

## EXOGEN Case Study Report

**DISTAL TIBIAL PILON NONUNION****Physician:** Damien Billow, MD, Assistant Professor of Surgery, Orthopaedic Surgery, Cleveland Clinic**Patient Information:**

Age: 69 years old  
Sex: Male  
Weight: 167 lb

**Fracture:**

Closed 43-C1 distal tibial  
pilon nonunion

**Outcome:**

Achieved union in  
patient with comorbidity

**Cause of Injury:**

Fall from standing

**Comorbidities/Risk Factors:**

- Smoker
- Alcohol abuse
- Peripheral artery disease
- COPD

**Treatment Objectives:**

- Achieve union
- Avoid further surgery

**Prior Treatments:**

- Exfix
- ORIF

**Patient Motivation to Heal:**

- Avoid further surgery

**Treatment Plan:**

- March 4, 2017: Temporary spanning Exfix
- March 21, 2017: ORIF Post Op: NWB
- May 17, 2017: Admitted to ICU for prolonged period, due to issues not related to fracture
- July 19, 2017: Advanced to WBAT, EXOGEN use initiated
- September 20, 2017: Some callus formation
- December 20, 2017: Radiographic progression
- February 14, 2018: Achieved union



March 4, 2017 At injury: AP Ankle



March 4, 2017 At injury: Lat Ankle



May 17, 2017 Post Op Follow Up:  
AP Tibia



May 17, 2017 Post Op Follow Up (ICU Admission): Lat Ankle



July 19, 2017 Post Op Follow Up:  
AP Ankle (Initiate EXOGEN Use)



July 19, 2017 Post Op Follow Up:  
Lat Ankle (Initiate EXOGEN Use)



September 20, 2017 Post Op  
Follow Up: AP Tibia  
(~2 Months EXOGEN Use)



September 20, 2017 Post Op  
Follow Up: Lat Tibia  
(~2 Months EXOGEN Use)



December 20, 2017 Post Op  
Follow Up: Lat Ankle  
(~5 Months EXOGEN Use)



February 14, 2018 Post Op Follow Up:  
AP Ankle (~7 Months EXOGEN Use)



February 14, 2018 Post Op Follow Up:  
Lat Ankle (~7 Months EXOGEN Use)

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, 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](http://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.