

Interstitial Fluid Volume Fraction (F_{int})

Definition: The 'interstitial fluid volume fraction' (F_{int}) refers to the proportion of tissue volume occupied by interstitial fluid (ISF), excluding cellular and vascular compartments.

It is expressed as a dimensionless ratio between '0' and '1'. Higher values suggest an increased extracellular (interstitial) space, which may be relevant in pathological states such as:

- idiopathic normal pressure hydrocephalus (iNPH)
- brain edema
- white matter hyperintensities
- neurodegeneration

Measurement: F_{int} can be estimated using advanced MRI techniques, including:

- diffusion MRI
- spectral diffusion analysis
- multi-compartment modeling

Clinical Relevance:

- In iNPH, increased F_{int} may reflect impaired glymphatic flow or extracellular matrix expansion.
- Changes in F_{int} can serve as a non-invasive biomarker for tracking fluid dynamics in neurodegenerative or hydrocephalic disorders.

Related terms:

- Interstitial Fluid (ISF)
- Diffusivity (D_{int})
- Spectral Diffusion MRI
- Glymphatic system

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