



## CASE STUDY: SHOULDER BONE FOR HOAG HOSPITAL

**Using 3D printing to create a trial run at an upcoming operation for the doctors at Hoag Hospital.**

Even experienced surgeons sometimes wish they could have a trial run at an upcoming operation, and that's exactly what our 3D printing service offered doctors at Hoag Hospital in Newport Beach in 2014. What the doctors had was X-ray data of a hole in a patient's shoulder blade. The challenge was to complete a successful bone graft to repair the hole, an unusual problem in a hard-to-access location.

Before having to do the real thing, the hospital sent the X-ray data to Dinsmore & Associates. In just hours, experts in our engineering and design department were able to turn the X-ray file into an exact 3D model of the patient's shoulder blade, bringing to life what the surgical team would normally only be able to view on a computer screen. The SLA process was used to create the replica, which ensured incredibly high detail and a surface finish as close as possible to the actual bone.

Of course, practice makes perfect. After studying the model of the patient's shoulder blade, doctors were able to do a trial run of the complex surgery and be better prepared for the actual operation. When absolute precision, accuracy and safety is needed, the chance to examine the patient's bone before making a single cut was an incredible opportunity. And yes, the surgery was successful.

*"Dinsmore quickly and accurately printed a 3D model that allowed us to perform practice surgeries and ultimately provide our patient with the best possible outcome."*

**Scott Williams, MD,**  
Hoag Hospital

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