there were women aboard. There were boys given medals for being so brave as to be born aboard Nelson's ships during the battle of Trafalgar, and I hope I need not point out that is VERY difficult to accomplish without women aboard. Why, mister Bill Beatty himself, surgeon to Horatio Nelson and the man who helped him *die*, had a sailor's wife standing as a surgeon's assistant during that engagement.

And that's when we make use of THIS delightful little piece of work. This lovely toy is a capital knife. See that gentle, elegant, sharp-as-sin curve along the inside there? Speed. The capital knife has one duty: to get through the *meat*. One quick move like this... and you're circled 'round and down to bone. That quick. Well. Almost. There's a bit of fiddly work now to quickly hack through the periosteum -- see there, that's the sort of skin there around the bone itself. You've got to grunt your way through that with a scalpel as quick as quick, tough as it is, before the real work begins. Yes, all this is part of your two minutes. So be quick.

Because that is when we finally see THIS come into its own. This beautiful, horrific beast is a capital saw. Anyone here ever sawed through live bone? No? Wet bone makes a most remarkable noise. Once heard, you'll not likely forget it. Like a block of rubber soaked in olive oil, squealed across a plate glass window.

Where was I? Ah, yes. *Speed*. With this fine machine an Edinburgh-trained surgeon can do a leg in under three minutes, and an arm in under two. How? *Well* now.

See the thing is, an Edinburgh Surgeon knows … that you don't need … to saw all … the way through… the … bone … see?.. you just … need to get … CLOSE … and then … YouCanSnapItOffQuickAndSharpWithYourElbowJustLikeThat and then quickly grab your needle and thread, as you then need to tie off every single one of those veins and arteries…. There so … and then you can slap on a pad of lint and tow, pull down the skin and stitch it closed. Just like that. A nice clean wound, all ready to watch for Laudable Pus. Not like those French. The French! Oh!

CAUTERY. The French still insist on CAUTERY. You all know cautery. The Spanish use a hot button to SEAR the edges. But the French don't have the time. You keep a hot pot of oil boiling over the coals, and then when the bone is clean through, you pour the boiling oil over the end of the stump, to seal it all from bleeding. The French. I've never known burned meat to heal any faster. Ask your steak.

No. No cautery for *US*. No, an Edinburough surgeon will tie off each and every vein and artery, stitched closed with this sharp and elegant little curved needle, here, as quick as quick, and have that stump all stitched closed again and off and away you can go, hopping back to work, and freeing up the bench for the next fellow. After all, we're still fighting, and there's work to be done so's we don't get sunk.

So there you have it.

That is how you will survive.

So if there is only ONE thing that you learn here today – and mark me that there are many things you could choose to learn – if you learn only one thing, Let It Be This:

EAT YOUR BLOODY GREENS. Because if you don't, then you'll have to deal with me. And NEITHER of us wants THAT.

(Oh, and yes, sir, I do see you. Yes, been dealing with The French Disease for a while, I see. Never fear. I can set you right. Best mercurics, best prices. Twenty shillings a dose, three doses, and you'll be well sorted. Discreet as anything. No one will know of your … trouble - what? Cure? No, no, but you'll have no symptoms as anyone will see, and what they don't know won't hurt you. Well, any worse than. Yes, yes. You see me after. If you've the coin I've both the metal and the syringe just here. Of course. Of course. Could happen to … anyone. I understand. You'll not find a better price.)


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Further reading:

Code des Armees Navales titre xiii Surgeon, 11 April 1689

Jas Lind, on Scorbutum, 1753

Saml Leech, shop's boy HMS Macedonian, letter home 25 October 1812

Chas Bisset, on Scurvy, 1755

Thom Reide, on Scurvy, 1793

Mr. Bird, surgeon aboard HMS Niger, on amputation

Jas Lind, on The Jail Infection, 1779

Gilbt Blane, on surgery, 1789

Rbt Young, surgeon HMS Ardent, on naval surgery, 1797

John Moyle, on surgery, 1686

Jean Coste, on heroic phlebotomy, 1780

Geo McGrath, surgeon HMS Russel, on the Battle of Camperdown, 1797

John Snipe, surgeon, letter to Horacio Nelson, 1803

Wm Beatty, surgeon HMS Victory, on the death of Admiral Horatio Nelson, 1807

Wm Turnbull, on the health of sailors, 1806

Lancelot Haire, on amputation, 1786

Nicholas Culpeper, complete herbal, 1718

Diaz de Isla, on Morbus Gallicus, 1539

Nicolas Squillacio, on Morbus Gallicus also called mail de Naples, 1495

John Woodall, The Surgeon's Mate, 1639

Geo Jackson, midshipman, on Yellow Fever, 1805

Pietro Paolo Puccerini, on the ague or mal'aria, Schedula Romana, 1623

Vasco de Gama, on Scurvy, 1498

Tho Stevens, on Scurvy, 1579

Wm Cockburn, Sea Diseases, 1736

John Moyle, Chirurgus Marinus or The Sea Chirurgeon, 1693

Rchd Wiseman, Of Wounds Of Gunshot Of Fractures And Luxations, 1676