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NABIL EBRAHEIM MD

Opioid Epidemic, Don't Completely Blame the Doctors

Doctors frequently treat patients with pain due to injury or surgery. Evaluation for pain has become required for proper patient care. Pain has become the 5th vital sign, such as temperature, pulse, respiratory rate, and blood pressure. Our society has become intolerant of pain and discomfort. The patient's expectation is to not have pain after injury or surgery. A patient in the Netherlands will leave the hospital after fixation of their ankle fracture with only Tylenol. These patients are satisfied with their pain relief, the same as a patient taking oxycodone in the United States. The problem is that bureaucratic agencies pushed aggressively to evaluate the pain and this leads to opioid over prescribing. These bureaucratic agencies need to get rid of their harmful policies. The doctors are pressured by legal agents, state medical societies, and national organizations to make patients happy. In response the doctors went ahead and prescribed a lot of opiates, more than the patient needs, due to the culture of making the patient comfortable, happy, and satisfied. Because of the culture, an entry level pain or outpatient surgery was dealt with by prescribing strong medication so they could make the patient comfortable. Now, we have a protocol for prescribing these medications. The law set the expectation and the patient accepts it. In Ohio for example, no more than a 90 day supply can be prescribed post-operatively by the surgeon. Only fill one prescription per week. The maximum is 28 Percocet, or 42 Norco. For prescriptions, the doctor has to choose the International Classification of Diseases (ICD) code for proper diagnosis that matches the pain. The patient can obtain their medication from one provider only. Before the physician prescribes the medication, check the Ohio Automated Rx Reporting System (OARRS), which contains the patient's history of prescription narcotic dispensing. The doctors need support to change the culture and to change policies. For example, measuring the patient's level of pain should not be numerical. In orthopedics, we talk about pain (where is the pain?). Ask questions such as: What makes the pain worse or better? Is the pain sharp or dull? Does the pain radiate to the hand or fingers? From 1-10, how much is the pain? There should be a better way to describe the history of the present illness than this. The



patient survey and satisfaction scores could potentially effect the compensation received by the doctors and hospitals. Pain is so important in these surveys. Questions asked on these surveys include such as:

- How well was your pain controlled?
- During the hospital stay, did you have any pain?
- During the hospital stay, how often did hospital staff talk with you about how much pain you had?
- During the hospital stay, how often did hospital staff talk with you about how to treat your pain?

Other sections of the survey ask about being pleased with the overall stay, doctors, and nurses, then the focus shifts back to pain and again are asked:

Opioid Epidemic

- Did you experience pain during your hospital stay?
- How often did the staff talk to you about pain?
- How often did the staff talk to you about pain treatment?
- How often did the staff talk to you about pain management?

Utilization of pain management has increased significantly in the last few decades. Prescription drugs can be regulated and the rate of addiction to prescription drugs can be controlled. Cutting the

prescription opiates may drive the patient to go to the street where heroin and fentanyl are cheaper. Minimally invasive techniques will give the patient less pain. Using pain blocks after surgery and injury can be very helpful. Accusing the doctors of reckless negligence for inadequate treatment of pain should be stopped. The pain level of the patient should be observed, measured, and dealt with however, the doctor should have the ability to use their own judgement while treating the patient's pain. The professional medical organizations should not be pushing pain and pain level on the doctors.

Pediatric Femoral Shaft Fractures

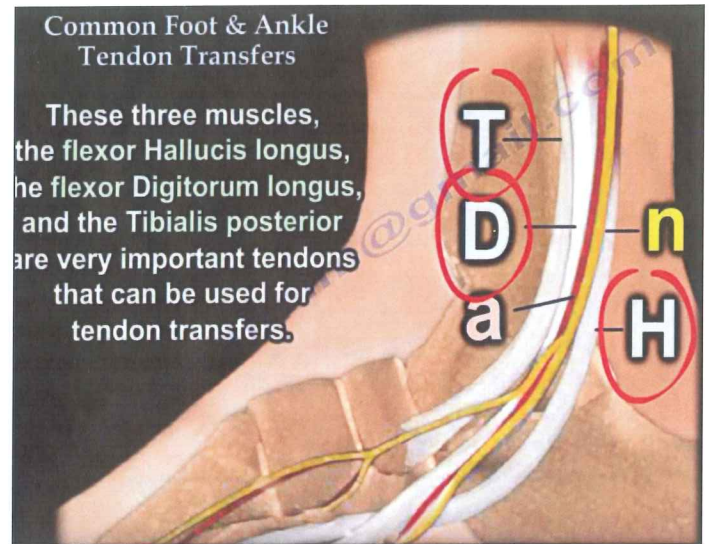
Treatment for pediatric femoral shaft fracture varies. Treatment can include casting or surgery, depending on the age of the patient and the pattern of the fracture. A fracture of the femur that occurs in a child before the walking age, there should be concern for non-accidental trauma- suspect abuse. Pediatric patients 0-6 months of age should be treated with a Pavlik harness, 6 months to 5 years of age should be treated with an immediate spica cast. Moderate evidence supports treatment with an early spica cast or traction with delayed spica cast for children aged 6 mo. - 5 years with a diaphyseal femur fracture with less than 2 cm of shortening. A spica cast is not used for a patient that has shortening of 2-3 cm. If there is excessive shortening or potential shortening, there will be loss of reduction in the spica cast and the child can be treated by traction and delayed spica cast or by a different alternative. In very unstable fractures, you are going to use traction with a delayed spica cast or external fixator. Children 5 years of age to 11 years, consider using flexible rods, plate, or external fixator. To use flexible IM nails, the fracture must be axially stable and it can be used in children between the ages of 5-11 years, and should not be used in children weighing more than 100 pounds or in children older than 11 years. An alternative technique should be used in older children that weigh more than 100 pounds or if the child older than 11 years old. For the flexible nail to work, the fracture must be short, oblique, or transverse. It is probably better if the fracture is in the mid-diaphysis area. In comminuted fractures, or very distal or proximal fractures, it may be hard to control the fracture with a flexible IM rod. Approximately 50% of fractures treated with flexible nails have about 15 degrees of malalignment. The nail size of the IM flexible nail is determined by multiplying the width of the isthmus of the femoral canal by 0.4 and the goal is to have 80% fill. Submuscular plate fixation can be used in children more than 5 years old and in the patient that weighs more than 100 pounds. It can also be used in very proximal or very distal fractures where the flexible rod will not work, especially if the fracture is unstable. It can be used in cases of severe comminution when you will use the plate as a bridge plate. It can also be used for open fractures if there is associated vascular injury, if the fracture is significantly comminuted, or it can be used in polytrauma patient. With external fixation there is increased risk of re-fracture after removal of the fixator. The main blood supply to the femoral head is the deep branch of the medial femoral circumflex artery. These branches are near the piriformis fossa and are vulnerable to be



injured with a piriformis entry nailing. Osteonecrosis of the femoral head can occur with an open proximal physis. Piriformis or near piriformis entry rigid nailing is not usually recommended for the young child. If the IM rod needs to be done, it is better to go through a greater trochanteric entry which can also have its own complication such as coxa valgus or premature fusion of the greater trochanter apophysis. Rigid trochanteric entry nailing may be an option for children at or near skeletal maturity. The most common complication in younger patients is leg length discrepancy with over growth of up to 2 cm in patients younger than 10 years of age. It typically occurs within 2 years of the injury. Leg length discrepancy can occur from excessive shortening following a cast treatment. Do not accept more than 2 cm of shortening. Monitor the child for development of compartment syndrome following spica cast. When you do traction and you delay the spica cast, a proximal tibial traction pin can cause recurvatum due to damage of the anterior part of the tibial tubercle apophysis.

Common Foot and Ankle Tendon Transfers

Tendon transfers in the foot and ankle are complicated. The joints must be flexible and the muscle strength should be Grade IV or more for a tendon transfer to achieve its effect. Here is the mnemonic to remember the structures at the medial side of the ankle (Tom, Dick, and Harry): This mnemonic (Tom, Dick, and Harry) contains the muscles that are the horsepower for the tendon transfer in the foot and the ankle. The T, D, a, n, and H of Tom, Dick and Harry correspond to Tibialis posterior, flexor Digitorum longus, posterior tibial artery, tibial nerve and flexor Hallucis longus. These three muscles, the flexor Hallucis longus, the flexor Digitorum longus, and the tibialis posterior are very important tendons that can be used for tendon transfers. The flexor hallucis longus transfer can be used if there is a large chronic defect that results from Achilles tendon tear, and if the gap of the tear is 5 cm or more, then you transfer the flexor hallucis longus tendon. The flexor hallucis longus is next to the achilles tendon, you can transfer this tendon. The same concept may be done with the tibialis posterior tendon tear (stage II), which means that it is flexible and it may be treated with a tendon transfer by the tendon that is next to the tibialis posterior, the flexor digitorum longus tendon. You must add a bony realignment procedure such as medial calcaneal displacement osteotomy. Lateral column lengthening is also done if there is excessive forefoot abduction (too many toes), more than 40% talonavicular uncoverage. When there is chronic tear of both peroneal tendons, you will transfer the flexor hallucis longus when both tendons are involved and this can be treated by tenodesis to the healthy tendon if only one tendon is involved. You will use the girdle stone procedure, which is flexor to extensor of the lesser toes for flexible hammer toe and claw toes. In Charcot-Marie-Tooth disease, the patient will have varus of the hindfoot, cavus, and plantar flexion of the first metatarsal. When the deformity of the foot is flexible, you will do a soft tissue procedure. You will transfer the peroneus longus tendon to the peroneus brevis tendon and this will eliminate the strong plantar flexion of the first ray and this improves the eversion power of the peroneus brevis muscle. Transfer of the tibialis posterior to the



dorsum of the foot through the interosseous membrane will decrease the varus movement and it will assist in ankle dorsiflexion. Equinovarus foot is the most common deficit following a stroke or traumatic brain injury. This occurs due to over activity of the tibialis anterior muscle. This condition can be treated with split tibialis anterior tendon transfer (SPLATT) combined with Achilles tendon lengthening or gastrocnemius recession. The deformity has to be flexible. Peroneal nerve palsy or foot drop: posterior tibial tendon transfer through the interosseous membrane to the dorsum of the foot. The chopart amputation is a partial foot amputation through the calcaneal cuboid and talonavicular joints, transferring the tibialis and lengthening of the Achilles tendon to avoid equinus deformity of the hindfoot. Dynamic supination deformity in the swing phase can occur following Ponseti casting for a club foot. This occurs due to the overpull of the tibialis anterior. This is treated with a tibialis anterior tendon transfer to the lateral cuneiform.

Lateral Circumflex Femoral Artery

The lateral circumflex femoral artery is a branch of the profunda femoris artery. The profunda femoris artery is the main blood supply to the thigh. It gives two circumflex arteries and four perforating branches. The two circumflex arteries are the medial circumflex femoral artery, and the lateral circumflex femoral artery.

The lateral circumflex artery is directed towards the lateral side. From the femoral triangle of the thigh, the femoral nerve is lateral to the femoral artery. As the lateral circumflex femoral artery branches off of the profunda artery and goes laterally, it crosses the femoral nerve and passes under the Sartorius muscle, which is the lateral boundary of the femoral triangle. The lateral circumflex femoral artery gives three branches: Ascending Branch, Descending Branch, Transverse Branch.

The ascending branch passes upwards beneath the tensor fascia lata and goes up to the anterior superior iliac spine (ASIS). The descending branch descends to the knee joint. The transverse branch goes towards the greater trochanter and also goes to the cruciate anastomosis. The LCFA is at risk of injury with Smith-Petersen Approach or anterior approach to the hip. The LCFA is found in the intervenous plane between the tensor fascia lata and the Sartorius muscle. It also passes under the rectus femoris muscle. The LCFA will be found deeper to that and this artery must be found and ligated to prevent excessive bleeding.

Department of Orthopaedic Surgery
The University of Toledo
3000 Arlington Ave., MS 1094
Toledo, Ohio 43614



Simple Acts of Kindness to Relieve Patient Pain

In general, doctors treat patients for pain due to injury or surgery. Pain intensity varies from person to person and it can be related to stress, distress, coping strategies, and physiological factors. The physician should work with the patient for better pain control and for safer prescribing of medications. The best pain relief is self-efficacy and resilience. We have found that giving the patient a teddy bear helps to relieve their pain and anxiety, giving the patient comfort and confidence in the system.



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Planners/Editors:

Editor/Planner: Dr. Nabil Ebraheim, Professor and Chairman, Department of Orthopaedic Surgery;

Planners: Amanda Critton; Abigail Overhulse; and Sara Bell

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Department of Orthopaedic Surgery, The University of Toledo 3000 Arlington Ave., MS 1094 Toledo, Ohio 43614

Questions or Appointments, call 419.383.3761