How to Avoid Swelling on Full-mouth Extraction Cases

There are many explanations for post-operative surgical swelling. You can learn from this discussion.

Almost every time I extract upper or lower anterior teeth and do an alveoloplasty, the patient comes the next day with bruising and swelling. Is there something I can irrigate the surgery site with to avoid this? Sterile gloves came to mind, and I will use them if they make a big difference, but I end up having to change gloves several times through a procedure, so the price would add up. Thanks a lot.

I know some will disagree with this, but if you are doing a surgical case, particularly a full-mouth extraction case, you should be wearing sterile gloves. To be honest with you, the cost of gloves is minimal when compared to the overall case production. Do you really make that much less money that $10 will make a huge difference in your net? Why do you feel it’s necessary to change gloves multiple times? Are they tearing easily?

I don’t know if wearing surgical gloves in and of itself makes a huge difference, but it makes me wonder about your aseptic technique. With due respect, are you using sterile water? Are you using a regular high-speed handpiece? Is this using bottled water or city water? Are instruments stored wrapped after sterilization? Is it your technique? What kind of case is it?

There are a ton of questions that bear asking. I would expect bruising and swelling after a long procedure like what you describe, but there are so many factors that are involved that it is difficult to say what is going on. Again, I wish to help and am not asking these questions disrespectfully, I am trying to gather info.

You could prescribe dexamethasone 1.5mg. Three the day before, three the day of surgery and two the day after. These are prescribed to take one in the morning, one in the afternoon and one in the evening. This will reduce swelling.

It almost sounds like a technique problem. How are you doing the alveoloplasty? Bone file, rongeur or handpiece (what kind)? I irrigate with normal saline (isotonic). Are you reflecting a flap? Atraumatic extractions or are you tearing a lot of tissue? NSAID use? Coumadin? Elderly will bruise easier. The swelling can be helped with ice post-op and NSAID before, but they might bruise.

RJ, without knowing a little more, there are a lot of variables to your question, as others have pointed out. We do a fair number of full-mouth extractions and here are a couple things.

Older patients will tend to bruise, sometimes a lot. Throw in some warfarin or aspirin and this is worse. Not a ton you can do about this,
their capillary beds are more fragile and sometimes just supporting their jaw during extraction can cause bruising. Maxillary injections if not properly aspirated can also cause bruising. That being said, as others have mentioned, being as atraumatic as possible is the best route to go. Take your time… its always easier to take a couple extra minutes elevating and rocking these out than to risk breaking a root tip and having to go fishing for it. Use a periosteal or a sharp mucoperiosteal elevator to loosen those teeth up and since we are talking anterior teeth here, rotate, rotate, rotate. Take out the proximal teeth and use it sideways to grab a little interseptal bone and the tooth if you have to (on the badly broken down ones).

I might be stirring the pot here but I do not think sterile gloves will make much difference at all. I have discussed this with several OS and they also agree on this. Implants, maybe; extractions, probably not. One even showed me a research study comparing the placement of implants with sterile vs. non-sterile gloves and there was no significant difference in success rates, so even this is debatable. These teeth are likely coming out for a reason that involves a bacteria-laden disease process, and as soon as the patient goes home, they will be “irrigating” your extraction sites with all kinds of non-sterile things. Debride any granulation tissue, curette until the socket is clean and irrigate with saline or Peridex.

As was mentioned, start the patient on NSAIDs before the surgery to help with the swelling. The dexamethasone might help too, but many of our patients have other medical complications that would preclude the use of this. Cold packs for the first 24-36 hours, not to switch to heat until a few days in. Suture close the big ones,

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especially if there is any chance they are going to smoke... throw in some Gelfoam for good measure with the smokers.

At a 24-hour follow-up there is not much you can do. These sites are going to ooze, the denture won't fit well, and if the patient left the denture in overnight, there is even a chance that they won't be able to get the denture out (or back in for that matter) due to the swelling. Get the patient expectations in line before the extraction. It can take several weeks for things to really heal up well and patients seem to become very worried when the large posterior sockets aren't closed, but the smaller anterior ones are. Warn them of this ahead of time. In their mind, if you call it ahead of time, you're the best dentist ever. If you try and explain this later, you sound more like you're making excuses.

What kind of alveoloplasty are we talking? In the majority of cases, the only pre-prosthetic modifications I make are minor use of the rongeur and bone file and some heavy B-L squeezing pressure to re-approximate the bony plates as best I can. You can always stage these as a two-stage extraction if you want to minimize the consequences of a full-mouth extraction, but this puts the patient through the process twice so there are disadvantages as well.

It might be best to switch up your post-op regime. Have them come back in two to three days instead. There is more you can do with the denture, and the swelling will have just begun its decline.

Best of luck!

My technique involves extracting the teeth, most of the time not having to use the handpiece, using the handpiece to remove interseptal bone and then using the forceps to compress the bone. Most of the time I hear it crack. Never had to remove a sequestrum, however, so as long as the bone is attached to the periosteum the bone will re-approximate. I then use the rongeurs to snip off rough bone and then top it off with a bone file. Many times in the anterior I will attain primary closure.

Bringing patients back in two days sounds much better than 24 hours. I think I will start doing this. Also, the argument against sterile gloves is a sound one.

A few questions I have:
1) I checked with my boss regarding the water situation, and he said that lately when he has been draining the compressor that the water is rusty. Is this the same water that is going through the handpiece lines? Could this be a major cause of the swelling?
2) Taking NSAIDs the night before will reduce swelling? Would 600mg ibuprofen the night before be fine? Probably not a good idea to take the day of the surgery due to potential bleeding, right? I have heard Dolobid works wonders. Anyone try this?
3) Fletch mentioned using saline. How would using saline decrease potential swelling? Would using Peridex or Betadine work any better?

I appreciate everyone's contribution to this thread so far.

Post-op swelling and post-op infection are two separate but sometimes related entities. Post-op swelling is a product of the host response and how much damage you have done during the surgery. The more you manipulate, the more teeth you remove, the longer you take, and the more flaps and anesthetic you inject, the more swelling you will have. Those are the factors you have control over. Add in a pre-medication with an NSAID or a post-op steroid and you reduce the host response some.
Post-operative infection can cause swelling, but infection is not a super common occurrence. If you are dealing with compromised host immune response (i.e. uncontrolled diabetics, kidney failure, chemo, radiation therapy, aids), you should be pre-medicating similar to how you handle a joint replacement. Most oral surgery texts advocate pre-medication in these cases at a rate of two times the usual dose of the antibiotic, one to two hours prior to the surgery. Amoxicillin 2g one hour prior is the drug of choice. In most cases, infection is not a major issue, and thus, is not a major contributing factor to the swelling, which brings me to the issue of the sterile vs. non-sterile gloves.

In the case of an implant, where I am inserting a foreign body into living tissue and expecting it to not only stay put but integrate into said tissue, I want to do everything possible to assure that this happens. In this case, introducing foreign bacteria is a concern because we are dealing with a relatively clean surgical site that will be closed to some degree following surgery in an environment where post-operative infection can compromise the whole procedure. So here a sterile glove would definitely be justified. But in an extraction environment, which is often riddled with a higher degree of bacterial contamination from the host and offending teeth, with post-surgical wounds that are open not generally closed like the site once an implant is placed and low rate of post-operative infection that would (usually) not compromise the entire procedure anyway, I am not sure there is a major case for sterile gloves during extraction.
I certainly don’t know how a sterile glove will reduce swelling in and of itself if there is no post-operative infection involved. Perhaps less bacterial inoculation to the surgical sites would yield less swelling, but I think that the mechanical factors mentioned above play a much larger role. That being said, they are not that expensive and if it can’t hurt and might help you might as well give it a go. I find them to be more comfortable too since there are many more sizes.

I think the gist of it is to pay attention to atraumatic technique... get the teeth out efficiently but in a reasonably atraumatic fashion. Don’t go crazy with flaps or alveoloplasty and know your patient medical history. I don’t think there’s any silver bullet to “cure” the swelling problem.

Happy extracting!

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I’m a GP not an OS, but I do a relatively high amount of surgery. My first associateship was at a group practice with an OS on staff, and I spent as much time as I could observing and learning from him. As a result, I have a high level of confidence with surgery.

A couple of things that I learned from him and along the way:

In many full-mouth extraction cases, alveoloplasty is simply not necessary.

I remember in dental school the model on which we fabricated our first full upper denture. This “perfect-looking” ridge with no irregularities or unevenness, and I think this is the model in a lot of docs’ minds when they do the surgery. The big problem with this is once that bone is filed/burred/rongeured away, it isn’t coming back. Further, by leaving irregularities and some undercuts, you will have much better retention of the prosthesis. The ridge might not look pretty or textbook, but it just makes sense to me to leave as much of the patient as you can.

Regarding the original poster’s comment about “compressing the ridge with forceps.” Yeah, don’t do that. Cracking noises are really never a good thing. Additionally, anything you can do to decrease the amount of force used is a very good thing. If you’re doing extractions and you don’t use some sort of peri-otome, get one. Until you’ve seen what they can do, you simply can’t believe how well they work.

One final point, which might draw some fire, is that I rarely suture. I have read some compelling research which shows that suturing, especially tightly,
can cause bone resorption. Also in order to suture it’s often necessary to remove more bone or elevate more of a flap than you might otherwise need to.

I rarely have PO bleeding issues. I have seen ecchymosis maybe three or four times in 20 years, my immediates have a ton of retention and often don’t require a reline for several months.

Hope this helps.

Peace. ■ TT

Bruising once every five years when doing a lot of surgery is pretty impressive. Yes, I have been trying to imitate that model that we use that depicts the perfect arch with no irregularities. What do you do in cases like the one below? Do you ever remove interseptal bone and compress the alveolus?

Here is a patient who wants a full upper denture. You can see she has a prominent maxilla and overjet. I can do it three ways.

1) Leave the bone as is after extracting. Advantages would be more bone for implants if she ever chooses to get them, better retention on her denture, and less chance of swelling and discomfort. Disadvantage would be the denture will make her maxilla look even more prominent and she might look Mr. Ed-ish.

2) Reflect a flap and remove buccal bone. This would be the most aesthetic but would not bode well for possible implants, retention and there would likely be swelling.

3) Remove interseptal bone with handpiece and compress alveolus but not fracture it. I am leaning toward this although she might not be happy with the aesthetic result as it might come across as too bulky.

Any opinions would be appreciated. ■

I would possibly consider going flangeless in the anterior, at least for a few months until healing/remodeling has occurred. Generally when I do this I’ll have the lab do it conventionally and then remove as much of the flange as I need to chairside.

Don’t get me wrong... when bone is truly in the way or if there are sharp edges that will impede healing; I’m going to go after it.

But in this case, with an increase in vertical, proper tooth selection and thin to no flange I can see this working out nicely without too much removal of bone.

Would love to see a post-op on this one. ■