









and, therefore, provides a better service to patients. Training is necessary because a reorientation of perspective is required. For individuals with experience in examining vertebral fracture, training of a few hours, with several examples, may be sufficient to allow the application of the ABQ method.

#### References

1. Jensen GF, McNair P, Boesen J, Hegedus V. Validity in diagnosing osteoporosis. Observer variation in interpreting spinal radiographs. *Eur J Radiol* 1984; **4**: 1-3.
2. Eastell R, Cedel SL, Wahner HW, Riggs BL, Melton LJ 3rd. Classification of vertebral fractures. *J Bone Miner Res* 1991; **6**: 207-215.
3. Genant HK, Wu CY, van Kuijk C, Nevitt MC. Vertebral fracture assessment using a semiquantitative technique. *J Bone Miner Res* 1993; **8**: 1137-1148.
4. Jiang G, Eastell R, Barrington NA, Ferrar L. Comparison of methods for the visual identification of prevalent vertebral fracture in osteoporosis. *Osteoporos Int* 2004; **15**: 887-896.
5. Ferrar L, Jiang G, Adams J, Eastell R. Identification of vertebral fractures: an update. *Osteoporos Int* 2005; **16**: 717-728.
6. Genant HK, Jergas M, Palermo L *et al*. Comparison of semiquantitative visual and quantitative morphometric assessment of prevalent and incident vertebral fractures in osteoporosis The Study of Osteoporotic Fractures Research Group. *J Bone Miner Res* 1996; **11**: 984-996.
7. Jiang G, Barrett-Connor E, Schneider DL, Eastell R, Ferrar L. Incident Vertebral Fracture is Predicted by Prevalent Vertebral Fractures Identified by the Algorithm-Based Qualitative Method, but Not by Non-Osteoporotic Short Vertebral Height. The Rancho-Bernardo study. 36th Annual Meeting of the American Society for Bone and Mineral Research. Montréal, Canada, 2008 (Presentation 1128).
8. Ferrar L, Jiang G, Armbrrecht G *et al*. Is short vertebral height always an osteoporotic fracture? The Osteoporosis and Ultrasound Study (OPUS). *Bone* 2007; **41**: 5-12.
9. Jiang G. Diagnosis of vertebral fracture in the OPAC study - Are fractures really underdiagnosed in osteoporosis research? *Bone* 2010; **47**: S57.
10. Jiang G, Luo J, Pollintine P *et al*. Vertebral fractures in the elderly may not always be "osteoporotic". *Bone* 2010; **47**: 111-116.
11. Black DM, Palermo L, Nevitt MC *et al*. Comparison of methods for defining prevalent vertebral deformities: the Study of Osteoporotic Fractures. *J Bone Miner Res* 1996; **11**: 900-902.
12. Ferrar L, Jiang G, Chouinard JT, DeBold CR, Eastell R. Algorithm-based qualitative and semiquantitative identification of prevalent vertebral fracture: agreement between different readers, imaging modalities, and diagnostic approaches. *J Bone Miner Res* 2008; **23**: 417-424.
13. Ferrar L, Jiang G, Davies JA, Peel N, Eastell R. Comparison of densitometric and radiographic vertebral fracture assessment using the algorithm-based qualitative (ABQ) method in postmenopausal women at low and high risk of fracture. *J Bone Miner Res* 2008; **23**: 103-111.
14. Finigan J, Greenfield DM, Blumsohn A *et al*. Risk factors for vertebral and nonvertebral fracture over 10 years: a population-based study in women. *J Bone Miner Res* 2008; **23**: 75-85.
15. Schmorl G, Junghans H. Pathologic changes involving the osseous structure and the true articulations of the spine. In: Besemann EF (ed). *The human spine in health and disease*, 2nd edn. New York: Grune & Stratton, 1971.

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## Key points

- The algorithm-based qualitative (ABQ) method diagnoses vertebral fracture based on endplate depression alone, regardless of vertebral height reduction.
- The ABQ method may be more closely aligned with clinical fracture and has a high predictive power for future fracture.
- The ABQ perspective is useful when examining routine clinical images.