Groundbreaking Bone Scanning Technology Delivered by Echolight EchoS REMS

Echolight EchoS is the common name for an innovative bone health monitoring technology called **REMS (Radiofrequency Echographic Multi Spectrometry)** that has quietly been gaining acceptance across Europe and is revolutionizing the way bone health specialists assess and monitor not only bone density, but also bone quality and bone strength.

How does Echolight EchoS work? And how can it improve bone health?

The EchoS unit uses the REMS technique to assess conditions of low bone density, like osteoporosis. It's the newest way Osteostrong of Chicagoland is helping members at risk for fracture due to weak bones, proactively monitor their bone health and implement the appropriate program to keep their bones healthy.

Echolight's REMS technology examines the condition and health of a person's bones without the ionizing radiation (X-rays) used to measure bone density with the typical Dual-Energy X-Ray Absorptiometry (DEXA) technology.

Plus, the precision, automation, and analysis capabilities of the REMS technology is unmatched.

What does Echolight EchoS track?

With a quick and simple ultrasound, the Echolight technology allows an examiner to identify and scan a patient's **lumbar vertebrae** (spine) and **femoral neck** (hip) bones for density and quality of bone microarchitecture. Within several minutes, the device automatically compares the patient's examination with reference data from over 100,000 other patients in the database.

The technology measures the most common bone health factor — **bone mineral density (BMD)** — and generates a **T-score** and a **Z-score** that are commonly used to diagnose osteoporosis. Unlike previous technology, the EchoS also calculates a measure of bone quality —the **Fragility Score**.

But what exactly do these data points tell you about your bone health?
- **Bone mineral density (BMD)** — This is an actual measurement of the density of the bone (measured in gr/cm2). The BMD is used to determine the T-Score and the Z-Score. A correct osteoporosis diagnosis is entirely dependent on accurate BMD data.
- **T-score** — This is a numeric value derived through statistical calculations that directly compares an individual's BMD to the mean BMD value of a very large database of healthy 30-

year-old. A T-score value with a standard deviation of -2.5 from the mean value establishes a diagnosis of osteoporosis.
- **Z-score** — This is a numeric value derived in a similar manner as the T-Score, but instead, it compares your BMD to the BMD of people your own age and gender.
- **Fragility score** — This is a numeric value derived through statistical calculations using data obtained during the EchoS scan. After the data is compared to a database of people with and without fractures, the calculated value reflects the quality of your bone and how likely you are to sustain a fragility fracture.

Benefits of REMS Technology

If you are at risk for osteoporosis, an Echolight EchoS examination is an essential first step for you to keep your bones strong and healthy.

Here are 9 things Echolight can do for you:
1. Assess your bone health without harmful ionizing radiation.
2. Produce an automated report within several minutes.
3. Determine precise and correct bone health data.
4. Analyze brand-new bone health information — the Fragility Score.
5. Help clinicians give you more accurate fracture risk assessments.
6. Allow for early detection and diagnosis of low bone density and osteoporosis.
7. Allow you to take a more proactive approach to bone health.
8. Predict fragility fractures for women and patients with type 2 diabetes or other risk factors.
9. Help in pre-operative bone assessment prior to joint replacement or spine fusion surgery.

DEXA VS. REMS

Unlike the commonly used DEXA technology, Echolight EchoS doesn't use ionizing radiation (X-rays) to analyze bone density.

Another well-recognized problem with DEXA assessments is a high error rate in how the DEXA scan is completed and/or interpreted.

A well-done DEXA is still considered the gold-standard for BMD measurements, but an improperly done DEXA can produce incorrect BMD results that are imprecise and unreliable. This unreliability can result in recommendations for treatments that are not appropriate.

Because REMS analyzes raw unfiltered ultrasound signals, it recognizes even the smallest bone tissue details, deriving the **most precise BMD measurements and bone quality measurements**. And, **in several minutes**, the Echolight EchoS produces all the results needed to properly analyze bone health and diagnose osteoporosis for your medical provider.