

FORMATIO RETICULARIS, RETICULAR FORMATION

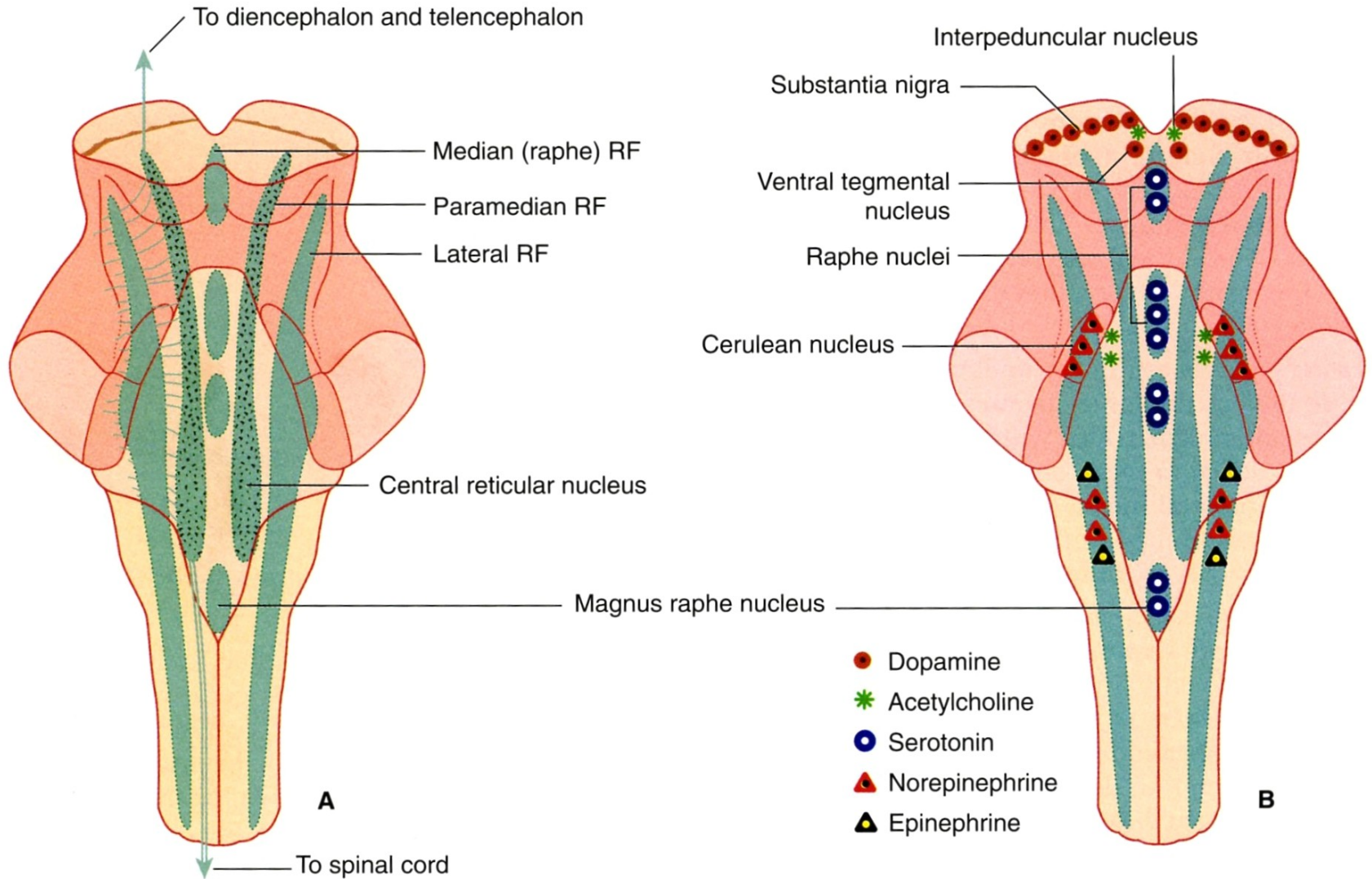
Ascending reticular activating system (ARAS)

- arousal modul of brainstem for brain cortex

tr. reticulocorticalis

- indirect connection **tr. reticulo-thalamo-corticalis**

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Nuclear groups: *rapheal (median) group*
 paramedian (medial) group
 lateral group

rapheal group : - ncl. raphe magnus
 - serotonin (inhibition), tr. raphespinalis

Function: modulation of afferentation (pain)

paramedian (medial) group :

- **ncl. gigantocellularis** - **large** neurons with long axons
- main path to hypothalamus and thalamus
 projection to spinal cord **tr. reticulospinalis**
- **adrenergic** (noradrenergic and adrenergic) **synapses**
- **locus coeruleus** – noradrenergic synapses

Function: influence of peripheral ANS, level of arousal, motor control of axial and proximal muscles of extremities

lateral group: - with short ascendant and descendant axons terminating in medial reticular group

Function: „afferentation“ of FR

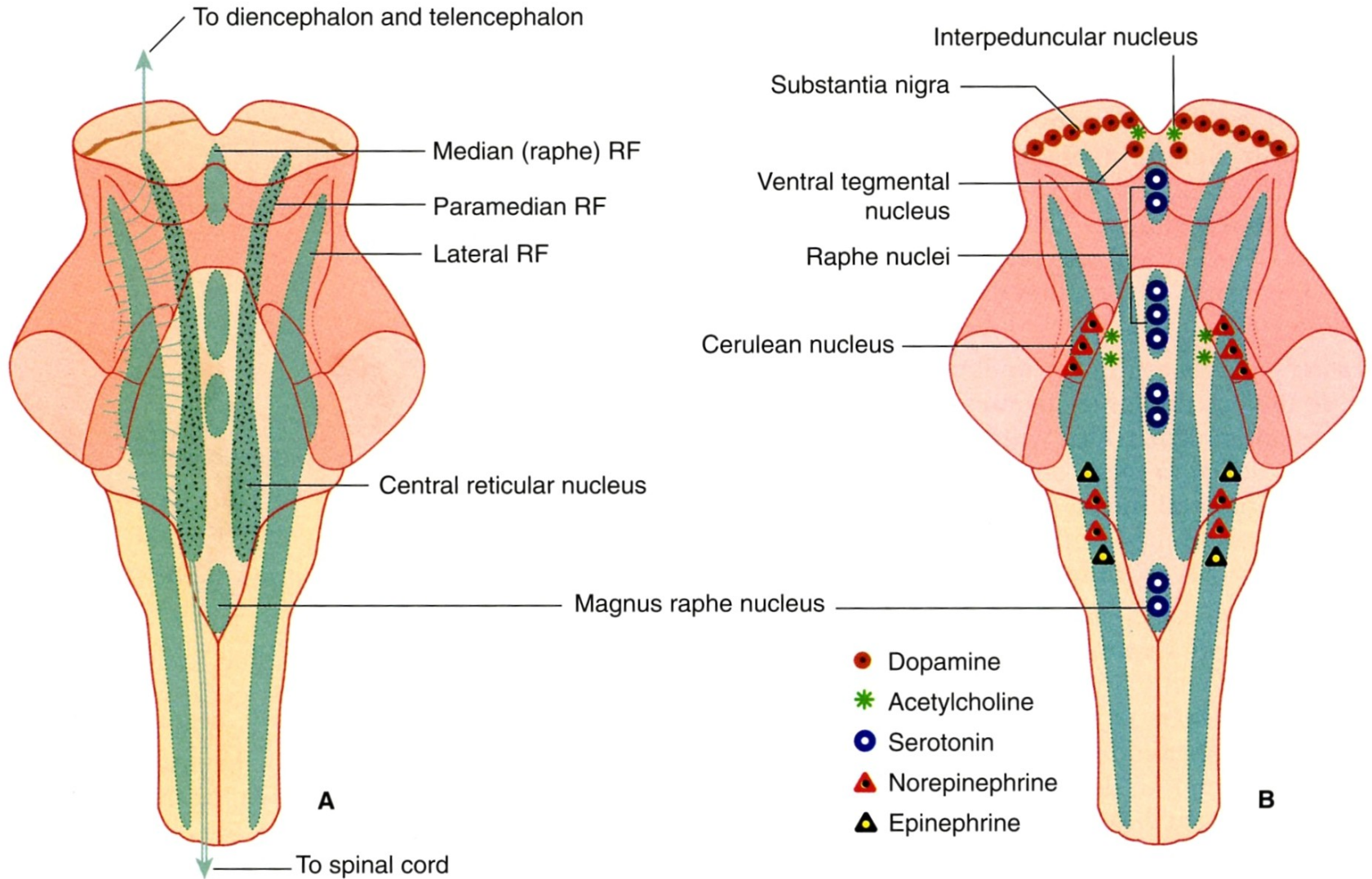
Other function of FR:

sleeping generator

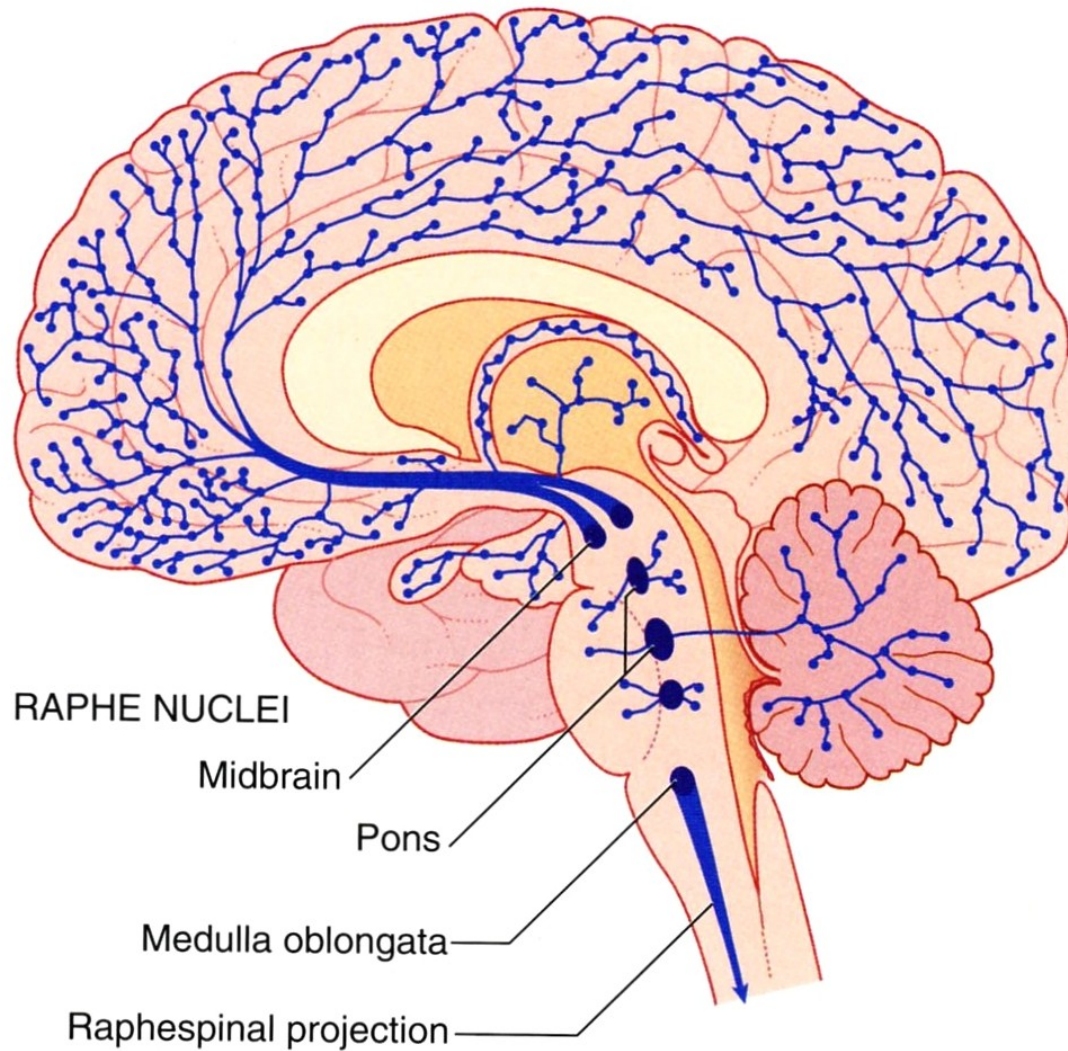
pattern generator of

- conjugate movements of eyes
- rhythmic chewing movements
- swallowing, vomiting, coughing, sneezing, micturition,
- respiration, heart rhythm

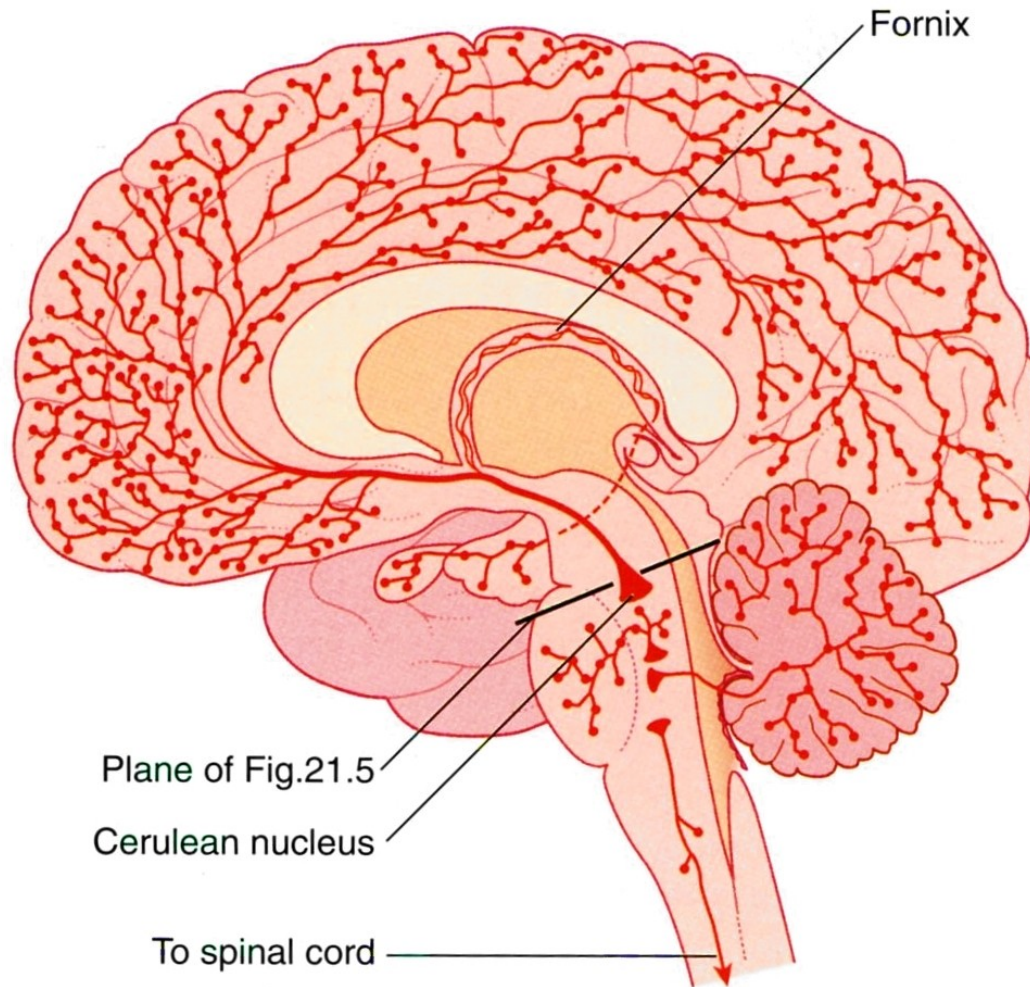
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Serotonergic



Noradrenergic



Dopaminergic

