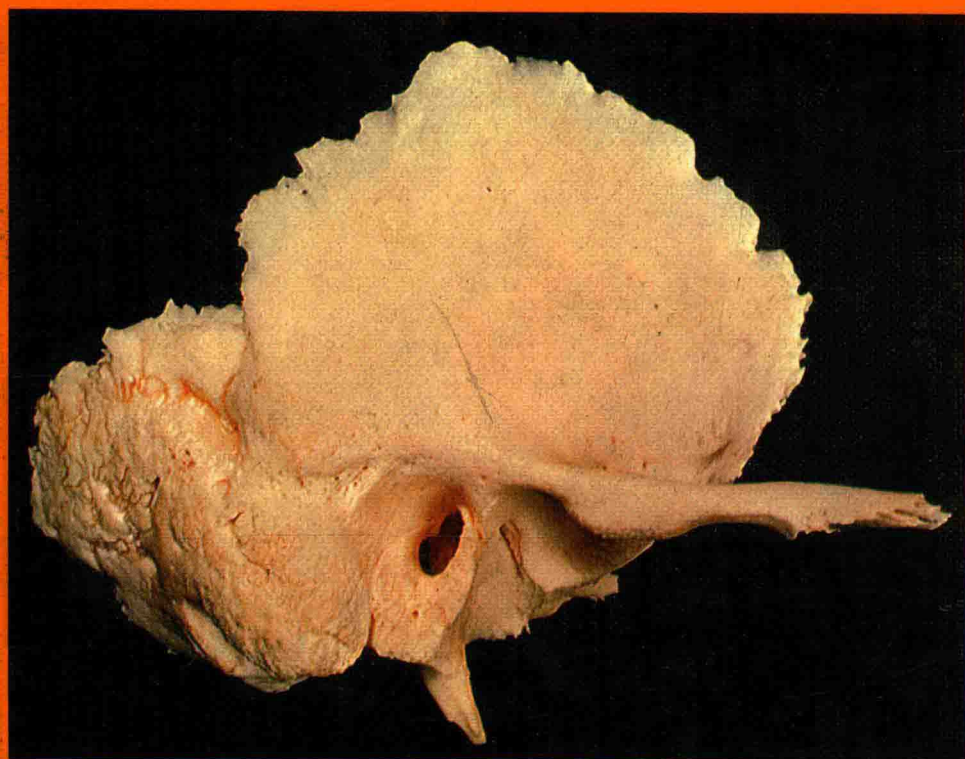


A Colour Atlas of

Temporal Bone

Surgical
Anatomy

R. T. Counter



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Temporal Bone

Surgical Anatomy

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Surgeon Lieutenant Commander
MB, BS, FRCS (Ed), DLO, Royal Navy

Wolfe Medical Publications Ltd

General Editor, Wolfe Medical Atlases:
G. Barry Carruthers, MD(Lond)

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This Atlas would not have become possible without the invaluable help of the Photographic and Radiographic Departments at the Royal Naval Hospital, Haslar, Portsmouth, Hampshire.

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Introduction

The aim of this atlas is to elucidate a fascinating but complicated subject—the petrous temporal bone. I hope it will be useful not only to those preparing for specialist examinations, but to anyone studying the dissection of the temporal bone area.

The temporal bone area is difficult to visualise in three dimensions from description alone. In the past it has been the practice to use heavily annotated line drawings, which become so stylised that the true appearance is lost. I have tried to overcome this drawback by the use of colour photography to show temporal bone dissections from a variety of angles and so build up a comprehensive picture of the anatomy.

The dissections are of dried temporal bones and every effort has been made to provide both views of the bones as seen at surgery and more unusual views to help understand the anatomy. A three dimensional understanding of the anatomy is probably more essential in this area than in most others, and I have tried to supply colour illustrations which encourage this type of understanding.

Modern radiology of the temporal bone, using standard views and polytomography has been included in each section, not only because it assists in learning the normal anatomy but because understanding it is essential to surgical management. Special radiographs of temporal bones, with areas of interest emphasised by radio-opaque materials have been employed to help clarify the normal radiographic appearances.

Finally, there is no substitute for regular dissection of the temporal bone as a way to full understanding of the subject.

Orientation of pictures

In order to make orientation clearer, 'compass bearings' have been placed on several illustrations:

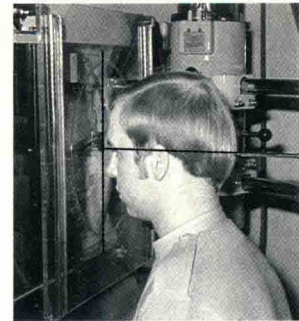
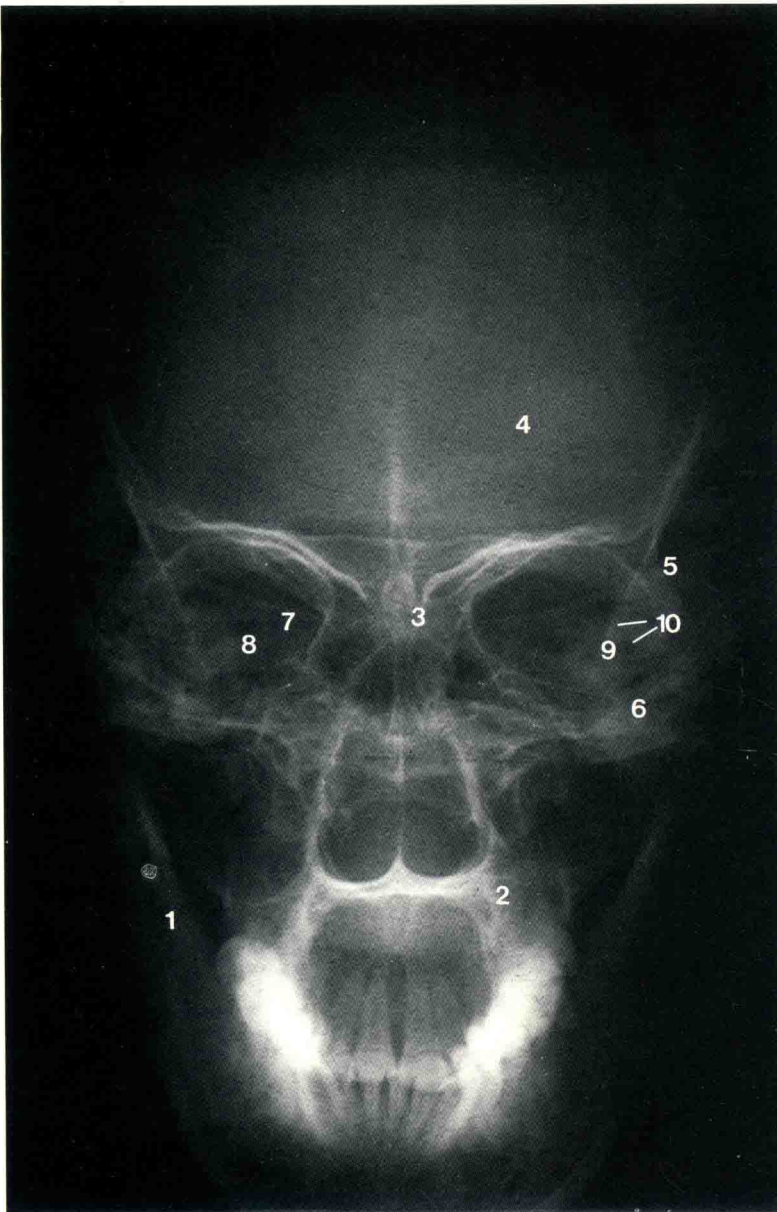


A = Anterior
B = Posterior
C = Superior
D = Medial
E = Lateral

Radiographs

An attempt has been made to clarify the radiographs of the dried temporal bones by adding radio-opaque material to the internal auditory meatus and canal, and to the tympanic annulus.

1

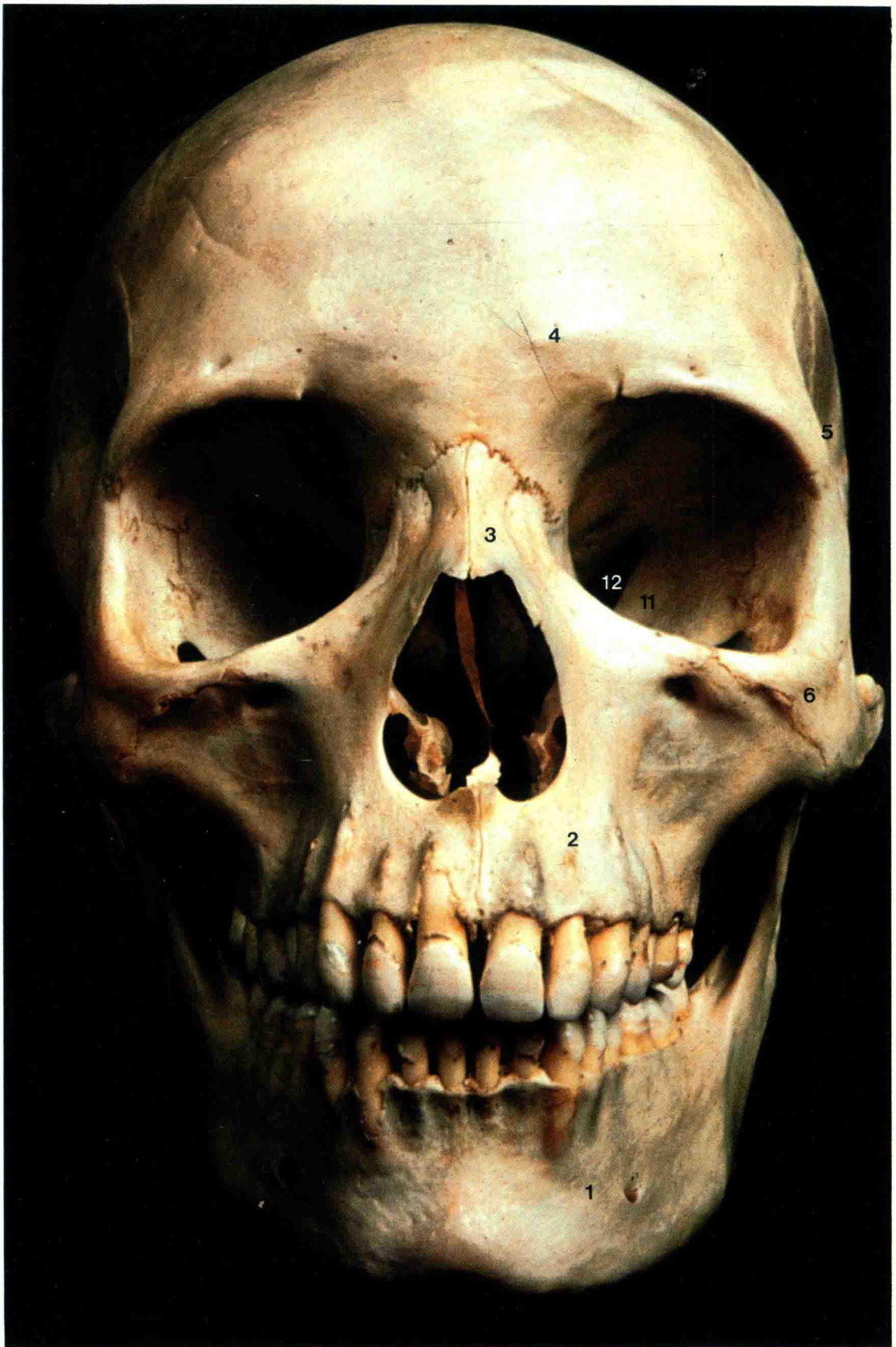


Postero-anterior
radiographic position

1 Postero-anterior radiograph of the skull

2 Anterior view of the skull

- | | |
|------------------|--|
| 1 Mandible | 7 Internal auditory canal |
| 2 Maxilla | 8 Cochlea |
| 3 Nasal bones | 9 Vestibule |
| 4 Frontal bone | 10 Superior and lateral semi-circular canals |
| 5 Temporal bone | 11 Sphenoid bone (greater wing) |
| 6 Zygomatic bone | 12 Superior orbital fissure |

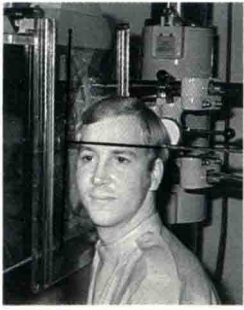


3

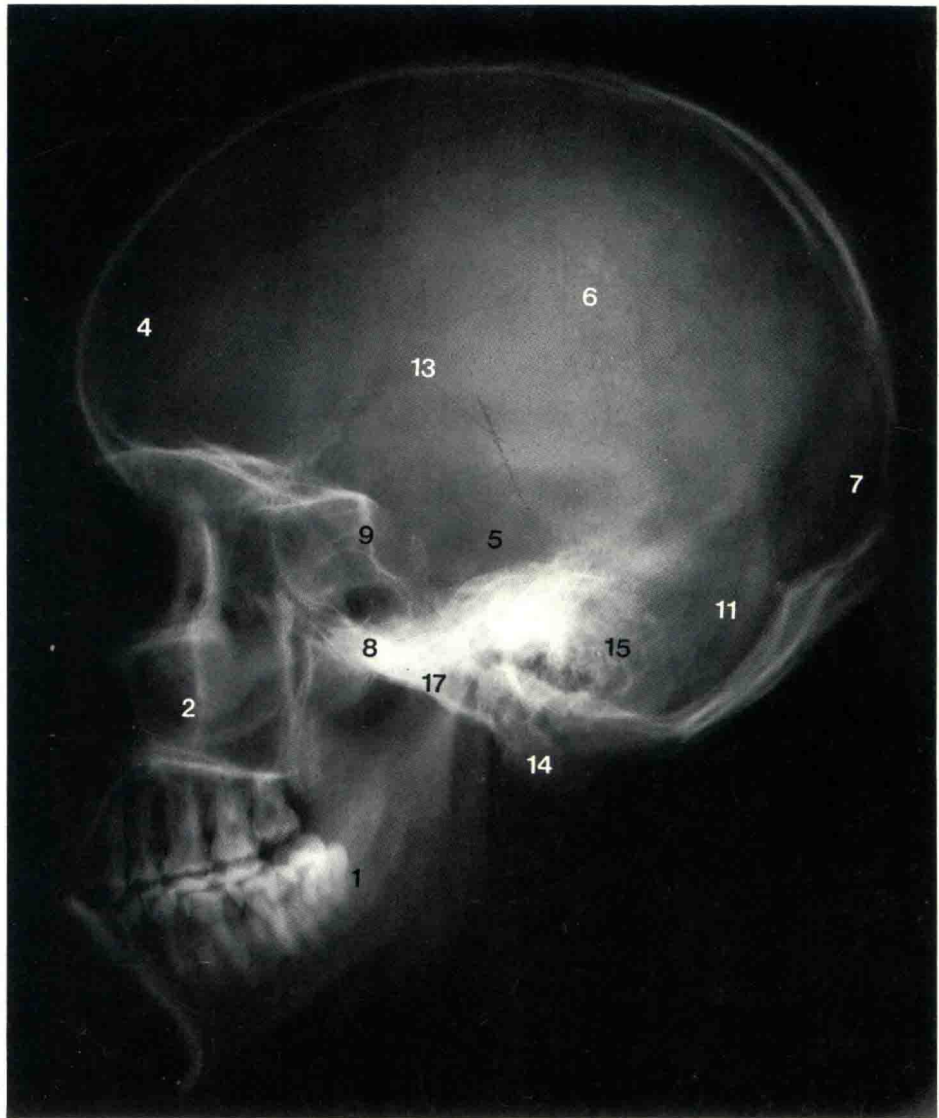


3 Lateral view of skull

- 1 Mandible
- 2 Maxilla
- 3 Nasal bones
- 4 Frontal bone
- 5 Temporal bone
- 6 Parietal bone
- 7 Occipital bone
- 8 Zygomatic bone
- 9 Sphenoid bone



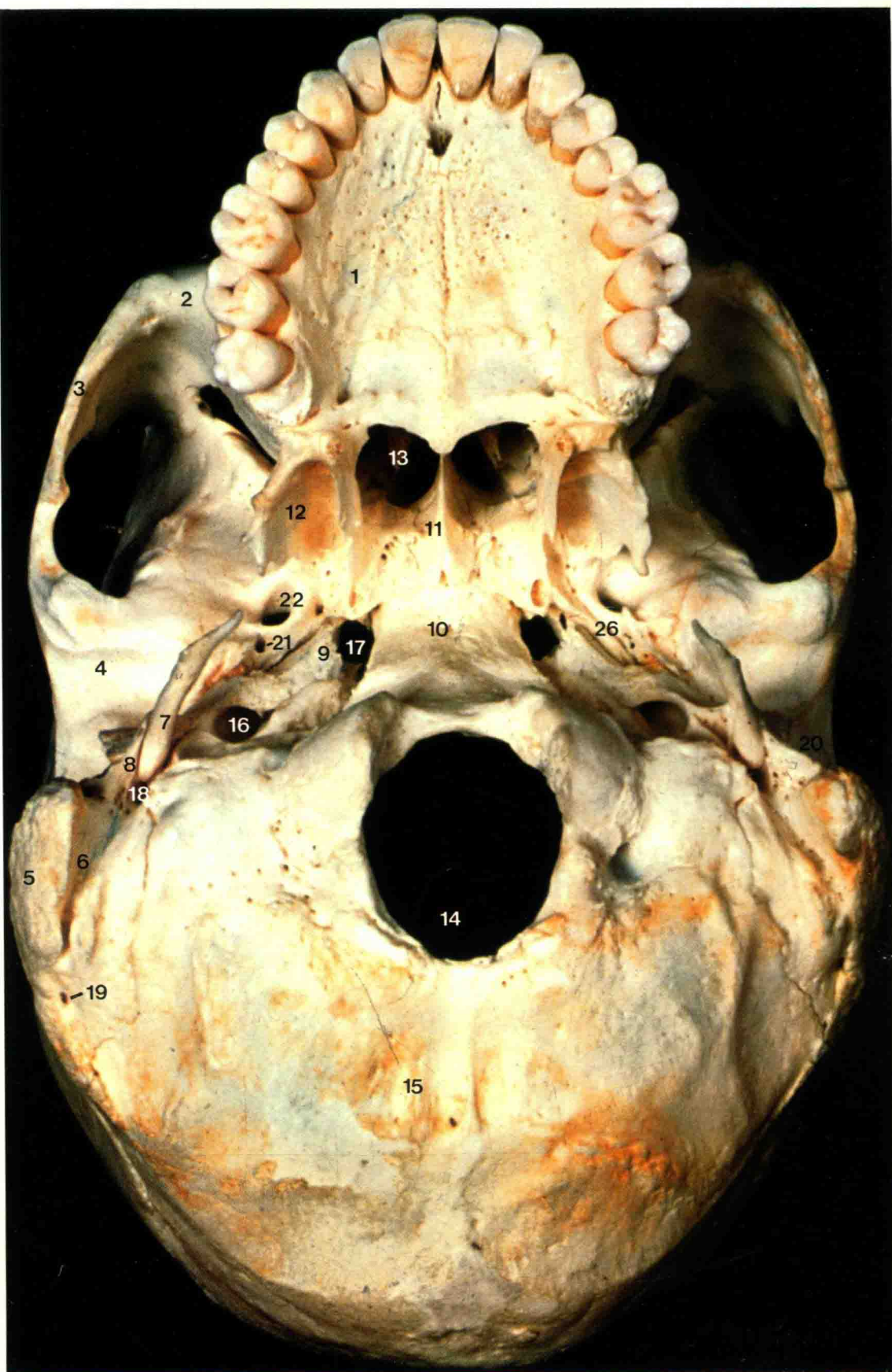
Lateral radiographic position

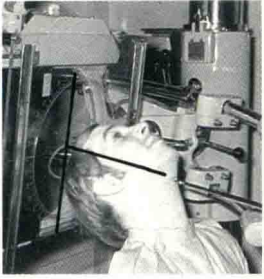


4 Lateral radiograph

- 10 Tympomastoid suture
- 11 Parietomastoid suture
- 12 Sphenosquamosal suture
- 13 Squamous suture
- 14 Mastoid process
- 15 Mastoid air cells
- 16 External auditory meatus
- 17 Condylar process of the mandible

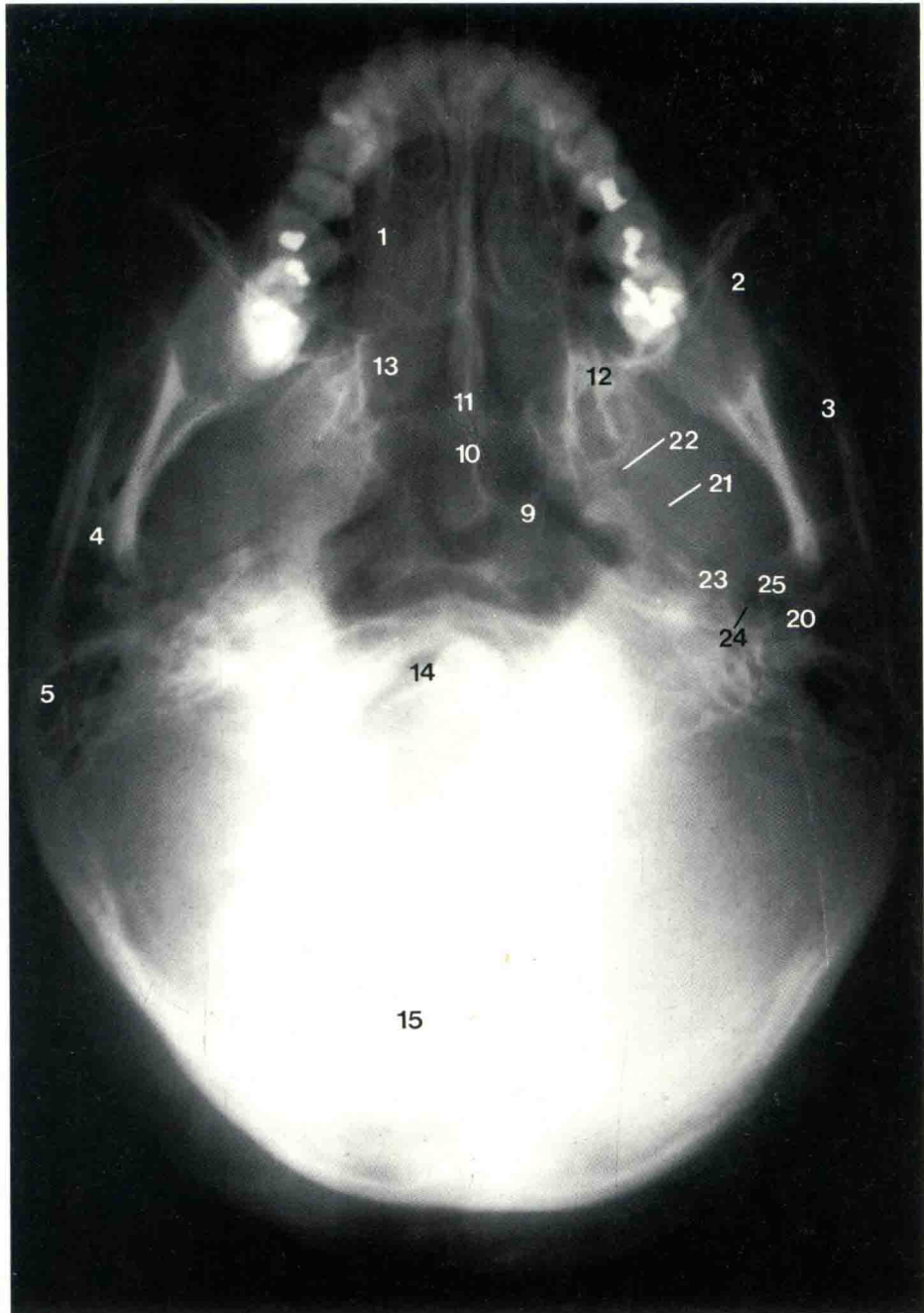
5





Submento-vertical
radiographic position

**5 Base of skull
(mandible removed)**
**6 Submento-vertical
radiograph**



- 1 Palatine process of the maxilla
- 2 Lateral wall of the maxilla
- 3 Zygomatic arch
- 4 Mandibular fossa
- 5 Mastoid process
- 6 Digastric groove
- 7 Styloid process
- 8 Styloid process sheath
- 9 Petrous temporal apex
- 10 Sphenoid body
- 11 Vomer
- 12 Lateral pterygoid plate
- 13 Posterior nares
- 14 Foramen magnum
- 15 Occipital bone
- 16 Carotid canal
- 17 Foramen lacerum
- 18 Stylomastoid foramen
- 19 Mastoid emissary vein foramen
- 20 External auditory meatus
- 21 Foramen spinosum
- 22 Foramen ovale
- 23 Bony eustachian tube
- 24 Middle ear cavity
- 25 Ossicles (malleus and incus superimposed)
- 26 Edge of tegmen tympani separating the petrotympanic and petro-squamous sutures