

NEUROLOGICAL SIGN

Beevor's sign

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Charles Edward Beevor (1854–1908) was a distinguished British neurologist and one time President of the Neurological Society of the United Kingdom (Tashiro 2001). Image courtesy of Institute of Neurology UCL.

SOME ANATOMY

The rectus abdominis muscle is one of the anterior abdominal wall muscles, which together act to keep the viscera in place. Contraction aids expiration as well as evacuation of the rectum, bladder and uterus. It is a sheet-like muscle that is supplied by the ventral rami of the lower six or seven thoracic nerves. Normally the muscle contracts as one, with no independent control of the upper vs. the lower, or left vs. right, parts of the muscle. This is evident by the fact that the umbilicus remains in a central position during contraction. This is most easily demonstrated by having the subject lie supine, and then raise their head from the couch, or attempt a sit-up. Beevor's sign describes the upward movement of the umbilicus when performing either of these manoeuvres due to weakness of the lower part of the rectus abdominis (see Fig. 1). Or, less commonly, downward movement due to weakness of the upper part of the muscle (which might be called the inverted Beevor's sign).

WHERE THE SIGN MAY HELP IN DIAGNOSIS

Spinal lesions

The rectus abdominis muscle at the level of the umbilicus is supplied by the T10 nerve roots. Lesions of the spinal cord or roots between T10 and 12 will cause weakness of the lower part of the muscle, and thus a positive Beevor's sign (of similar localizing value to loss of the lower abdominal cutaneous reflexes).

Myopathies

A positive Beevor's sign is particularly associated with facioscapulohumeral muscular dystrophy (FSHMD), as shown in the figure. In one series it was present in 27 of 30 such patients, but not in any of 40 patients with other neuromuscular disorders (Awerbuch *et al.* 1990). However, it is not unique to FSHMD and either the normal Beevor's sign or the inverted form can be seen in other myopathies.

REFERENCES

- Awerbuch GI, Nigro MA & Wishnow R (1990) Beevor's sign and facioscapulohumeral dystrophy. *Archives of Neurology*, **47**, 1208–9.
Tashiro K (2001) Charles Edward Beevor (1854–1908). *Journal of Neurology*, **248**, 635–6.

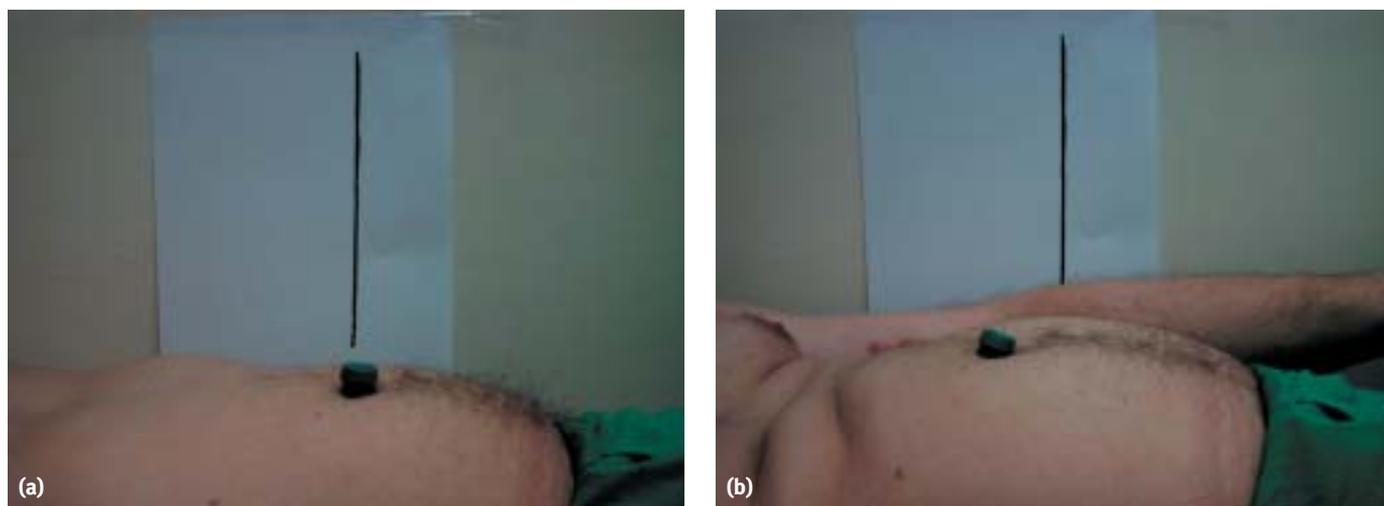


Figure 1 Note the position of the umbilicus at rest (a) and the upward movement (b) when the patient starts to try and sit up.