

*Description of Bhaguna as per Sushrutha
sambhitha & contemporary surgical practice*

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Definition

Fracture:

A fracture may be a complete break in the continuity of a bone or it may be an incomplete break or a crack.

Dislocation:

A joint is dislocated or luxated when its articular surfaces are wholly displaced one from the other, so that all apposition between them is lost.

Sushrutha's view

Sushrutha has classified the fractures and dislocations as

- Kandabhagna (fracture) – 12 types
 - Sandhimuktha (dislocation) – 6 types
- in single heading as 'Bhagna'.

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Reasons for fractures

- Pathana
- Peedana
- Praharana
- Akshepana
- Vyala mriga dashana
- Abhighata

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- Fractures due to sudden injury or trauma
- Fatigue or stress fractures
- Pathological fractures.

Clinical and diagnostic features as per Sushrutha Samhita

- Shwayathu bahulyam
- Spandana vivartana
- Sparshasahishnutham
- Avapeedyamane shabdha
- Srasthangatha
- Vivida vedana pradurbavah
- Sarvasu avasthasu na sharma labhah

Clinical features of a fracture

- Visible or palpable deformity
- Local swelling
- Local tenderness
- Marked impairment of function
- Abnormal mobility
- Crepitus or grating when the injured part is moved.
- Visible bruising or Echymosis

Radiological confirmation is essential after clinical diagnosis.

Understanding explanation of Sushrutha and contemporary system

Shwayathu bahulyam	Local swelling
Spandana vivartana sparshasahishnutham	Local tenderness over the bone
Avapeedyamane shabdha	Crepitus or grating
Srasthangatha	Visible deformity
Vivida vedana pradurbavah	Pain of various types
Sarvasu avasthasu na sharma labhah	Marked impairment of functions.

Classification of traumatic condition of bones

- I) **Kandabhagna- fractures**
Sandhimukta- dislocations

- 11) **Savrana – fracture with open wounds**
Avrana – fracture without any active open wounds
or simply closed fractures

Types of Kandabhagna

Karkataka

Aswakarna

Choornitha

Pichitha

Asthichallitha

Kandabhagna

Majjanugata

Athipathita

Vakra

Chinna

Patitha

Sputitha

Types of Sandhimukta

Uthpishta

Vishlishta

Vivarthita

Avakshiptha

Athikshiptha

Theeryakshiptha

Classification of fracture as per contemporary medical science

- a)
 - 1. Fractures caused by sudden injury–direct violence or indirect violence
 - 2. Fatigue or stress fractures
 - 3. Pathological fractures

- b)
 - 1. Closed fracture or simple fracture
 - 2. Open fracture or compound fracture

- c) External compound and Internal compound

d) Based on pattern

- 1. Transverse fracture**
- 2. Oblique fracture**
- 3. Spiral fracture**
- 4. Comminuted fracture**
- 5. Compression fracture**
- 6. Greenstick fracture**
- 7. Impacted fracture**

Analyzing.....

Karkataka bhagna	Transverse fracture
Ashwakarna bhagna	Oblique fracture
Choornitha bhagna	Comminuted fracture
Pichitha bhagna	Amputation fracture
Asthichhallitha bhagna	Longitudinal fracture
Kandabhagna	Transverse fracture
Majjanugata bhagna	Impact fracture
Athipathita bhagna	Comminuted fracture
Vakra bhagna	Greenstick fracture
Chinna bhagna	Transverse or oblique fracture
Patitha bhagna	Fissure like fracture
Sputitha bhagna	Multiple or cracks

Management of fracture and dislocation

Depends on Principle of 3 'R's

- Reduction
- Retention
- Rehabilitation.

Management by Acharya Sushruta

REDUCTION

Anchana

Peedana

Sankshepana

RETENTION

Bandhana

Kapatashayana

taila droni

REHABILITATION

mrith, lavana, paashaana dhaarana. In few references simple Vyayama word is told to highlight the importance of rehabilitation.

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REDUCTION

A.

1. Closed reduction
2. Open reduction

B.

1. Closed manipulative
2. Gravity
3. Traction

RETENSION

1. Gravity
2. Traction
3. Plaster cast or slab
4. Internal fixation

REHABILITATION

1. Exercises
2. Physiotherapy

Conclusion

- We can conclude that there is similarity in the description of fracture and its management in Sushruta Samhita and contemporary medical science.
- Current orthopedic practice is more apt with the technical advancements like X-ray, CT, MRI like investigations.
- Basic concept and the principle of approach remains the same from ancient to till date