

The Noisy Knee

Song, S. J., Park, C. H., Liang, H., & Kim, S. J. (2018). Noise around the Knee. Clinics in orthopedic surgery, 10(1), 1-8.

A common MSK question patients ask is “is it normal that my knee makes this sound?” While this review focuses on the knee, the approach can be generalized to any shoulder. Noise in the knee is common, and often patients are worried the noise is pathological.

Noise around the knee can be separated into physiologic and pathologic causes. This is defined by whether the sound is associated with pain, swelling, and abnormal range of motion. There are also many different types of sounds which are more likely to describe one cause than another. Crepitus is a vague descriptor used to represent a sound during a joint’s range of movement. Popping is a sudden explosive and well perceived sound, usually associated with injury such as meniscal, cruciate, or collateral ligament tears. Clunking is a loud singular noise due to release against resistance, often suggestive of something that was subluxed and now relocated. Clicking is a tiny, singular noise that occurs during one cycle of knee extension and flexion, this can be associated with various causes. Grinding and grating are used to describe continuous scratching sounds and are more associated with degenerative OA and patellofemoral pain syndrome.

Physiologic Sounds:

Not associated with any history of trauma, swelling, or pain.

Tend to be sporadic in nature

No aggravation of sounds and combined symptoms

Causes include:

- build up or bursting of tiny bubbles in the synovial fluid
- snapping of ligaments
- catching of the synovium or physiological plica
- hypermobile or discoloid meniscus.

One way to distinguish between these causes is whether the joint sound occurs repeated during range of motion. If it happens repeatedly, it is usually due to anatomic structures rubbing against each other, such as ligaments/tendons or plica over a bony prominence. One common is the bicep femoris tendon at the lateral aspect of the knee. If the crack has a refractory period, it is likely due to air build up in the joint, and subsequent changes in joint pressure during range of motion cause cavity formation which creates a popping sound.

Management of physiologic noise involves reassurance and stretching and strengthening of affected musculotendinous structures.

Pathologic Sounds:

Can have history of trauma or injury

Tend to be higher pitch/frequency

observed consistently, has gradual aggravation

Causes:

- Degenerative changes
 - Structural cause such as bony spurs and cysts, meniscal tears...etc
- Pathologic plica
 - If a plica gets irritated, it can cause synovitis and pain
- Patellofemoral instability
 - Due to hypermobility of patella or subluxation of patella
- Post surgical
- Pathologic snapping knee syndrome
 - Any extra or intra-articular structure that causes painful sounds, which can include ganglion cysts, lipoma, synovial nodules, fabella, osteochondromas, osteophytes

Management of these pathologic noises depends on the underlying cause.

Overall, noise around the knee is a common phenomenon, with one study suggesting 38.1% of women and 17.1% of men over 40. With this approach, careful evaluation of the noise can help prevent unnecessary diagnostic interventions and provide appropriate guidance for healthy patients experiencing physiologic noise.

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