GENU RECURVATUM

By

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Introduction

Normally your knee is slightly pointed outwards and is called physiological genu valgum. But it could become more, or become reversed or the knee could bend backwards. (Fig 1).

This is called Genu recurvatum and is defined as \textit{backward bending of the knee}. Up to 5° of genu, recurvatum is sometimes seen in women with lax ligaments and is usually generalized. Here, the popliteal fossa is convex instead of concave.

\begin{center}
\includegraphics[width=0.5\textwidth]{knee_deformities.png}
\end{center}

Fig 1: shows the common knee deformities: A: Bow Legs B: Knock Knee C: Genu recurvatum

Causes

\textit{Congenital}: Here the backward deformity of the knee is present since birth (Fig 2)
\textit{Quadriceps (Front Thigh Muscle) contracture} is the most common cause in acquired genu recurvatum and is discussed below.

\textit{Neurological disorders}: Polio, cerebral palsy, etc.

\textit{Malunited fractures} around the knee.

\textbf{Quadriceps Contracture}

There are two varieties:
\begin{itemize}
  \item Congenital variety.
  \item Postinjection contractures of infancy and childhood.
\end{itemize}

\textit{Quadriceps contracture} in early childhood has an age of onset between one and seven years.
Fig2: Backward bending of the knee sometimes is seen since birth

Fig3: Dislocation of the knee can be present since birth and can cause backward bending of the knee

Features

- Limitation of knee flexion from mild to severe.
- Effusion and other evidence of knee abnormality are absent.
- Sometimes a dense band that becomes tense during flexion of the knee could be palpated in the proximal part of the patella.
- Patella is always located more upwards and sometimes outwards.
- Other features include; it is usually bilateral, common in identical twins, more common in females, and extremely resistant to conservative treatment.
**Post-injection contractures in infancy:**

*Features*
- Repeated injections and infusions into the thigh muscles soon after birth.
- Dimples present in the skin at the sites of injections.
- Common in twins and prematurity (because they often make injections necessary and in infants anterior thigh is commonly the preferred site).

*X-ray of the knee*

Radiograph of the affected knee is recommended. The knee appears dislocated backwards. (Fig 4).

![Fig 4: Plain x-ray showing backward dislocation of the knee leading to genu recurvatum](image)

*Treatment*
- Surgery is the treatment of choice and is usually indicated in established contractures, as conservative treatment is not beneficial.
- Early recognition and prevention through passive exercises while the child is receiving injections is the best preventive measure.
- Surgery is indicated early in habitual dislocation of the patella and in established contractures to prevent late changes in the femoral condyles and patella.