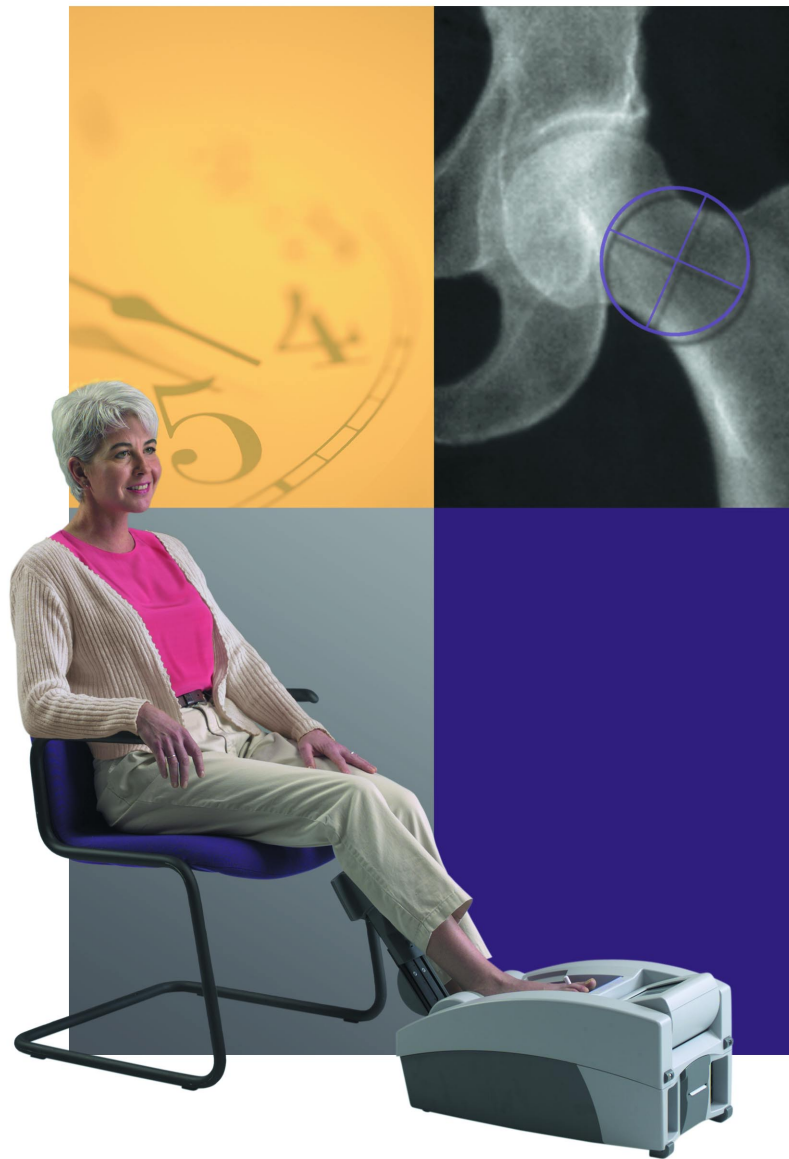


# ACHILLES EXPRESS

Bone Ultrasonometer

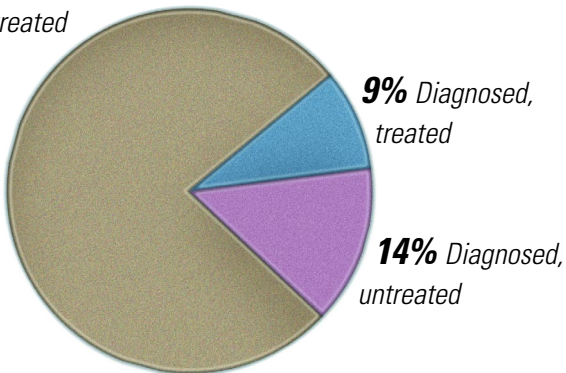


**GE Medical Systems**  
**LUNAR**

[gemedicalsystems.com](http://gemedicalsystems.com)

# Fracture risk assessment

**77%** Undiagnosed, untreated



*The need for osteoporosis testing is rapidly growing – more than 70% of postmenopausal women are undiagnosed and untreated.<sup>1</sup>*

Studies of fracture risk prediction show that ultrasonometry of the heel using Achilles is an economical alternative to DEXA. Achilles Express is a compact, cost-effective solution to evaluate the risk of osteoporotic fracture in your patients – *in your office.*



*Achilles has a diagnostic sensitivity comparable to DEXA of the spine and hip.<sup>2</sup>*



Achilles Express reports are concise and easy to interpret. The patient's result is expressed as a T-score and compared to the reference population on the color-coded graph. Achilles T-scores are valid based on the World Health Organization (WHO) definition of osteoporosis simplifying result interpretation and patient management.

<b>Achilles EXPRESS</b>		Date: _____
		Time: _____
		Physician: _____
		Operator: _____
		System #: _____

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**Achilles EXPRESS Ultrasonometer Results**

Patient Name: _____	Age: _____	<table border="1"> <thead> <tr> <th colspan="2">Results Achilles EXPRESS GE Lunar Corporation (attach here - optional fill-in)</th> </tr> </thead> <tbody> <tr><td>ID: .....</td></tr> <tr><td>Date: .....</td></tr> <tr><td>Time: .....</td></tr> <tr><td>STIFFNESS Index: .....</td></tr> <tr><td>Age: .....</td></tr> <tr><td>Sex: .....</td></tr> <tr><td>Foot: .....</td></tr> <tr><td>Reference: .....</td></tr> <tr><td>% Young Adult: .....</td></tr> <tr><td>T-SCORE: .....</td></tr> <tr><td>% Age-Matched: .....</td></tr> <tr><td>Z-SCORE: .....</td></tr> </tbody> </table>	Results Achilles EXPRESS GE Lunar Corporation (attach here - optional fill-in)		ID: .....	Date: .....	Time: .....	STIFFNESS Index: .....	Age: .....	Sex: .....	Foot: .....	Reference: .....	% Young Adult: .....	T-SCORE: .....	% Age-Matched: .....	Z-SCORE: .....
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Patient ID: _____	Height: _____															
Birth Date: _____	Weight: _____															
Weight: _____	Ethnicity: _____															
Age at menopause: _____																

USA Female (Caucasian)

100  
90  
80  
70  
60  
50  
40  
30

AGE (years)

Comments: \_\_\_\_\_

Follow-up:  12  24 Other: \_\_\_\_\_

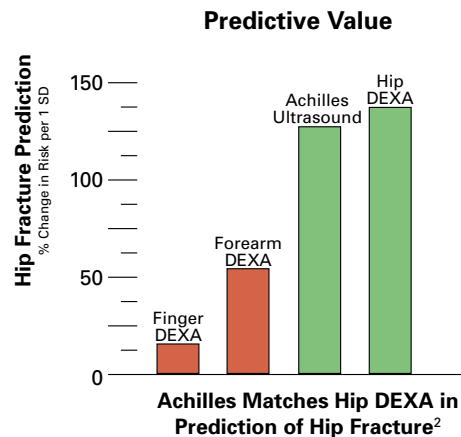
1. See Achilles Express Operator's Manual. Approximately 95% of repeat users will fail within 1 SD.  
2. USA reference population, Age 20 - 29.  
3. Matched to age. See Achilles Express Operator's Manual.  
4. Relative osteoporosis fracture risk for 1 SD change in age-adjusted mean stiffness index. 1 - 2. See Achilles Express Operator's Manual.

# ment in your office.



*The compact, fully integrated design of the Achilles Express provides proven clinical performance.*

Two large, prospective studies<sup>2,3</sup> proved Achilles predicts fracture in both early and older postmenopausal women (age 45-65+). More than 4,000 Achilles are in use, world-wide.



*Achilles Express is fully automated with a self-contained printer and computer.*

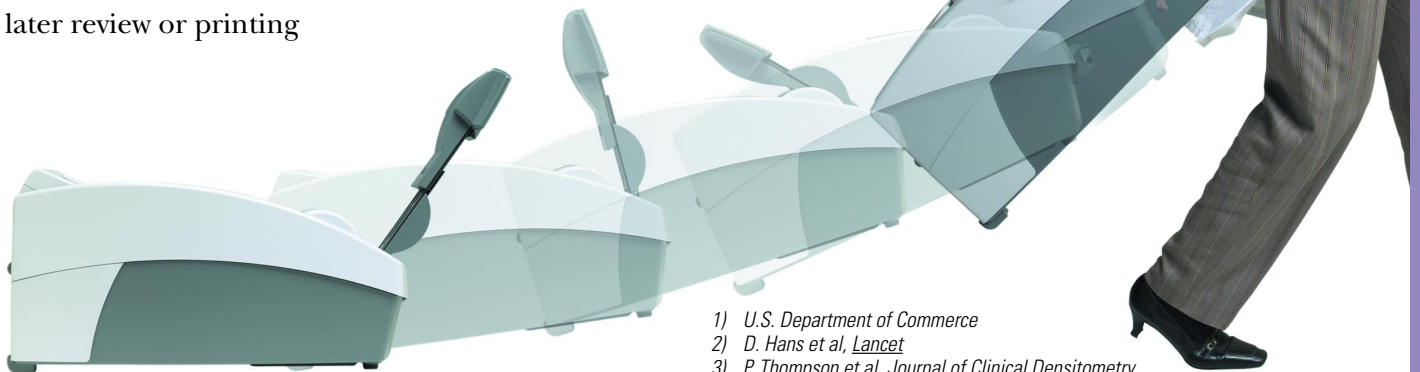
**Easily carried between offices :**

- Weighs only 22 pounds
- Fits in the front seat or trunk of a car

**Compact design:** Occupies less than 2 square feet of office space

**LCD "touch" screen:** Tilts easily for optimum viewing from front or rear

**Built-in convenience:** Internal microcomputer with memory for 100 measurements which can be recalled for later review or printing



1) U.S. Department of Commerce  
2) D. Hans et al, *Lancet*  
3) P. Thompson et al, *Journal of Clinical Densitometry*



# Specifications

## Precision in vivo

2.0% CV in osteoporotic patients

## Patient Throughput

1-minute measurement

## Signal Analysis

Real-time, Fourier transform analysis with bi-directional measurement and convergence algorithms

## Ultrasonometry Transducers

Fluid-coupled, through-transmission (95 mm distance)

Quarter wave-matched, broadband single element  
(25 mm diameter)

Center frequency 500 KHz

## Results

STIFFNESS Index with WHO graph

T-score and % Young Adult

Z-score and % Age-Matched

## Display

LCD "touch" screen with graphical display

5.7 inch (14.5 cm)

Tilts for optimal viewing

## Printer

Integrated microline thermal printer with graphical print-out  
(External printer and external PC are optional)

## Fluid Coupling System

Fully automated and self-contained

Heated to 33° C (92° F)

Replaceable silicone membranes

Water-soluble ultrasonic gel

## Electrical Requirements

95-240 volts, 50/60 Hz @ 450 VA

## Physical Factors

Integrated transportable design

Dimensions (WxHxD): 25x31x61cm (10x12x24 in)

Operating range temperature: 15°-35° C (59°-95° F)

Humidity: 25-80%

Weight: 10kg (22 lbs)

**Indications for use:** The Achilles Express ultrasonometer measures ultrasound variables of the os calcis to provide a clinical measure called the STIFFNESS INDEX. The STIFFNESS INDEX indicates risk of osteoporotic fracture in postmenopausal women comparable to bone mineral density (BMD) as measured by x-ray absorptiometry at the spine or hip. STIFFNESS INDEX results expressed as T-scores are used to assist physicians in the diagnosis of osteoporosis in the same way as are T-scores obtained by x-ray absorptiometry. Either the STIFFNESS INDEX T-score or x-ray absorptiometry T-score can be utilized by a physician, in conjunction with other clinical risk factors, to provide a comprehensive skeletal assessment. The STIFFNESS INDEX has a precision error in older women comparable to that of x-ray absorptiometry which makes it suitable for monitoring bone changes.

Achilles, Achilles+, Achilles Express, are trademarks of GE Lunar Corporation.



**GE Medical Systems**  
*We bring good things to life.*

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Internet – [gemedicalsystems.com](http://gemedicalsystems.com)  
GE Lunar Corporation  
726 Heartland Trail  
Madison, WI 53717  
888-795-8627  
Fax: 608-826-7102