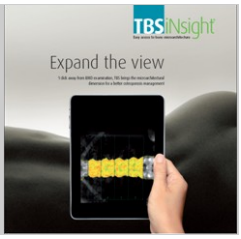
NEWSLETTER AUTUMN ED. NOVEMBER 2013

TBS iNsight
Easy access to bone microarchitecture

TBS EXPERT ARTICLE



The use of TBS in my Clinical Practice

By Christine Simonelli, MD
Board Certified in internal medicine and Clinical Densitometrist
HealthEast Osteoporosis Care

Medimaps Group: From your activity within HealtEast Clinics, the ISCD and Own the Bone, you have a great experience in Osteoporosis Management. Would you share with us your feedback on TBS and what it brings to clinicians for Osteoporosis Management?

Christine: I am very happy you ask the question, because I have been using TBS for a year now and I think it is a great tool! In my practice TBS is very useful during the whole patient management process, helping in decision making for diagnosis, treatment and patients' follow-up care.

I analyze the TBS of all eligible patients. It enables me to complete the diagnosis by adding an estimation of bone microarchitecture to the tool we are already using - the estimation of density (BMD) and estimation of future fracture (FRAX) for our low bone density patients.

When the diagnosis of a patients' bone status is clear, TBS is reassuring. When you have cases where the decision to treat or not is equivocal, which we often do, TBS clearly brings added value information to identify patients at risk. It helps a lot in cases where the bone density measurement with DXA may not be telling the whole story, such as in patients with Diabetes or those using glucocorticoids. The Trabecular Bone Score adds to the assessment of bone strength in these patients.

M.G.: This is very interesting. What about treatment and patients follow-up?

Christine: TBS helps to identify patients with degraded bone structure who are therefore more likely to break a bone. Knowing the TBS of my patient helps me to decide to initiate treatment and then to select the most appropriate treatment. The effects on bone structure differ from one treatment to another (Ex: bisphosphonates vs. Denosumab), so knowing the TBS helps in my selection of drug therapy.

Compliance and adherence with the selected treatment is also critical and needs to be monitored closely. The TBS is useful in following the patient's progress over time, and it is a tool that allows me to verify the impact of the selected treatment on a patient's bone structure. It allows me to adapt treatment according to the evolution of my patient's TBS.

A TBS follow-up examination after 2 years of treatment helps me to reevaluate my treatment choice. For example, it is an added tool in deciding on a drug holiday in selected patients if the TBS has increased, or to continue with my treatment if a positive effect is observed in a high risk patient; or it can direct me to a change in therapy if no positive effect on bone structure is noted.

M.G.: You have been working with TBS and presented several studies already. Would you like to tell us what you have been focusing on and what were your findings?

Christine: We have been working on the American Caucasian-Women reference curve, and have in a second study compared the values of this curve to the ones of the existing European curve [this was part of the ASBMR 2013 scientific program]. From our database, we have analyzed TBS values to subcategorize patients and define TBS thresholds for patient's management. Using this curve makes it very easy to interpret TBS in daily practice, since we now can compare our patients to the "normal" population.

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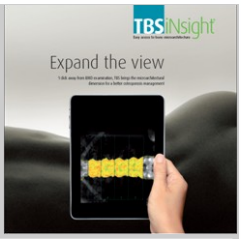

The use of TBS in my Clinical Practice, by Christine Simonelli (2/3)

M.G.: Was it easy for you to integrate TBS iNsight® into your center, and is it easy to use?

Christine: Yes it is a very easy-to-use software program, and most importantly, it is very easy to interpret and incorporate into a clinically useful DXA report. At HealthEast, the TBS analysis is done on every scan being done on a post-menopausal woman and reports are provided to the ordering physician and to the patient.

M.G.: Thank you Christine. We understand that TBS is very useful for patient management. Would you say it is a useful innovation in the bone densitometry field?

Christine: TBS compliments the existing equipment that we are currently using. Bone densitometry technology is continuing to advance but DXA gives estimation of calculated volumetric bone density by giving us an areal measure.

With TBS on our DXA equipment we can now benefit from an estimation of the bone microarchitecture at the same time that we perform bone density testing with DXA. So yes, I would say it is a great innovation in the field of bone assessment.

M.G.: TBS "examination" just takes a few seconds, but is not reimbursed yet. Would you still recommend using it? Do you think it should be reimbursed in the near future?

Christine: TBS gives us significant added-value information and it is time to start asking for reimbursement.
I don't believe our patients should pay any additional fee to benefit from advanced technologies for their examination. So reimbursement for TBS as an important tool giving us important information to use in the evaluation and management of the patient would indeed be appropriate.

M.G.: You may want to share some clinical cases you encountered that illustrate TBS added-value for the diagnosis, understanding and management of your patients' disease, or treatment selection and follow-up?

Christine: Yes, sure

Check the selected clinical case of Christine on the next page.

M.G.: Of course, if there is any comment you would like to add, please feel free.

Christine: Using the TBS software and showing TBS reports to my patients is an important tool to help our patients understand the need to accept a treatment. Compliance with Osteoporosis therapy is a big problem and as a silent disease until a fracture occurs, we need clear evidence to help our patients to understand the need for pharmaceutical therapy when they are feeling well. Demonstrating the TBS report is an important tool to help our patients understand this need by understanding their disease better.

I also believe that it is a priority for centers of excellence providing osteoporosis care to utilize the highest quality diagnostic tools to help care for our patients, including the trabecular bone score. That is why we are using highest standard and up-to-date technologies.

TBS has been a worthwhile investment for our medical center and osteoporosis service.

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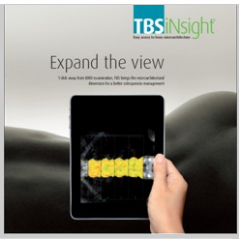


TBS Clinical Case by Christine Simonelli (3/3)

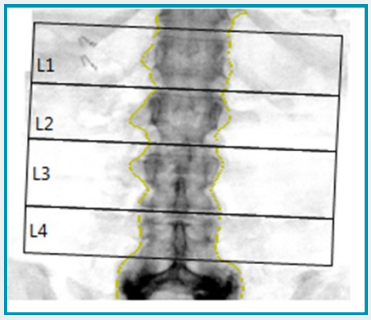
This is a 62 year old woman who was referred for bone density testing and evaluation because of multiple stress fractures of the metatarsals and fibula. The participant had a history of hysterectomy with bilateral oophorectomy and was on estrogen supplementation as her only prescription medication. She had just been started on calcium and vitamin D by her primary physician.

DXA results showed normal BMD T-score values at the spine and lowest value at the femur was right femoral neck T-score -1.1. These stress fracture sites are not considered usual 'Osteoporotic' fracture sites, so FRAX may be used as a guideline for treatment. Her FRAX 10 year probably of fracture was low with major osteoporotic risk of 12.6 % and hip fracture risk of 0.8 %, and this is including 'Previous Fracture'.

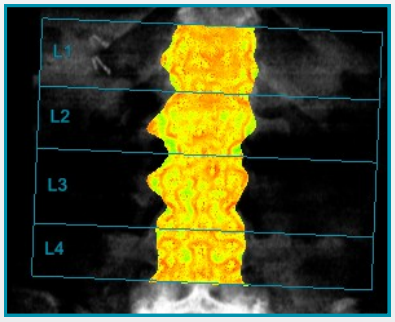
Her Trabecular Bone Score Value, however, was very low at 1.137. In view of the low Trabecular Bone Score we felt that Future Fracture risk was significantly higher than reflected by BMD Values alone and FRAX calculation, and the patient was started on active therapy with a plan to follow DXA and TBS.

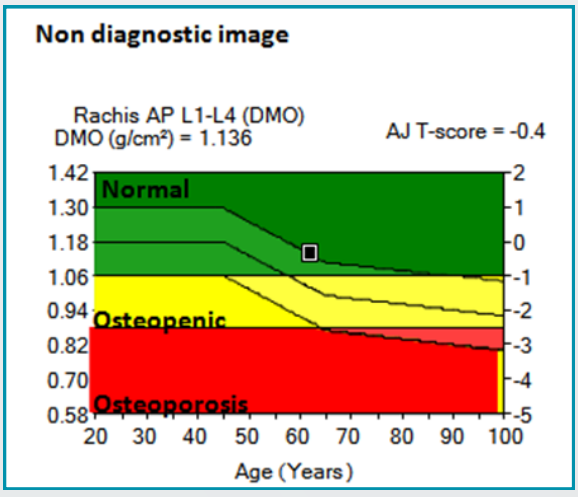
TBS Spine Report

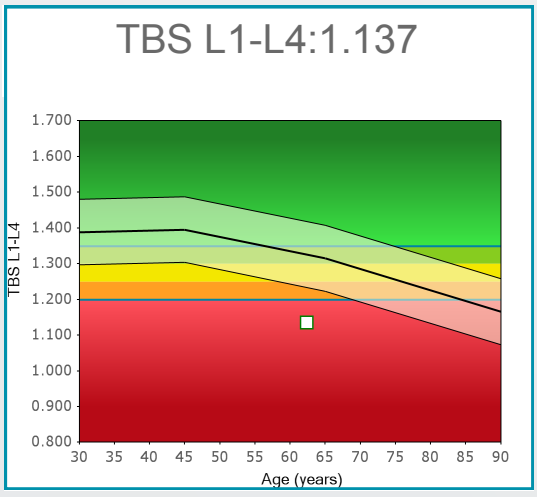
Normal Spine BMD T-Score Patient



Degraded Microarchitecture by TBS







All our team cheerfully thanks Christine Simonelli for her valuable contribution in our 2013 Autumn Edition

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