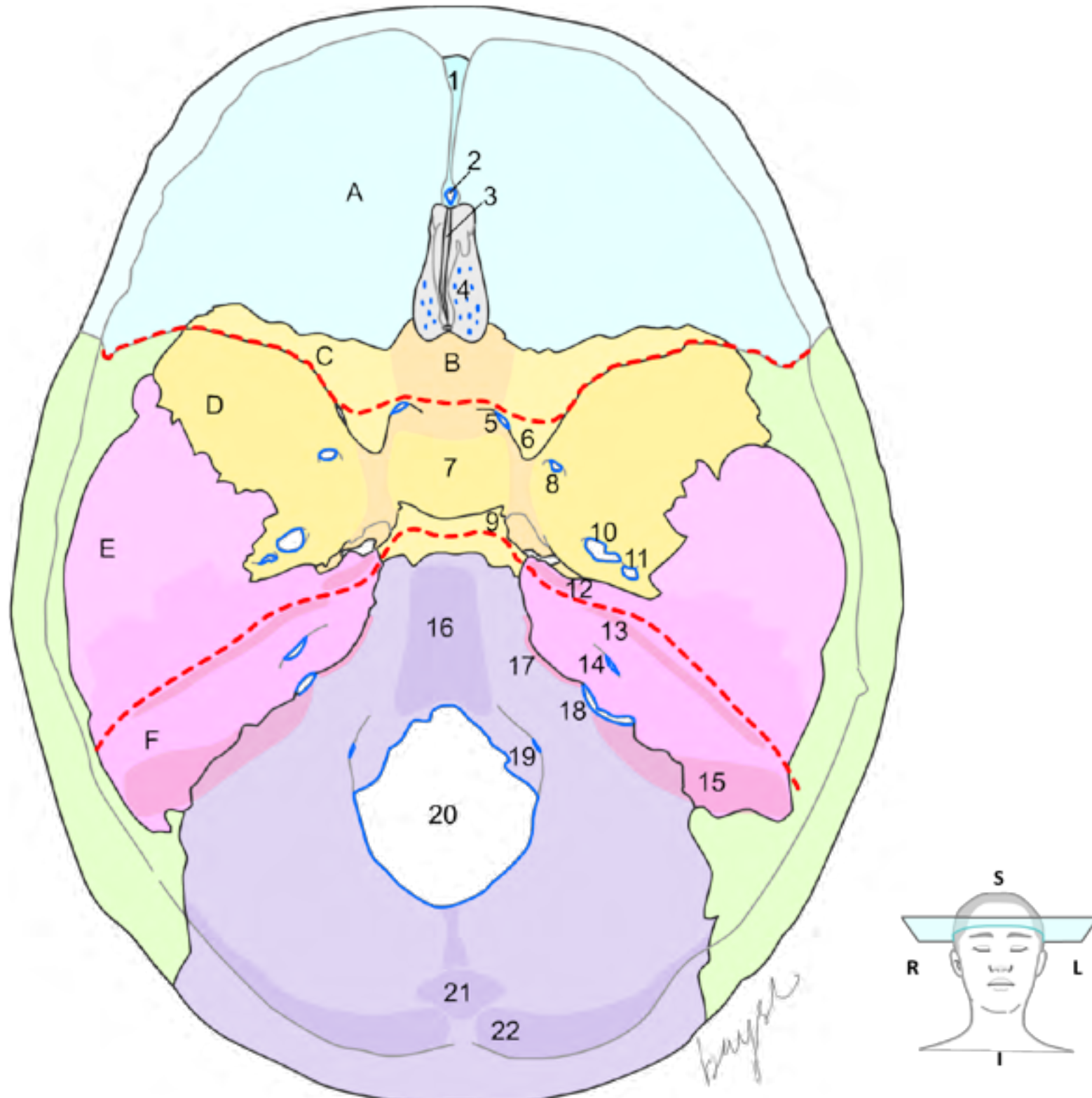


BONES AND FORAMINA OF CRANIAL BASE



Base of the skull, internal aspect showing the anterior, middle and posterior cranial fossa (divided by red dotted line).

- | | | | |
|------------------|---|-----|--|
| ● Frontal bone | [| 1. | Frontal crest |
| A. Orbital part | | 2. | Foramen cecum |
| ● Ethmoid bone | [| 3. | Crista galli |
| | | 4. | Olfactory foramina in cribriform plate |
| ● Sphenoid bone | [| 5. | Optic canal |
| B. Lesser wing | | 6. | Anterior clinoid process |
| C. Body | | 7. | Hypophyseal fossa of Sella turcica |
| D. Greater wing | | 8. | Foramen rotundum |
| | | 9. | Posterior clinoid process |
| | | 10. | Foramen ovale |
| | | 11. | Foramen spinosum |
| ● Temporal bone | [| 12. | Trigeminal impression |
| E. Squamous | | 13. | Groove for Superior petrosal sinus |
| F. Petrous | | 14. | Internal acoustic meatus |
| | | 15. | Groove for sigmoid sinus |
| ● Occipital bone | [| 16. | Clivus |
| | | 17. | Groove for Inferior petrosal sinus |
| | | 18. | Jugular foramen |
| | | 19. | Hypoglossal canal |
| | | 20. | Foramen magnum |
| | | 21. | Internal occipital protuberance |
| | | 22. | Groove for transverse sinus |
| ● Parietal bone | | | |

In the anterior cranial fossa, identify the cribriform plate of the ethmoid.

In the middle cranial fossa, identify the tuberculum sellae, hypophyseal fossa, dorsum sellae, and posterior clinoid processes that constitute the sella turcica (L. Turkish saddle). Identify the foramen ovale, foramen spinosum, foramen lacerum.

In the posterior cranial fossa, identify the foramen magnum, internal acoustic meatus, jugular foramen and hypoglossal canal. Identify also the clivus.

CLINICAL CONSIDERATIONS

Fractures of the base are usually due to indirect pressures. For example, a blow on the vertex of the skull sending undue forces to the petrous portions of the temporal bone and the floor of the middle cranial fossa. Fractures in the anterior cranial fossa cause bleeding from the anterior meningeal vessels when the dura is torn, and a loss of sense of smell from injury to the olfactory bulbs. Fractures in the posterior cranial fossae may show hemorrhage into the pharynx, as well as a bruising at the nape of the neck and around the mastoid process.

Question(s)

- Relate the different brain areas to different parts of the cranial fossae.
- Name the structures (nerves or blood vessels) that pass through the various foramina.
- What would be the functional deficit if fractures involve these openings?
- What are the types of intracranial haemorrhage and what are the causes?