



**ANATOMICAL, PHYSIOLOGICAL AND PATHOLOGICAL ASPECT OF SANDHI  
SHARIRA; AYURVEDA AND MODERN PERSPECTIVES**

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**ABSTRACT**

The Ayurvedic approach to anatomy encompasses a comprehensive study of the body's structural elements and the physiology of various body parts. Within this framework, Ayurveda introduces the term "Sandhi," denoting the meeting point of two or more structures, similar to modern science which described Sandhi as a joint. *Aacharya Sushruta* emphasized *Asthi Sandhi* as the primary focus and classified *Sandhis* based on their functions or mobility, categorizing them into *Cheshtavanta* and *Sthira Sandhi*. *Aacharya Gananatha* also contributed to this classification, organizing them as *Bahucheshta*, *Alpacheshta* and *Acheshta*. Anatomically, *Sandhis* fall into eight distinct categories: *Kora*, *Ulukhala*, *Samudga*, *Pratara*, *Tunnasevani*, *Vayasatunda*, *Mandala*, and *Shankhavarta*. Each *Sandhi* performs specific functions, and any irregularities or abnormalities can lead to particular types of manifestations or disabilities. The present article offers a concise summary of the anatomical and pathological perspectives of *Sandhi Sharira*.

**KEYWORDS:** *Ayurveda, Anatomy, Joints, Sandhi, Sharira.*

**INTRODUCTION**

The Ayurvedic classics encompass a wealth of knowledge concerning the human body's physiological aspects, pathological manifestations of diseases, and the principles of treatment. Understanding the *Shareer* is fundamental to effective disease management in Ayurveda. The ancient texts elaborate clinical significance of various body parts, including the *Sandhi Shareer*.

*Sandhi*, according to Ayurveda, refers to the meeting points of *Asthi*, *Snayu*, *Peshi* and *Sira*. Among these, the *Snayu*, *Peshi*, and *Sira Sandhis* are numerous and complex. Therefore, Ayurvedic scholars primarily focus on *Asthi Sandhi*, which serves as a representative for all types of *Sandhis*.<sup>[1-5]</sup>

The classification of *Sandhis* is based on two primary criteria: *Kriyanusar* (action-based) and *Rachananusar* (anatomy-based). The *Kriyanusar* classification categorizing *Sandhis* according to their functional actions and mobility, leading to two main categories: *Cheshtavanta* (movable) and *Sthira* (immovable) *Sandhis*. *Cheshtayukta Sandhi* is *Sandhis* found in the *Shakhas*, *Hanu* and *Kati* (hips). They are further divided into two subcategories: *Bahu chala Sandhi*: these *Sandhis* are highly movable and allow for significant

range of motion. Examples of *Bahu chala Sandhis* include the *Sandhis* which found in *Hanu* and *Kati*. Another one is *Alpachala Sandhi* which is slightly movable, offering limited range of motion. An example of *Alpachala Sandhi* is the *Sandhi* found in the *Prushtha*.<sup>[5-7]</sup>

The *Rachananusar* classification categorizes *Sandhis* based on their anatomical structure. Eight distinct types of *Sandhis* fall under this classification as depicted in **Figure 1**. *Kora* is joints with minimal movement, *Ulukhala* is hinge joints, *Samudga* is ball and socket joints, *Pratara* is gliding joints, *Tunnasevani* is pivot joints, *Vayasatunda* is muscular attachments, *Mandala* is circumferential joints and *Shankhavarta* is glenoid cavity joints.<sup>[6-8]</sup>



Figure 1: *Rachananusar* classification of *Sandhi*.

#### Distribution of *Sandhi*

- ✓ *Kora Sandhi* found in the region of *Anguli*, *Manibandha*, *Janu*, *Kurpara* and *Gulpha*.
- ✓ *Ulukhala Sandhi* found at the *Kaksha*, *Vankshana* and *Dashana* regions.
- ✓ *Samudga Sandhi* located at the *Ansapeeth*, *Bhaga*, *Guda* and *Nitamba* regions.
- ✓ *Pratara Sandhi* found in the *Greeva*, *Kasherukha* and *Prushthavansha* areas.
- ✓ *Tunnasevani Sandhi* is found at the *Sirakapala* and *Katikapala* regions.
- ✓ *Vayastunda Sandhi* located within the *Shankhasthi* on both sides of the chin.
- ✓ *Mandala Sandhi* presents in the *Kantha*, *Netra* and *Hrudaya* regions.
- ✓ *Shankhavarta Sandhi* is found in the *Shrotra* and *Shringataka* regions.

#### Number of *Sandhi*

According to *Aacharya Sushruta's* classification, there are a total of 210 *Sandhis* in the body, distributed across the extremities, trunk region, neck and upper body as follows:

- ✚ Sixty-eight *Sandhis* are present in the four extremities.
- ✚ Fifty-nine *Sandhis* are present in the trunk region.
- ✚ Eighty-three *Sandhis* are located in the neck and upper region of the body.

#### Pathological conditions associated with *Sandhi*

- ✓ *Sandhigata Vatha* is a common articular disorder involving smaller joints. It is characterized by vitiation of *Vatha* and *Dhatukshaya*, leading to dryness of tissues and restriction in movement.
- ✓ *Asthi majjagata vatha* is a condition in which there is involvement of bones primarily.
- ✓ *Urusthambha* is another condition where bones are primarily affected, leading to stiffness in the thighs.
- ✓ *Amavatha* is a condition in which both muscles and joints get affected due to the presence of *Ama* in the body.

- ✓ *Avabahuka* is condition characterized by shoulder joint stiffness and pain.
- ✓ *Kostukashirsha* is a condition affecting the region of the clavicle and head.
- ✓ *Grudrasi* is refers to sciatica, where pain radiates along the sciatic nerve.
- ✓ *Khalli* is a condition where ligaments and joints get affected.
- ✓ *Vatha kantaka* is joint pain associated with *Vatha* vitiation.
- ✓ *Vatha raktha* involves swelling, discoloration, dryness, itching and pain in the joints.
- ✓ *Visvachee* is a condition related to the neck and shoulder region.
- ✓ *Vatha khuddatha* is a condition where *Vatha* becomes localized in certain areas.
- ✓ *Gulpha graham* is a condition affecting the ankle joint.
- ✓ *Uru sara* refers to stiffness in the thighs.
- ✓ *Janubheda* relates to knee joint disorders.
- ✓ *Thrika graha* is a condition affecting the neck region.
- ✓ *Bahu shosha* refers to wasting or weakness of the arms.
- ✓ *Griva sthambha* is a condition involving stiffness of the neck.

In Ayurveda, these joint disorders are often associated with the vitiation of *Vata dosha*. Various factors, including diet and lifestyle are believed to play a significant role in the pathogenesis and management of these joint-related problems. Figure 2 depicted various factors associated with *Samprapti* of joint disorders. Ayurvedic treatments and therapies aim to balance the *Doshas*, eliminate toxins and restore the natural harmony of the body to address these conditions.<sup>[8-10]</sup>



Figure 1: Factors associated with *Samprapti* of joint disorders.

#### Pathological Conditions of Joint as per Modern View

- ✓ Tennis elbow
- ✓ Frozen Shoulder
- ✓ Carpel Tunnel Syndrome
- ✓ Achilles Tendonitis
- ✓ Plantar Fasciitis

✓ Rheumatoid Arthritis and osteo Arthritis

### CONCLUSION

Ayurveda describes the physiology and structural features of different body parts, including joints (*Sandhi*). *Sandhi* is the meeting point of two or more structures in the body. In Ayurveda, *Sandhi* can be classified into two types based on mobility; *Cheshtavanta* and *Sthira Sandhi*. Anatomically, *Sandhi* is further categorized into eight types: *Kora*, *Ulukhala*, *Samudga*, *Pratara*, *Tunnasevani*, *Vayasatunda*, *Mandala* and *Shankhavarta*. *Sandhi* play crucial role in the movement and flexibility of the body. They enable various body parts to move smoothly. Abnormalities in *Sandhi* can lead to various pathological conditions, collectively known as *Sandhi Vyadhi*. Some examples of *Sandhi Vyadhi* include *Avabahuka*, *Kostukashirsha*, *Vatha kantaka*, *Sandigatha Vatha*, *Hanu bramsa*, *Asthi majjagata Vatha* and *Visvachee*, etc. *Sandhi Vyadhi* may manifest symptoms such as pain, inflammation, swelling, deformities and restricted movement, etc. Understanding the concept of *Sandhi* and its role in the body helps Ayurvedic practitioners to diagnose and treat joint-related disorders effectively.

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