were found in 25 and 56 number respectively. With the incidence of right and left side mean transverse diameter were 5.16 mm and 5.15 mm respectively. The vertical diameter on right and left side measured 3.54 mm and 3.72 mm respectively.

**Conclusion:** The present study suggested oval shape was more common and more seen on left side than round. Clinically supracondylar fracture is common in pediatric patient and presence of STF makes it more difficult to plan out proper surgical procedure. Study is also helpful to anthropologist, orthopedic and to the radiologist.

### Conflicts of interest

The authors have none to declare.

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**16**

## Is the sulcus angle of knee joint, a predictor of future patellofemoral arthritis? – A magnetic resonance imaging study

N. Vinaykumar

*Government medical college, Palakkad, Kerala, India*

**Introduction:** Knee pain can commonly be due to patellofemoral arthritis, which occurs due to anatomic and biomechanical causes of damage to the patellofemoral joint, such as shear and compressive forces, abnormal patellar tracking, and patella subluxation and tilting. Previous literature observed this condition in varied incidence with female preponderance. The sulcus angle and trochlear morphology are among the determinants of the normal patellofemoral joint biomechanics. Any alteration in this determinant will result in patellofemoral pathology. And so this study was done to find out the trochlear morphology and sulcus angle in normal patients.

**Methodology:** Magnetic resonance imaging of knee region in 60 adults of both gender were studied from the archives of radiology department. The cases were selected after excluding those with osteoarthritis, gross pathology of the knee region and known case of patellofemoral arthritis. The trochlear morphology was studied and classified. The sulcus angle was measured using RADIANT DICOM viewer. The measurements were analysed.

**Result:** The overall average sulcus angle is 140°, 136° in females and males respectively. The sulcus angle was found to be more in females studied compared to males. The trochlear was observed to have type B morphology predominantly.

**Conclusion:** Many reasons exist for patellofemoral arthritis to occur. Among them, increase in sulcus angle can lead to instability of patella which could result in earlier occurrence of arthritic changes. Differing trochlear morphology and increasing sulcul angle proves to be a definite predictor of patellarfemoral arthritis.

### Conflicts of interest

The author has none to declare.

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**17**

## Gonial index of mandible: Effect of age and gender related variations in the north Indian population

S. Bathla*, S.K. Srivastava, S.K. Rathee

*Pt. B.D. Sharma Post Graduate Institute of Medical Sciences, Rohtak, India*

**Introduction:** Gonial index (GI) is a linear radiomorphometric index of the mandible and is used as an important predictor of osteoporosis/osteopenia.

**Aim:** To measure GI and study its relation to age and gender in the north Indian population of Haryana.

**Materials and methods:** This study was conducted in the Anatomy Department, Post Graduate Institute of Medical Sciences, Rohtak using 60 adult human orthopantomographs obtained from the Department of Periodontology; which were divided into 6 age groups (35–65 years) with equal number of males and females. GI was measured as the mandibular cortical width on the bisectrix of the gonial/mandibular angle, as described by Bras et al (1982).

**Results:** In males, the mean GI values ranged from 1.92 mm ± 0.307 mm to 2.48 mm ± 0.448 mm. In females, values ranged from 1.69 mm ± 0.329 mm to 2.17 mm ± 0.264 mm. The correlation between age and mean GI was found to be statistically insignificant ($p > 0.05$) for both sexes. Sexual dimorphism was observed as the difference in the total mean GI values between males and females was statistically significant ($p < 0.05$). Bilateral asymmetry was also recorded as statistically significant differences ($p < 0.05$) were found between right-sided and left-sided mean GI values in both the genders.

**Conclusion:** Gonial index was significantly influenced by gender/sex, but it remained independent of age.

### Conflicts of interest

The authors have none to declare.

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**18**

## Morphological study of foramen magnum and jugular foramen in dry skull

Abhilasha Dadhich*, Priyanka Katara

*S.M.S. Medical College, Jaipur, India*

**Introduction:** Foramen magnum is the largest foramen present in the lower part of the occipital bone. The jugular foramen is opening between the lateral part of the occipital bone and the petrous part of temporal bone. The dimensions of the foramen magnum and jugular foramen are clinically important as important structures pass through them. This study is to examine and document the dimensions of foramen magnum and jugular foramen.

**Materials and methods:** 60 dry human skulls were taken from the department of anatomy SMS medical college, Jaipur. The anteroposterior, transverse diameter and the shape of foramen magnum and jugular foramen was measured by the vernier caliper. Mean and range was calculated and tabulated.

**Results:** The range of anteroposterior diameter of foramen magnum was 28.8–39.9 mm and transverse diameter was 22.9–33.8 mm. The shape of foramen magnum was oval in 12%, circular in 26% and polygonal in 62%. The range of anteroposterior diameter of jugular foramen was 10.92–15.93 mm on right