

Fracture Diagnosis.



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Diagnosing fractures of the long bones using conduction of sound.

A simple clinical method to diagnose fractures of various tubular bones is based on **sound transmission** along the bone.

The basic principle is to place a **stethoscope on one end of a long bone** and to percuss or **elicit sound** by tapping a fingertip or fingernail against the **opposite end** of the bone, or toenail or fingernail.

Auscultation of the elicited sounds and comparing it with the opposite bone will indicate a much reduced transmission of sound on the fractured side.



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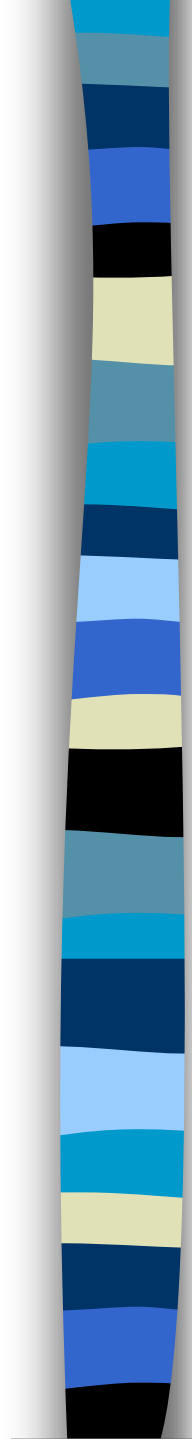
In case of a suspected fractured femur, the stethoscope can be placed on the symphysis pubis for auscultation and the patellae percussed on both sides.

The application of this sign, when indicated, will facilitate early diagnosis and appropriate management at the scene of the accident or will avoid taking unnecessary X-rays of limbs in patients suffering from multiple injuries.



Remember...

When the bony (and cartilaginous) continuum is physically broken, e.g. by joint effusion, it is impossible to differentiate fractures from these alterations.





The Barford test.

Another method to diagnose a fracture of the femur neck is the **Barford Test**.

EXPLANATION:

Place both legs in mirror-image positions.

A stethoscope is placed over the symphysis pubis, and a comparison is made between the sound heard from a vibrating 128Hz tuning fork placed on each medial femoral condyle and patella in turn.

The test is positive if reduced conduction of sound occurs on the injured side.

If (+) = fracture of the neck of the femur. The fracture disrupts conduction of sound from the distal femur to the pelvis.