

EXOGEN Case Study Report

MIDSHAFT FEMORAL NONUNION, ELDERLY PATIENT

Physician: **Damien Billow, MD**, Assistant Professor of Surgery, Orthopaedic Surgery, Cleveland Clinic

Patient Information:

Age: 84 years old
Sex: Female
Weight: 169 lb (BMI 33.2 kg/m²)

Fracture:

Closed midshaft femoral nonunion above a revision cemented long-stem TKA

Outcome:

Healed fracture

Cause of Injury:

Fell from standing.

Comorbidities/Risk Factors:

- Age
- Pulmonary hypertension
- Osteoporosis
- Cemented long-stem revision TKA

Treatment Objectives:

- Achieve union
- Return to WB

Prior Treatments:

- ORIF
- Revision ORIF

Patient Motivation to Heal:

- Return home from nursing facility
- Return to WB

Treatment Plan:

- August 15, 2016: ORIF with lag screws, locking distal femur plate, and cables
- Post Op: NWB-November 11, 2016: advanced to WBAT. X-rays showed progression towards healing
- January 23, 2017: Surgery due to broken plate. Surgery included plate, cables, femoral allograft strut and allograft chips. EXOGEN prescribed as adjunct therapy
- Post Op: NWB
- March 22, 2017: Advanced to 50% partial WB after significant callus formation
- May 10, 2017: Advanced to full WB
- July 12, 2017: Union achieved



August 13, 2016
AP HIP



August 13, 2016
AP Knee



August 13, 2016
LAT Hip



August 13, 2016
LAT Knee



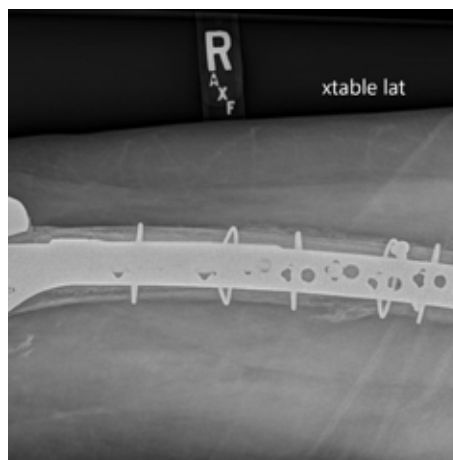
November 9, 2016
F/U Surgery 1 AP Hip



November 9, 2016
F/U Surgery 1 AP Knee



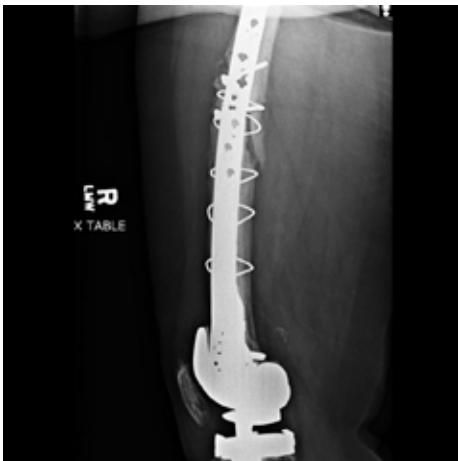
November 9, 2016
F/U Surgery 1 Lat Hip



November 9, 2016
F/U Surgery 1 Lat Knee



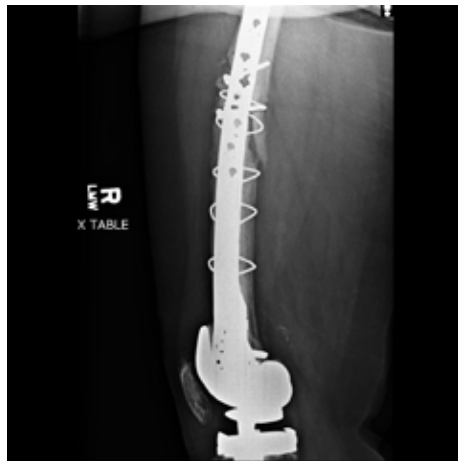
January 11, 2017
F/U Surgery 1 AP Knee



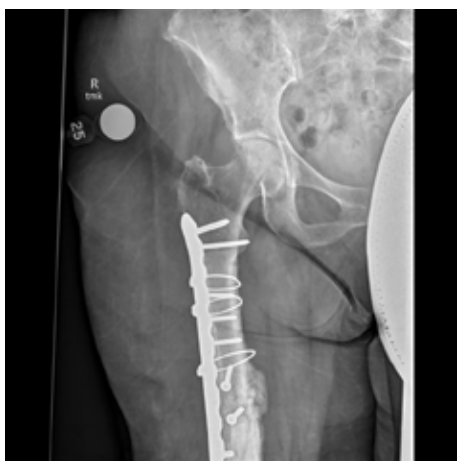
January 11, 2017
F/U Surgery 1 Lat Knee



January 18, 2017
Broken Plate AP Hip



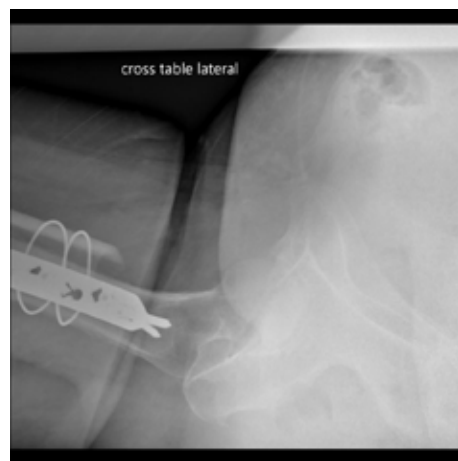
January 18, 2017
Broken Plate Lat Knee



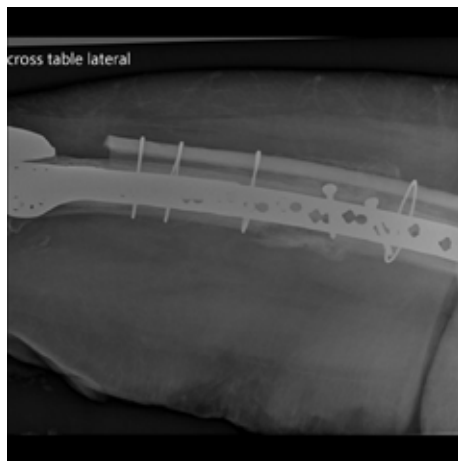
March 22, 2017 Post Revision Surgery,
~2 Months EXOGEN use, AP Hip



March 22, 2017 Post Revision Surgery,
~2 Months EXOGEN use, AP Knee



March 22, 2017 Post Revision Surgery,
~2 Months EXOGEN use, Lat Hip



March 22, 2017 Post Revision Surgery,
~2 Months EXOGEN use, Lat Knee

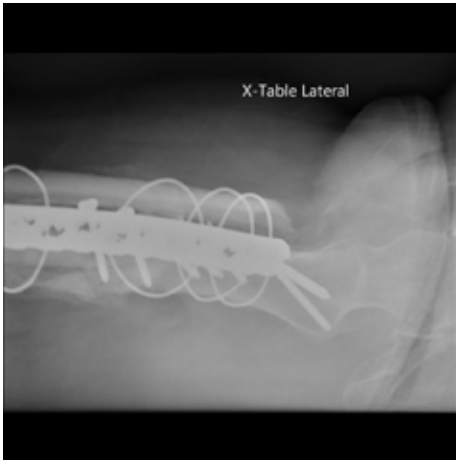


May 10, 2017 Post Revision Surgery,
~4 Months EXOGEN use, AP Hip

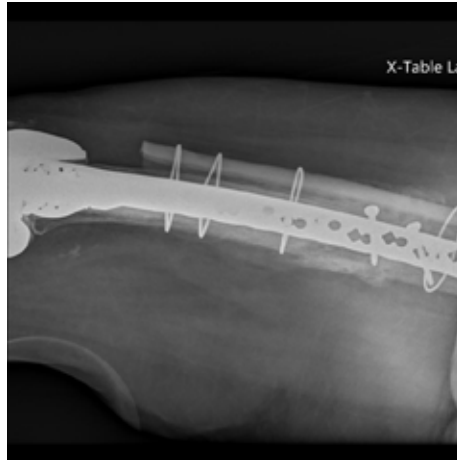


May 10, 2017 Post Revision Surgery,
~4 Months EXOGEN use, AP Knee

MIDSHAFT FEMORAL NONUNION, ELDERLY PATIENT



May 10, 2017 Post Revision Surgery, ~4 Months EXOGEN use, Lat Hip



May 10, 2017 Post Revision Surgery, ~4 Months EXOGEN use, Lat Knee



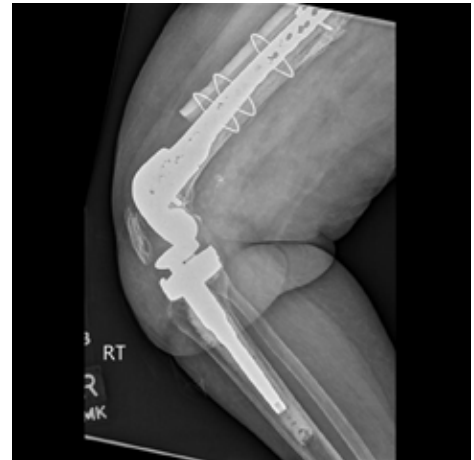
July 12, 2017 Post Revision Surgery, ~6 Months EXOGEN use, AP Hip



July 12, 2017 Post Revision Surgery, ~6 Months EXOGEN use, AP Knee



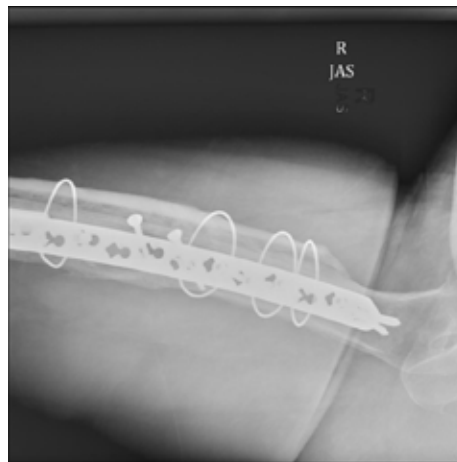
July 12, 2017 Post Revision Surgery, ~6 Months EXOGEN use, Lat Knee



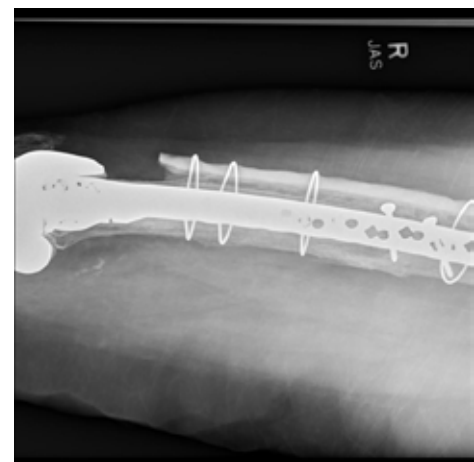
March 23, 2018 AP Hip



March 28, 2018 AP Knee



March 23, 2018 Lat Hip



March 28, 2018 Lat Knee

The EXOGEN Ultrasound Bone Healing System is indicated for the non-invasive treatment of established nonunions* excluding skull and vertebra. In addition, EXOGEN is indicated for accelerating the time to a healed fracture for fresh, closed, posteriorly displaced distal radius fractures and fresh, closed or Grade I open tibial diaphysis fractures in skeletally mature individuals when these fractures are orthopaedically managed by closed reduction and cast immobilization. There are no known contraindications for the EXOGEN device. Safety and effectiveness have not been established for individuals lacking skeletal maturity, pregnant or nursing women, patients with cardiac pacemakers, or on fractures due to bone cancer, or on patients with poor blood circulation or clotting problems. Some patients may be sensitive to the ultrasound gel. Full prescribing information can be found in product labeling, at www.exogen.com, or by calling customer service at 1-800-836-4080.

*A nonunion is considered to be established when the fracture site shows no visibly progressive signs of healing.