This paper evaluates the efficacy of pulsed, low-intensity ultrasound for the treatment of established nonunions.

**Introduction:**
This self-paired study was conducted to assess the efficacy of pulsed, low-intensity ultrasound for the treatment of established nonunions in Germany and Austria. The control was the patient’s prior failed treatment history.

**Methods:**
Eighty-five nonunion cases between 7/95 and 4/97 had a minimum of eight months from fracture, a visible fracture line and no healing progress on radiographs. Five cases were excluded because of noncompliance or withdrawal/deceased. Utilizing low-intensity ultrasound for treatment, the healed rate in the remaining 80 cases was 88%. To prevent biasing the ultrasound results from the effect of surgery near ultrasound thirteen of these healed cases were removed from the primary analysis group because of surgical procedure within the four months prior ultrasound. Ultrasound performed at home 20 minutes was the only new treatment until the prescribing physician discontinued treatment. A nonunion was healed when it was both clinically and radiographically healed. The remaining sixty-seven cases comprised the primary group for all statistical analyses. Their mean fracture age was 39 months.

**Results:**
Fifty-seven of these sixty-seven (85%) were healed, based on independent assessments by the authors, which was highly significant versus 0% prior control healed rate. The heal time was $5.5 \pm 0.3$ months. Cases were stratified by bone, nonunion condition, patient age, gender, smoking status, fracture age and last surgical procedure interval with no significant differences for percent healed except for fracture age and last surgical procedure interval strata.

**Conclusion:**
Pulsed, low-intensity ultrasound was effective in healing established nonunions without any other treatment.

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