

HOW TO MINIMIZE POST-OP PAIN AFTER RECONSTRUCTIVE FOOT SURGERY

By J. Michael Miller, DPM

Minimizing postoperative discomfort for patients is a common goal of all surgeons. Techniques for achieving this goal seem to vary significantly among surgical specialties. Unfortunately, patients often have preconceived expectations that they will experience considerable discomfort after foot surgery. This is usually based on their experience with other surgical procedures or from discussions with other people in their community who have expressed their "experience" with foot surgery.

This fear of significant postoperative discomfort occasionally will preclude some patients from undergoing needed reconstructive foot procedures. Our responsibility to patients is to make sure they are well educated regarding our efforts toward reducing postoperative discomfort.

Fortunately, we've been able to significantly reduce post-op discomfort in recent years with a few prophylactic techniques that I have learned through discussions with other surgeons across the country. In fact, the majority of our patients are able to avoid narcotic medication entirely. This has especially been the case with patients who underwent forefoot surgery and we've also been able to achieve this on several occasions in which we performed more extensive rearfoot/ankle reconstructive procedures as well.

Steps You Can Take To Minimize Discomfort

Reducing or eliminating postoperative discomfort has improved the quality of life for these patients and has also made a tremendous impact on patient referrals for surgery as well. To that end, I have implemented several techniques to reduce discomfort of my patients after surgery. Here are some of those techniques in greater detail.

1) Pre-inject a local anesthetic and soluble steroid mixture prior to performing the surgical incision. The mixture is a 0.5% marcaine plain and dexamethasone phosphate (4 mg/cc) in a 9:1 ratio that you mix together in a single syringe. Use a 10-cc syringe for ease of measurement (9 cc local and 1 cc soluble steroid). This mixture will block the affer-

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ent stimulus to the central nervous system and the field block of the soluble steroid will diminish local inflammatory factors surrounding the entire surgical area.

Pre-injection of the local anesthetic

agent will decrease the amount of par-enteral and inhalation anesthetic agents needed for those procedures requiring general anesthesia by blocking the noxious stimuli from the procedure prior to skin incision. The mixture of the soluble steroid with the local anesthetic agent will also prolong the duration of the field block, sometimes lasting 36 to 48 hours.

2) Release the tourniquet to close the surgical site "wet" after performing deep closure. This provides physiologic irrigation (bleeding) to flush out contamination and will allow for swelling to occur prior to placing the surgical dressing. Using this simple technique allows you to significantly reduce postoperative discomfort from a dressing that is "too tight." Releasing the tourniquet during closing also allows you to inspect for any bleeding vessels that could lead to hematoma formation and also helps you ensure adequate reperfusion to the surgical area.

What Are The Advantages To Using NSAIDs?

3) You can also utilize nonsteroidal antiinflammatory medications prophylactically to reduce postoperative pain. One can use Vioxx (refocoxib), Celebrex (celecoxib), Bextra (valdecoxib) or Mobic (meloxicam) immediately postoperatively. You may even dose them preoperatively when you're performing more extensive procedures as this allows you to decrease inflammatory byproducts that act peripherally and centrally. These medications limit a segment of the inflammatory cascade that is directly associated with pain development.

The advantage of these newer Cox-II inhibitors over traditional NSAIDs is their minimal effects on postoperative bleeding/hematoma formation due to their selective nature in inhibiting mostly Cox-II synthesis. In general, their safety profile regarding gastrointestinal complications is also superior.

In some studies, a few of these medications have been shown to be just as effective as some narcotic medications in regard to postoperative pain management. You

can employ the more traditional NSAID medications and achieve similar effects regarding analgesic efficacy. However, the newer Cox-II inhibitors seem to achieve more effective pain reduction at lower doses along with possessing the aforementioned advantages.

Obviously, you should only use NSAIDs when patients don't have any contraindications to these medications. Commonly, I will dose these medications as follows:

- Vioxx: 50 mg QD x five days, then 25 mg QD prn
- Celebrex: 400 mg QD x five days, then 200 mg QD prn
- Bextra: 20 mg QD x five days, then 10 mg QD prn
- Mobic: 15 mg QD x five days, then 7.5 mg QD prn

What About Cryotherapy?

4) It may be helpful to utilize cryotherapy to decrease local inflammation, edema and postoperative discomfort. Using a cryoboot, which is available from

various manufacturers, allows one to easily apply ice or cold water upon the surgical site. A device such as the Cryo/Cuff (Aircast) seems to work very well and is simple enough to allow ease of use for several weeks after surgery. The Cryo/Cuff provides adequate cooling at the surgical site and some added compression to decrease edema.

If you have achieved adequate rigid internal fixation in compliant patients who have undergone midfoot or rearfoot arthrodesis procedures, you can often allow them to start early range-of-motion exercises by removing their posterior splint. One can then apply the cryoboot directly to the foot after removing the splint. Also keep in mind that the cryoboot is still somewhat effective when it is placed over the splint.

Final Thoughts

When we have combined the aforementioned pearls with delicate surgical technique, the majority of our patients have enjoyed a relatively pleasurable experience with their reconstructive foot procedures.

While we still give prescriptions for narcotic medications to our patients, many are not used. In fact, we often have more complaints regarding nausea and adverse reactions with the narcotic medication than the surgical discomfort itself. Therefore, we instruct our patients to use the narcotic medication only if it's absolutely necessary.

The infiltration of the anesthetic mixture will commonly provide 12 to 36 hours of pain relief. When one uses this in combination with the other techniques I've mentioned, you should be able to improve the patients' experience with podiatric surgical procedures. ■

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