# Frequently asked questions

## Will EXOGEN help heal my fracture?

Clinical studies show that EXOGEN heals breaks not healing on their own at a high heal rate of up to 86%[3] and speeds up healing of fresh fractures by 38%.[1,2]

## Is EXOGEN treatment painful?

Most patients don't feel anything at the treatment site, while some patients report experiencing a tingling sensation.

## How will I know if the EXOGEN unit is working?

Your device is working properly when you see the display screen counting down from 20 minutes during treatment. The treatment symbol will also cycle during treatment. Your physician will update you on your healing status at follow-up appointments.

## What if I don't place the EXOGEN transducer in the right spot?

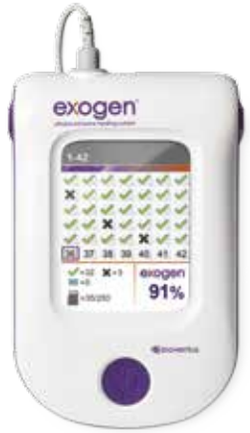
Best results are achieved when the EXOGEN transducer is placed at the location marked by your physician.

## Will having two or more treatments per day result in better or faster healing?

Clinical studies have evaluated the effectiveness of EXOGEN with one 20-minute treatment per day with demonstrated healing acceleration. Multiple or longer-duration daily treatments have not been studied.

## What if I miss a treatment?

Try to get back on schedule as soon as possible. To stay consistent with your treatments, check the treatment tracking calendar on your device. Identifying a consistent and convenient time to use EXOGEN each day helps minimize missed treatments.




**Summary of Indications for Use**

EXOGEN is indicated for the non-invasive treatment of osseous defects (excluding vertebra and skull) that includes the treatment of delayed unions, non-unions†, stress fractures and joint fusion. EXOGEN is also indicated for the acceleration of fresh fracture heal time, repair following osteotomy, repair in bone transport procedures and repair in distraction osteogenesis procedures.

† A non-union is considered to be established when the fracture site shows no visibly progressive signs of healing.

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, or at www.exogen.com.

**References**

**1.** Heckman JD, Ryaby JP, McCabe J, Frey JJ, Kilcoyne RF. Acceleration of tibial fracture-healing by non-invasive, low-intensity pulsed ultrasound. *J Bone Joint Surg.*1994;76-A(1):26−34. **2.** Kristiansen TK, Ryaby JP, McCabe J, Frey JJ, Roe LR. Accelerated healing of distal radial fractures with the use of specific, low-intensity ultrasound. A multicenter, prospective, randomized, double-blind, placebo-controlled study. *J Bone Joint Surg.* 1997;79-A(7):961−973. **3.** Nolte PA, van der Krans A, Patka P, Janssen IMC, Ryaby JP, Albers GHR. Low-intensity pulsed ultrasound in the treatment of nonunions. *J Trauma.* 2001;51(4):693−703. **4.** Azuma Y, Ito M,Harada Y, et al. Low-intensity pulsed ultrasound accelerates rat femoral fracture healing by acting on the various cellular reactions in the fracture callus. *J Bone Miner Res.* 2001;16(4):671–680. **5.** Data on file: RPT-000370 [A]. Based on US database. **6.** Einhorn TA. Enhancement of fracture-healing. *J Bone Joint Surg [Am].* 1995;77(6):940−956. **7.** Bishop JA, Palanca AA, Bellino MJ, Lowenberg DW. Assessment of compromised fracture healing.*J Am Acad Orthop Surg.* 2012 May;20(5):273-82. **8.** Scolaro JA, Schenker ML, Yannascoli S, Baldwin K, Mehta S, Ahn J. Cigarette smoking increases complications[following fracture: a systematic review. *J Bone Joint Surg [Am].* 2014 Apr 16;96(8):674-81. **9.** Hernandez RK, Do TP, Critchlow CW, Dent RE, Jick SS. Patient-related risk factors for fracture-healing complications in the United Kingdom General Practice Research Database. *Acta Orthop.* 2012.Dec;83(6):653-60. **10.** Foulk DA, Szabo RM. Diaphyseal humerus fractures: natural history and occurrence of nonunion. *Orthopedics.* 1995 Apr;18(4):333-5. **11.** Gaston MS, Simpson AH. Inhibition of fracture healing. *J Bone Joint Surg [Br].* 2007 Dec;89(12):1553-60. **12.** Giannoudis PV, MacDonald DA, Matthews SJ, Smith RM, Furlong AJ, De Boer P. Nonunion of the femoral diaphysis. The influence of reaming and non-steroidal anti-inflammatory drugs. *J Bone Joint Surg [Br].* 2000 Jul;82(5):655-8. **13.** Lerner A, Stein H, Soudry M. Compound high-energy limb fractures with delayed union: our experience with adjuvant ultrasound stimulation (EXOGEN). *Ultrasonics.* 2004;42(1):915−917. **14.** Harwood PJ, Newman JB, Michael ALR, Mini-symposium: Basic science of trauma. An update on fracture healing and non-union. *J Orthop Trauma.* 2010 24:1.

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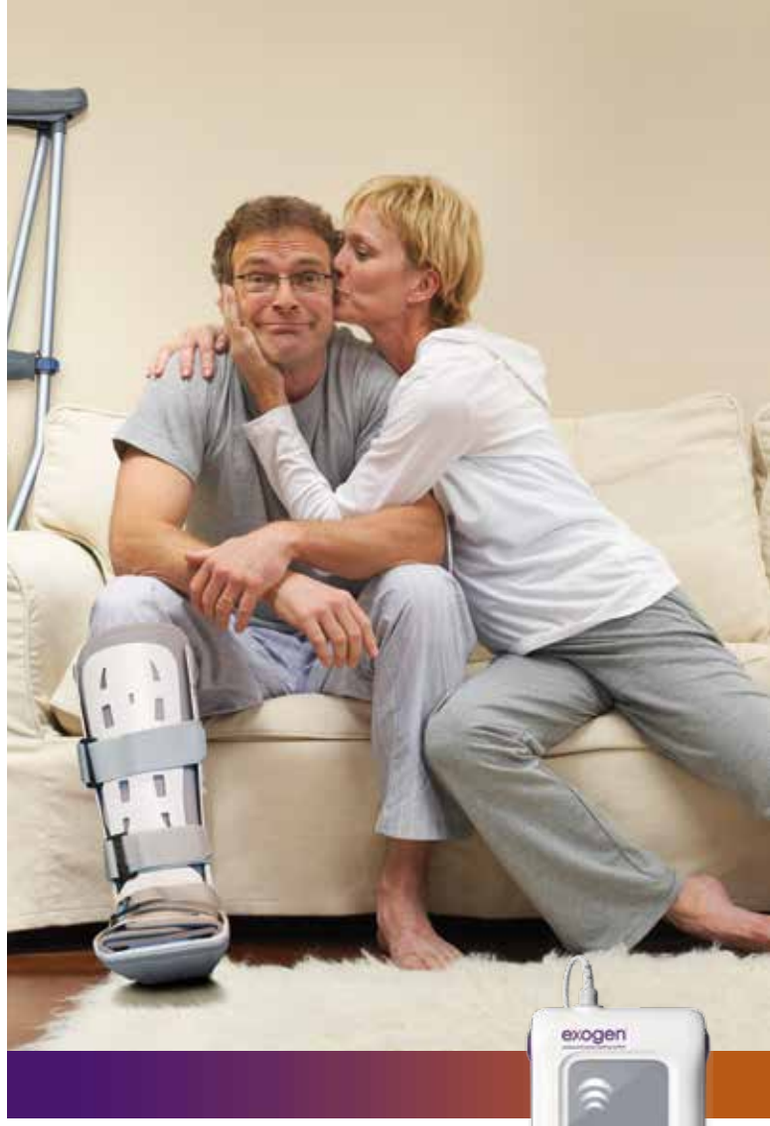



Helping promote faster bone healing in just

**20 minutes a day**

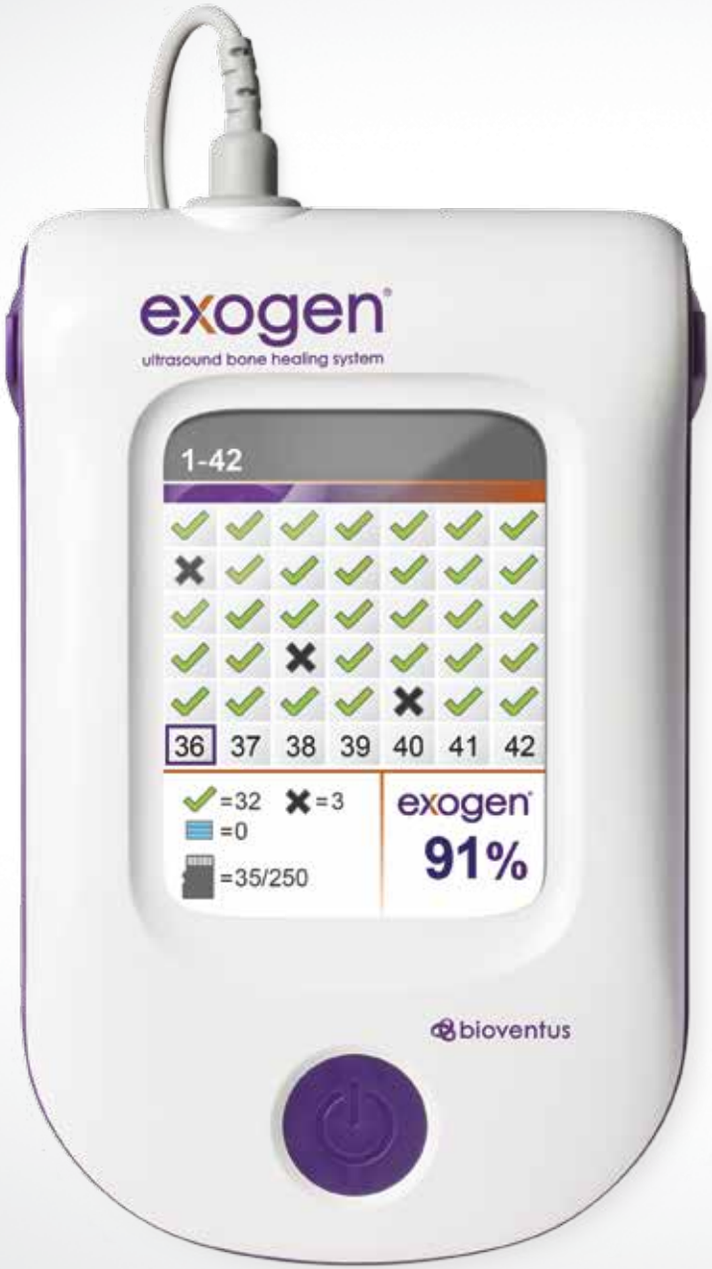
Ask your doctor about

**exogen®**

ultrasound bone healing system

bioventus

exogen®
ultrasound bone healing system




Actual size

# 38%
faster healing of fresh fractures[1,2]

# 86%
heal rate for fractures not healing on their own[3]

# 20
minute treatment that fits easily into your day

A unique fracture healing device that uses safe, effective low-intensity pulsed ultrasound to help stimulate the body's natural healing process.[4]

- #1 prescribed bone healing system[5]
- Customer support
- Built-in treatment tracking calendar
- Automated treatment reminders*

* EXOGEN CONNECTS App sends daily automated treatment reminders and healing information. Available in participating markets only.

## As many as 10% of fractures may be at risk of not healing[6]

### Some factors may affect your healing

- Fracture location[7]
- Smoking[8]
- Diabetes[9]
- Advanced age[7]
- Obesity[10]
- Steroids[11]
- Certain medications[12]
- Vascular insufficiency[13,14]
- Nutritional deficiency[11]

**The location of your fracture may affect bone healing[7]**