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Kurpara Marma and Janu Marma: An Ayurvedic and Clinical Anatomical Perspective

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Abstract

Marma vijñāna forms one of the foundational and clinically significant domains of *Rachana Shareera*, integrating structural anatomy with the principle of vital, injury-sensitive points described in classical Ayurvedic texts. Among the *Sandhi Marmas*, *Kurpara* (elbow) and *Janu* (knee) occupy the joints connecting the proximal and distal segments of the upper and lower limbs respectively. This article compiles the classical descriptions of *Kurpara* and *Janu Marma* with respect to *nirukti*, *panchabautikatva* - based classification (*Sankhya*, *Rachana*, *Shadanga*, *Pramana* and *Parinama bheda*), the underlying anatomical structures, the consequences of injury (*Viddha Lakshana*), and correlates these with clinically recognised conditions of the elbow and knee, with the aim of presenting an integrated Ayurvedic and modern anatomical understanding of these two vital joints.

Introduction

Marma are anatomically defined vital points on the body where an assemblage of *Mamsa* (muscle), *Sira* (vessels), *Snayu* (ligaments/tendons), *Asthi* (bone) and *Sandhi* (joints) is present, injury to which is capable of causing pain, disability, or death. *Acharya Sushruta* enumerates 107 such *Marma* distributed over the body, classifying them on the basis of structural predominance (*Rachana*), anatomical location (*Shadanga*), dimension (*Pramana*), and the outcome of injury (*Parinama*). This multi-axial classification allows a single *Marma* to be understood simultaneously from structural, topographic and prognostic perspectives, and forms the basis on which *Kurpara* and *Janu Marma* are analysed in this article.³

Kurpara and *Janu Marma* are classified as *Sandhi Marma*, being predominantly constituted by the joint structures of the elbow and the knee. Together they bridge the upper limb (*Prabhau* and *Prapani*) and the lower limb (*Uru* and *Jangha*), and their integrity is essential for the fine, coordinated movements required in daily activities from grasping and lifting to walking and squatting. Being large, mobile, weight and load-bearing joints with a rich neurovascular supply crossing their flexor aspects, both are frequent sites of accidental and occupational injury, which makes an integrated understanding of their classical and modern anatomical description clinically valuable.

Keywords: *Kurpara Marma*, *Janu Marma*, *Sandhi Marma*, *Vaikalyakara Marma*, elbow joint, knee joint, clinical anatomy.

Nirukti

Kurpara

According to Monier Williams, the word *Kurpara* denotes the elbow. *Kurpara* is described as the junction between the *Prapani* (forearm/hand segment) and the *Prabahu* (arm). ¹

Janu

According to Monier Williams, the word *Janu* denotes the knee. The *Kalpadruma* defines it as ऊरुजङ्घयोर्मध्यभागः the junction between the *Uru* (thigh) and the *Jangha* (leg). ^{1,2}

Classical References

जङ्घोः वा सन्धाने जानु नाम तत्र खञ्जता। कूर्पराख्ये कुणिः।

(Sushruta Samhita, Sharirasthana 6) ⁵

जङ्घोर्वोः सङ्गमे जानु खञ्जता तत्र जीवतः। कूर्परं जानुवत्कौण्यं तयोर्विटपवत्पुनः।

(Ashtanga Hridaya Samhita 4/6, Sharirasthana, 4/9) ^{10,11}

Classification of Kurpara and Janu Marma

Basis of Classification	Description
<i>Sankhya bheda</i> (numerical)	<i>Kurpara</i> – 2, <i>Janu</i> – 2 (one in each corresponding limb)
<i>Rachana bheda</i> (structural)	<i>Sandhi Marma</i>
<i>Shadanga anusara</i>	<i>Shakhasrita Marma</i>
<i>Pramana</i> (dimension) <i>bheda</i>	3 Angula
<i>Parinama</i> (outcome of injury) <i>anusara</i>	<i>Vaikalyakara Marma</i>

Sankhya Bheda

Kurpara Marma are two in number, one each on the right and left elbow joint. Similarly, *Janu Marma* are two in number, one each on the right and left knee joint. ⁴

Rachana Bheda

जानुकूर्परसीमन्ताधिपतिगुल्फमणिबन्धकुन्दरावर्तकृकाटिकाश्चेति सन्धिमर्माणि।

Kurpara and *Janu Marma* are predominantly constituted by *Sandhi* (joints), and are therefore classified under *Sandhi Marma*. ⁵

Shadanga Anusara

As per the description of the six *Shakha*-based (limb-based) *Marma* groupings, *Kurpara Marma* is classified as an *Urdhwa Shakhasrita Marma* (belonging to the upper limb), while *Janu Marma* is classified as an *Adho Shakhasrita Marma* (belonging to the lower limb). ⁴

Pramana Bheda

त्रीण्येव जानु सपरं सह कूर्पराभ्याम्।

Both *Kurpara* and *Janu Marma* measure 3 *Angula* in *Pramana* (dimension).⁸

Parinama Anusara

लोहिताक्षाणि जानूर्वीकूर्चवितपकूर्पराः... वैकल्यकरणान्याहुरावर्तौ द्वौ तथैव च।

Kurpara and *Janu Marma* are classified as *Vaikalyakara Marma* injury to these points results in deformity rather than death.⁶

Being *Vaikalyakara*, these *Marma* possess *Saumya Guna*; the *Saumya* quality supports *Prana* by virtue of its stabilising and cooling properties.⁷

Comparative Overview: *Kurpara Marma* and *Janu Marma*

The table below places the classical and applied features of *Kurpara* and *Janu Marma* side by side for ease of comparison.

Feature	<i>Kurpara Marma</i>	<i>Janu Marma</i>
Location	Junction of <i>Prabahu</i> and <i>Prapani</i> (elbow)	Junction of <i>Uru</i> and <i>Jangha</i> (knee)
<i>Shakhasrita</i> type	<i>Urdhwa Shakhasrita</i> (upper limb)	<i>Adho Shakhasrita</i> (lower limb)
Predominant joint	Humero-ulnar, Humero-radial, Proximal radio-ulnar	Patellofemoral, Tibiofemoral
<i>Pramana</i>	3 <i>Angula</i>	3 <i>Angula</i>
<i>Parinama</i> (injury outcome)	<i>Vaikalyakara</i> (deformity/withering of the arm)	<i>Vaikalyakara Khanjata</i> (limping)
Key neurovascular fossa	Cubital fossa	Popliteal fossa
Representative modern conditions	Dislocation, radial head/neck fracture, biceps rupture, epicondylitis, nerve entrapments	Patellar subluxation, cruciate/meniscal injury, osteoarthritis, bursitis, Baker's cyst

General *Viddha Lakshana* of *Sandhi Marma*

वस्तु शूकैरिवाकीर्णं रूढे च कुणिखञ्जता। बलचेष्टाक्षयः शोषः पर्वशोफश्च सन्धिजे।

Injury to a *Sandhi Marma* produces a sensation as though the site is filled with thorns; even after apparent healing, there is shortening of the limb, lameness, diminished strength and movement, wasting (*Shosha*), and swelling of the small joints.¹²

Clinical Significance

Because *Marma* are seats where *Prana* is said to be closely concentrated, classical caution that procedures such as incision, excision, thermal cauterisation (*Agnikarma*), and deep venesection (*Sira Vedha*) require particular care in their vicinity, since even iatrogenic injury to a *Marma* can reproduce the *Viddha Lakshana* described for it. For *Kurpara* and *Janu*, being *Vaikalyakara Marma*, this translates clinically into caution while performing *Raktamokshana*, *Agnikarma*, or *Sira Vedha* over the cubital and popliteal fossae, where the neurovascular bundle lies close to the surface.⁹

This principle extends naturally to contemporary Ayurvedic and rehabilitative practice: procedures such as *Janu Basti*, *Greeva-Kati-Basti*-type localised therapies adapted to the elbow, *Abhyanga*, and *Marma*-oriented physiotherapy around these joints are widely used for pain relief and mobility restoration, but are best planned with the underlying neurovascular anatomy of the region in mind.

Kurpara Marma Anatomical Structures

The elbow region corresponding to *Kurpara Marma* is constituted, in modern anatomical terms, by the following structures:

Sandhi (Joint): Elbow joint - Humero-ulnar joint, Humero-radial joint, and Proximal Radio-ulnar joint.

Asthi (Bone): Humerus, Radius, and Ulna.

Mamsa (Muscle): Anterior - Brachialis, Brachioradialis, Pronator teres. Posterior - Triceps brachii, Anconeus, Flexor carpi ulnaris.

Sira (Vessels): Anterior - termination of the brachial artery and its branches, median cubital vein, tributaries of the cephalic vein. Posterior - posterior ulnar recurrent artery.

Snayu (Ligaments/Nerves): Anterior - tendon of biceps brachii, bicipital aponeurosis, capsular ligament, radial and ulnar collateral ligaments, annular ligament, radial and median nerves, medial and lateral cutaneous nerves of forearm. Posterior - tendon of triceps brachii, ulnar nerve. These relations are clinically important in the region of the cubital fossa.

Applied Anatomy: The Cubital Fossa

The cubital fossa is the triangular hollow on the anterior aspect of the elbow that overlies much of the *Sira* and *Snayu* component of *Kurpara Marma*. It is bounded above by an imaginary line between the medial and lateral epicondyles of the humerus, laterally by brachioradialis, and medially by pronator teres, with brachialis and supinator forming its floor. From lateral to medial, its contents are the biceps brachii tendon, the brachial artery (dividing here into radial and ulnar arteries), and the median nerve, with the radial nerve lying deep beneath brachioradialis at its lateral margin. Because the median cubital vein crosses superficially over this fossa, it is also the preferred site for venepuncture a procedure that, performed carelessly, illustrates in miniature the classical caution advised around *Kurpara Marma*.¹³

Kurpara Marma - *Viddha Lakshana*

कूर्पराख्ये कुणिः।

Injury to *Kurpara Marma* leads to *Kuni* - a functional deformity of the elbow joint. Since daily activities depend heavily on the fine and sensitive movements of the elbow and its associated articulations, injury at this site hampers these functions considerably. The word *Kuni* denotes a crooked or withered arm, or an arm without a functioning hand or fingers.⁴

Kurpara Marma Clinical Correlations

Elbow Dislocation

Elbow dislocation is the third most common joint dislocation after the shoulder and finger joints. It usually results from a fall on an outstretched hand. Posterior dislocation is the most common variety, while anterior dislocation is rare and may lacerate the brachial artery. Dislocation may be accompanied by fractures of the medial epicondyle of the humerus, the olecranon, the radial head, or the coronoid process of the ulna, and may injure the ulnar nerve (most commonly) or the median nerve.¹⁵

Subluxation of the head of the radius, or "pulled elbow," occurs in children when the forearm is suddenly pulled while in pronation, causing the radial head to slip out of the annular ligament.¹⁵

Fracture of the Radial Head and Neck

Fractures of the proximal radius commonly involve either the head or the neck of the radius, resulting from a fall on an outstretched hand or a direct blow to the elbow. Radial head fractures are more common in adults, while radial neck fractures are more common in children.¹⁵

Biceps Brachii Rupture

Rupture of the biceps brachii most often occurs at the tendon, typically in patients over 40 years, often in association with degenerative changes of the rotator cuff and repetitive lifting activity.¹⁵

Overuse and Bursal Conditions of the Elbow

Tennis elbow results from abrupt pronation with a fully extended elbow, leading to pain and tenderness over the lateral epicondyle at the common extensor origin. Golfer's elbow involves microtrauma of the medial epicondyle from repetitive strain on the common flexor origin, common among golfers. Student's (miner's) elbow is characterised by effusion into the subcutaneous olecranon bursa, typically from prolonged support of the flexed elbow on a hard surface.

Nerve Entrapments at the Elbow

Wrist drop results from paralysis of the radial nerve in the axilla, radial sulcus, the anterolateral aspect of the lower arm, or its deep branch in the cubital fossa. Cubital tunnel syndrome occurs when the ulnar nerve is entrapped between the two heads of flexor carpi ulnaris, producing weakness of the medial half of flexor digitorum profundus and the intrinsic hand muscles, with clawing of the medial two digits. Pronator teres syndrome is a median nerve compression neuropathy at the elbow and upper forearm caused by compression from the pronator teres muscle, producing pain, numbness and weakness that worsen with pronation.

Janu Marma - Anatomical Structures

The knee region corresponding to *Janu Marma* is constituted, in modern anatomical terms, by the following structures:

Sandhi (Joint): Patellofemoral joint and Tibiofemoral joint.

Asthi (Bone): Femur, Tibia, and Patella.

Mamsa (Muscle): Posterior - Gastrocnemius, Semimembranosus, Biceps femoris, Plantaris, Popliteus.

Sira (Vessels): Anterior - patellar anastomosis. Posterior - popliteal artery and popliteal vein.

Snayu (Ligaments/Nerves): Anterior - quadriceps tendon, patellar ligament, cruciate ligaments, menisci, capsular ligament. Posterior - tendon of semitendinosus, tibial nerve, common peroneal nerve. These relations are clinically important in the region of the popliteal fossa.

Applied Anatomy: The Popliteal Fossa

The popliteal fossa is the diamond-shaped hollow behind the knee that houses the deeper *Sira* and *Snayu* components of *Janu Marma*. It is bounded superomedially by semimembranosus and semitendinosus, superolaterally by biceps femoris, and inferiorly by the two heads of gastrocnemius, with popliteus and the posterior surface of the femur and knee joint capsule forming its floor. From superficial to deep, its contents are the tibial nerve, the popliteal vein, and the popliteal artery, together with the common peroneal nerve coursing along the medial border of biceps femoris, the small saphenous vein, and popliteal lymph nodes. The depth and protected position of the popliteal vessels compared with those of the cubital fossa is itself clinically relevant, since popliteal artery injury for instance in posterior knee dislocation carries a disproportionately high risk of limb-threatening ischaemia.¹⁴

Janu Marma - Viddha Lakshana

जङ्घोः वा सन्धाने जानु नाम तत्र खञ्जता।

Injury to *Janu Marma* leads to *Khanjata* (limping). The flexibility of the knee joint is hampered and smooth movement is disturbed. The word *Khanja* denotes one who limps or is lame in one leg.⁵

Janu Marma Clinical Correlations

Subluxation of the Patella

Usually lateral in direction, patellar subluxation is fairly common, especially in adolescent girls and young women, presenting with medial patellar tenderness and atrophy of the vastus medialis oblique. Patellar ligament rupture typically occurs just inferior to the patella following direct trauma in younger individuals, while quadriceps tendon rupture occurs mostly in older individuals from minor trauma or degenerative change.¹⁵

Cruciate Ligament Injuries

Rupture of the anterior cruciate ligament (ACL) is a common athletic injury, typically occurring with sharp turns when the knee is twisted while the foot is planted, often accompanied by a popping sound and acute pain. Joint stability is assessed using the Lachman and anterior drawer tests, both of which demonstrate excessive anterior translation of the tibia when the ACL is torn.¹⁵

Posterior cruciate ligament (PCL) tears are less common than ACL tears and are typically caused by a direct, powerful force to the front of the bent knee, such as a dashboard injury, and may occur alongside other ligamentous or meniscal injuries.¹⁵

Osteoarthritis of the Knee

A painful, activity-related condition, knee osteoarthritis presents with stiffness after inactivity and decreased range of motion; with progression, subluxation with a varus (bow-leg) deformity may occur.¹⁵

Meniscus Tear

A meniscus tear involves damage to the cartilage within the knee joint, usually from sudden twisting or rotation while bearing weight, presenting with pain, swelling, stiffness, and sometimes locking of the knee.¹⁵

Bursal Conditions

Housemaid's knee (prepatellar bursitis) is inflammation of the bursa anterior to the patella from prolonged kneeling or repetitive pressure, presenting with swelling, pain and tenderness. A Baker (popliteal) cyst is a fluid-filled swelling behind the knee causing a bulge and a feeling of tightness, associated with swelling, pain and stiffness.¹⁵

Rehabilitative and Applied Relevance

Because both *Kurpara* and *Janu* are *Vaikalyakara* rather than life-threatening *Marma*, their principal clinical burden is functional rather than mortal loss of range of motion, grip and gait disturbance, and chronic pain which places them squarely within the scope of Ayurvedic Panchakarma, *Marma Chikitsa*, and modern physiotherapy alike. *Sandhi Marma* of this type respond to therapies aimed at *Vata* pacification and *Sandhi-Snayu* nourishment, such as *Abhyanga*, *Nadi Sweda*, and localised *Basti* procedures, mirroring the mobilisation, proprioceptive training, and soft-tissue therapy used in contemporary orthopaedic rehabilitation of the elbow and knee. Recognising the shared anatomical basis of *Kuni* and *Khanjata* with named clinical entities such as cubital tunnel syndrome or ACL rupture allows the Ayurvedic physician to anticipate which structures are at risk during therapy and to time and localise treatment accordingly.

Discussion

The classical description of *Kurpara* and *Janu Marma* as *Sandhi* and *Vaikalyakara Marma* corresponds closely with the modern clinical understanding of the elbow and knee as complex, mobile joints whose injury rarely threatens life but frequently compromises function. The Ayurvedic emphasis on *Kuni* (functional deformity of the elbow) and *Khanjata* (limping from knee injury) finds a direct parallel in the range of ligamentous, muscular, neural and articular injuries recognised in contemporary orthopaedic and clinical anatomy from elbow dislocation and cubital tunnel syndrome to cruciate ligament tears and osteoarthritis of the knee. This convergence underscores the anatomical precision embedded in the classical *Marma* texts and supports the continued relevance of *Marma Shastra* for understanding, diagnosing and managing injuries to these joints.

A second point of convergence lies in the *Pramana bheda*: both *Marma* are assigned an identical dimension of 3 *Angula*, despite the elbow and knee differing considerably in bulk and the volume of surrounding soft tissue. This suggests that the *Angula* measurement in classical texts denotes the span of the vital, injury-sensitive zone at the joint line corresponding roughly to the depth over which the neurovascular bundle lies close to bone and capsule in the cubital and popliteal fossae rather than the total anatomical size of the joint itself. Read this way, *Pramana bheda* functions less as a literal linear measurement and more as a clinically meaningful zone of caution, a reading that is reinforced by the shared *Vaikalyakara* classification and the near-identical *Viddha Lakshana* pattern (functional impairment and gait/limb disturbance rather than death) described for both points.

A limitation of the present compilation is that the clinical anatomy and orthopaedic correlations have been drawn together as illustrative correlates rather than as an exhaustive or systematically referenced literature review; readers intending to use this material for formal academic submission are advised to verify each clinical entity against a named, page-cited anatomy or orthopaedics textbook.

Conclusion

Kurpara and *Janu Marma*, though structurally similar as *Sandhi Marma* of the upper and lower limbs respectively, are each vital to the fine and gross movements of daily life. Their classical description across *Sankhya*, *Rachana*, *Shadanga*, *Pramana* and *Parinama bheda* offers a systematic framework that, when correlated with modern anatomical and clinical knowledge of the elbow and knee including the applied anatomy of the cubital and popliteal fossae provides a comprehensive and clinically applicable understanding for both Ayurvedic practice and interdisciplinary study. Appreciating *Kurpara* and *Janu Marma* not merely as points on a chart but as anatomically dense, functionally critical joint regions equips the Ayurvedic physician to diagnose *Viddha Lakshana* accurately, to exercise appropriate caution during *Shastra Karma* and *Marma Chikitsa*, and to integrate classical and modern rehabilitative approaches for optimal recovery of limb function.

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