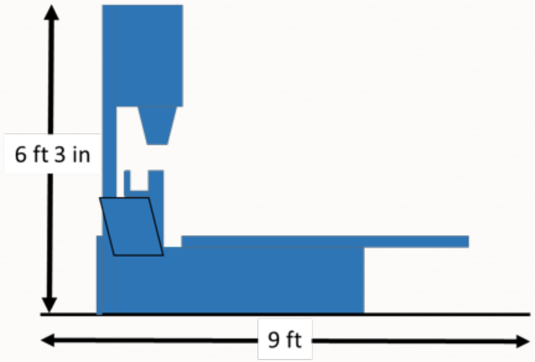


The Model SI-1 CBMT system occupies a footprint less than 24 sf. Powered from existing wall outlets, the complete and self-contained system can be operated from both sides to test both arms in floor space only 6' x 9'.

PRODUCT SPECIFICATIONS

Patient Limits
- Weight: 400 lbs
- Height* (min-max): 4'9"-6'6"

Accuracy (SEE)
- Ulna EI: 3.1 Nm^2
- Ulna M_{peak}: 5.9Nm

Forces
- Static: < 23N
- Oscillating: 1 N

System Certifications:
- Safety: IEC 61010-1
- EMC: FCC CFR 47 Part 15, sub B
- RoHS: Compliant

Medical Grade Computer: Intel® Core i7-6700/TE/ 2.4 GHz w/ Intel® Q170 Chipset (64GB SSD hard drive, 16 GB DDR4 RAM); Windows™ 10 Pro, 64 bit, COA

Medical Grade Monitor: 19" Active Matrix TFT LCD touchscreen monitors

Calibration: Automatic

Environmental Requirements: 40-100^0 F; 20-80%, non-condensing humidity; 100-240VAC, 3-1A, 50-60 Hz power; 150 W average heat load

*Systems for testing shorter or taller subjects are available by special order.

UNMATCHED ACCURACY IN QMT-VALIDATED MEASUREMENTS OF BENDING STIFFNESS AND ESTIMATES OF BENDING STRENGTH

CBMT Validation by Quasistatic Mechanical Testing (QMT) data from 35 cadaveric arms from men and women ranging widely in age (17-99 yrs) and body mass index (14-40 kg/m2) indicates that CBMT measurement of ulna flexural rigidity (EI) accurately predicts (R^2=0.99) ulna bending strength (M_{peak}) measured by QMT (1). Similar findings have been reported using artificial bones (2).

FREQUENTLY ASKED QUESTIONS

Why measure cortical bone? *After age 60, most bone loss is cortical, and most fractures occur at cortical sites in the appendicular skeleton. These fractures are not well explained by BMD.*

Why measure cortical bone at the mid-shaft of the ulna? *To get unambiguous information about cortical bone, you must measure bone that is unambiguously cortical. Bone tissue at the mid-shaft of long bones is entirely cortical. Any apparently trabecular bone there is actually "trabecularized" cortical bone. Bending tests are specifically sensitive to mechanical properties at the mid-shaft of a long bone. The biomechanics of the ulna are the most ideally suited for a bending test.*

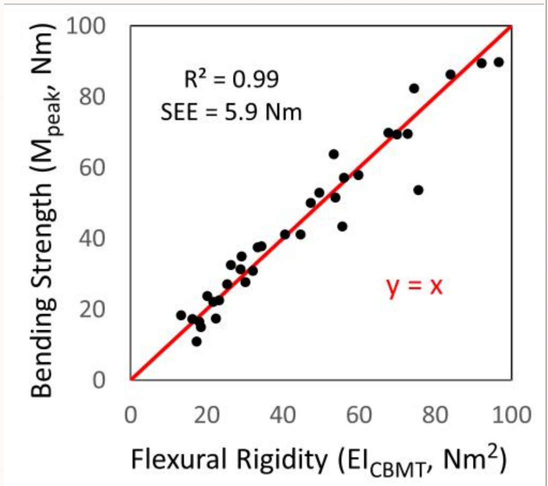
Why do a structural test? *A structural test measures the mechanical properties of a whole bone. By contrast, material tests measure the properties of the material of which the bone is comprised. When a bone fractures, it fractures as a whole structure (i.e., as a material of particular dimensions and geometry), not as a material.*

Why do a functional test? *A functional test measures how a bone actually behaves in response to applied force. Estimates of mechanical behavior based on a static patient-specific bone image rely upon generic assumptions about material properties of bone.*

Why do a dynamic test? *Most fractures occur under dynamic conditions of rapidly changing force, as in a fall. A dynamic test applies rapidly changing force to measure a bone's mass and damping as well as its stiffness. Under dynamic conditions, bone mass and damping protect a bone from fracture by absorbing and dissipating energy. Moreover, a dynamic test can be performed non-invasively in vivo.*

How does a CBMT test feel? *A CBMT test applies two forces to the forearm, a static force and an oscillating force. The static force is like the force on your fingertip when you press an elevator button. The oscillating force is like the force in your hand as you hold an electric toothbrush or electric razor.*

Why the name "AEIOU Scientific"? *The Company's name begins with A, because Anne Loucks, PhD started the development of CBMT. EI is at the center of the Company's name, because measurement of flexural rigidity (the product of the elastic modulus E and the cross-sectional moment of inertia I) is at the center of what CBMT instruments measure. The Company's name ends with OU, because Ohio University is where CBMT was developed.*



CBMT measurement of ulna flexural rigidity (EI) accurately predicts ulna bending strength (Mpeak) measured by QMT.

REFERENCES

1. Bowman et al. A new noninvasive mechanical bending test accurately predicts ulna bending strength in cadaveric human arms. In Review at *Bone* (Revisions Requested).
2. Arnold et al. Accuracy and reproducibility of bending stiffness measurements by mechanical response tissue analysis in artificial human ulnas. *J. Biomechanics*. 47: 3580-3583, 2014.
3. Loucks et al. Response to "Clinical Evaluation of Bone Strength and Fracture Risk". *Curr Osteoporos Rep*. 15: 396-397, 2017.