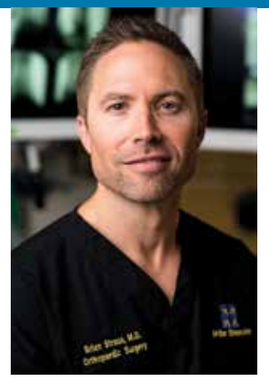
ASK THE EXPERT



ABOUT THE EXPERT

Dr. Brian Straus is a board-certified orthopedic surgeon. He completed his foot and ankle/sports fellowship at the Foundation for Orthopaedic, Athletic, and Reconstructive Research with Dr. Thomas O. Clanton in Houston. Dr. Straus continues to pursue the latest advancements in orthopedic technology, including ankle replacement and ligament reconstruction. Dr. Straus has been involved in the care of professional athletes with the Houston Rockets and Dallas Mavericks. He is fluent in Spanish and is a member of the American Academy of Orthopaedic Surgeons and the American Orthopaedic Foot and Ankle Society.

ANKLE EXPERT

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Dr. Straus, your last article has generated much feedback regarding healing of broken bones. What else should we know about ankle fractures?

Bones are very stiff, but they have some elastic properties and will bend in response to an external force. If the force is too great, however, the bone will break. The amount of energy breaking the bone can determine the severity of the fracture. A simple fall is a low energy mechanism that can result in a minimally displaced fracture. In contrast, a car accident or gunshot wound can cause the bone to shatter.

If a bone is broken and separated (gapped), how can it be expected to grow back together?

Soon after a bone is broken, a protective blood clot is formed. This contains chemicals that will serve to stimulate each end of the bone. In time, a fracture 'callus' forms that begins to connect the two ends. Over time 'threads' of bone grow toward each other. The callus is absorbed as the fracture gap closes.

Are you able to monitor this with X-rays?

Yes, X-rays are critical in monitoring the healing of a bone. Even though a fracture may be healing routinely, the X-ray findings may be subtle. It takes a trained eye to know if normal healing is occurring or whether there is a problem. A good orthopedic surgeon also relies heavily on his physical exam findings to help with this differentiation.

It seems that children need surgery for broken bones less often than adults. Why is that?

As a bone grows, it has the ability to straighten itself out over time. Therefore, in many cases, we can accept more malalignment in a child's bone than in an adult who has no growth remaining.

How do you decide if a bone needs surgery?

For all fractures, there is an amount of 'malalignment' that may be accepted. However, the exact amount can vary widely and is dependent on many factors. An orthopedic surgeon's goal is not only to achieve 'union' or healing of the bone, but also to ensure that maximal function is obtained.

Are there particular examples of fractures that usually require surgery?

When the fracture includes part of the cartilage surface of a joint, such as a knee, ankle, or wrist, these commonly require surgery. Orthopedic surgeons have learned the importance of precise realignment of the joint surface, then applying rigid fixation with plates and screws. The goal of this is to allow early motion as well as to decrease the risk of arthritis affecting the injured joint.

What is take-home point you would like to leave about this interesting topic?

Simply to understand that fracture healing can be a delicate business. Often, the treatment can be challenging for the patient, such as prolonged periods of weight-bearing or lifting restrictions. It is important to listen carefully to your orthopedic surgeon's instructions. Ask questions, and make sure you understand the treatment plan. An informed patient is a compliant patient!