

Chapter 10

Head pain

In this chapter we are referring to “head pain” rather than “head ache” as the latter will confine our discussions to a location and type of pain associated with the cranium. Head pain may originate within the cranium, from the cranial vault, from the musculoligamentous structures of the face, from the cervical spine and associated musculoligamentous structures and occasionally from more distal structures of the thorax and abdomen.

In discussing intracranial contents, bear in mind that neural tissue has no pain receptors. It is believed that the headaches we often experience may arise from cerebral vessels and connective tissues like the meninges. Depending on the location and mechanism of intracranial-originating headaches they may be localised over certain regions of the head or be of generalised or diffuse nature.

Facial pain may be a referred manifestation from intracranial headaches or as a result of local tissues. Commonly implicated structures include the temporomandibular joint, the teeth, the air sinuses, the eyes and the ears. Head pain and headache may arise from irritated upper cervical nerve roots and in particular C2 will often refer the pain over the vertex and toward the eye. The causative factor is often tension in the suboccipital muscles, in many cases associated with stress or spondylotic changes to the vertebrae.

Investigating the origins of head pain, like other presenting complaints, you need to get the patient to describe the type or quality of pain as they perceive it, how it starts, how it progresses and how it resolves. Determining the type of headache and giving it a label is not as crucial as ensuring that the headache is not an expression of an underlying pathological condition. Headaches may result from intracranial events or may be a manifestation of a more generalised or systemic condition such as hypertension or an endocrine disorder.

Unlike other parts of the body, the head is most frequently involved the place where symptoms may be manifested from a huge variety of conditions not necessarily related to the head. The list is long and the range is very wide, ranging from infections, pyrexia, neoplasia, hormonal, nutritional and not forgetting psycho-emotional factors.

The following table lists some of the most common types of headaches. You are advised to construct your own table for each type of headache and include the following descriptions: Description of the symptoms, observed signs on examination, triggering factors, relieving factors, predisposing factors and investigative techniques.

Common types of headaches

- Migraine
- Tension headaches
- Vascular headaches
- Cluster headaches
- Hypertension-related headaches
- Pickaxe headaches
- Trigeminal neuralgia associated headaches
- Hormone-related headaches
- Sinus-related headaches
- Cervical spine related headaches
- Toothache-related headaches
- Eye-related headaches
- Meningeal irritation headaches
- Increased intracranial pressure headaches

BOX chart

EXERCISE

Attempt to fill in the missing information using the guidelines provided in the completed box(es).

Question sheet

	CLINICAL FEATURES	EXAM FINDINGS	DIAGNOSIS
DIZZINESS		<ul style="list-style-type: none"> • Facial numbness • Facial weakness • Hearing loss • Other neurological problems • Café-au lait lesions 	
		<ul style="list-style-type: none"> • Sore, inflamed ear • Respiratory infection i.e. cold / flu 	
	<ul style="list-style-type: none"> • Attacks of dizziness with no normal periods • Usually 3-4 hours after eating • Palpitations • Restlessness 	<ul style="list-style-type: none"> • Tachycardia • Sweating • Agitated 	
	<ul style="list-style-type: none"> • Vertigo of sudden onset • Variable lengths from hours to days • Nausea and vomiting • Any age 		
		<ul style="list-style-type: none"> • Poor coordination • Nausea and vomiting • Slurring • Diplopia • Other neurological signs 	
	<ul style="list-style-type: none"> • Non-movement induced vertigo • Acute episodic onsets, lasting hours or days • Tinnitus • Normal in elderly patients • Hearing loss • Nausea and vomiting 		
	<ul style="list-style-type: none"> • Recurring attacks • Little associations • No apparent reasons 	<ul style="list-style-type: none"> • Patient may exhibit evidence of stress • No pathologies present 	
	<ul style="list-style-type: none"> • Recurring light-headedness • Posture related • Usually in elderly 	<ul style="list-style-type: none"> • Patient may be on BP medications • Diabetic patient 	
	<ul style="list-style-type: none"> • Patient may relate to emotional events • Paraesthesiae in fingers, lips and eyelids 	<ul style="list-style-type: none"> • No evidence of pathologies • Patient may be worried, stressed or preoccupied with health 	
			<ul style="list-style-type: none"> • Benign positional vertigo
		Construct your own chart for these conditions	

BOX chart

EXERCISE

Attempt to fill in the missing information using the guidelines provided in the completed box(es).

Answer sheet

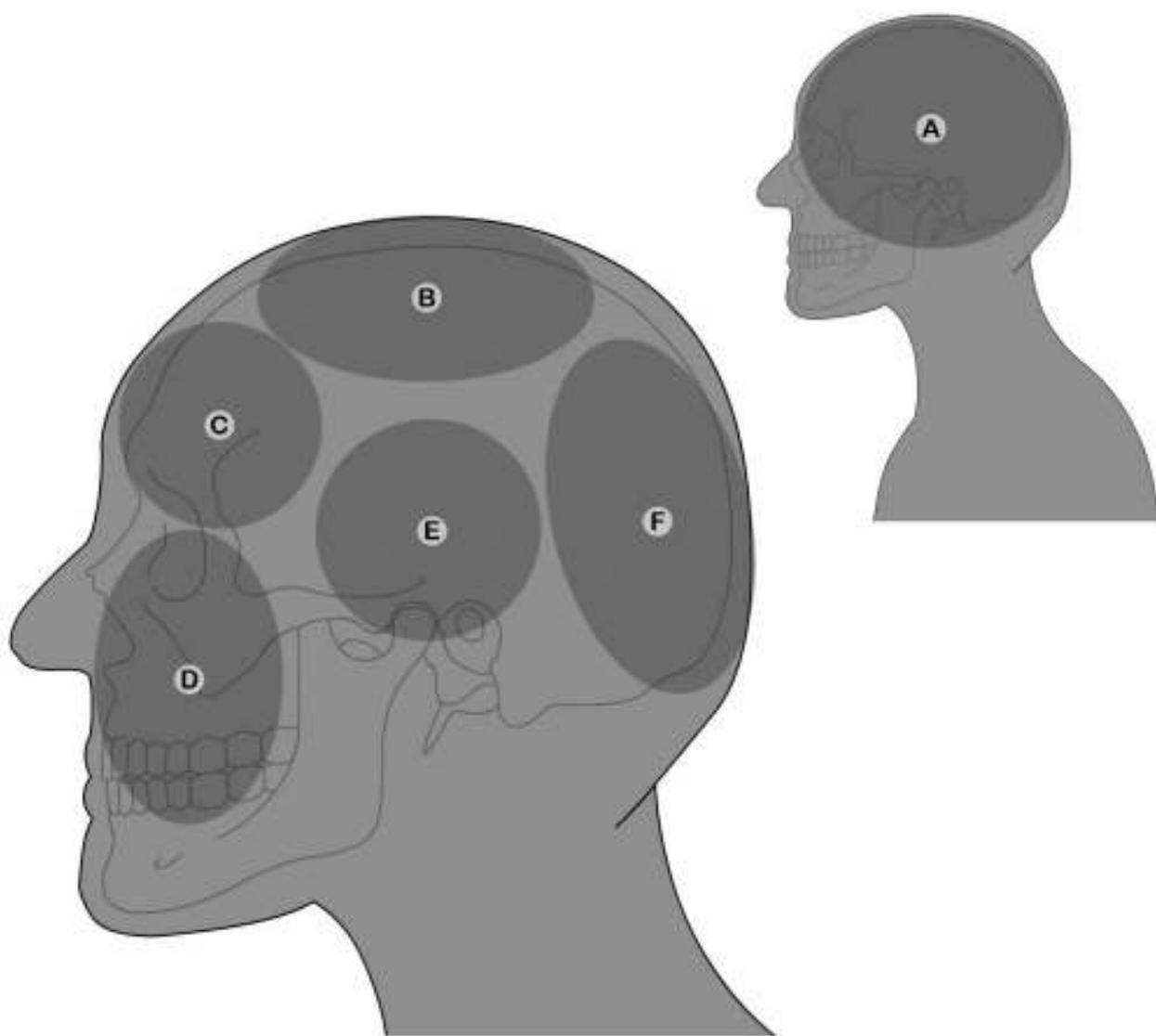
	CLINICAL FEATURES	EXAM FINDINGS	DIAGNOSIS
DIZZINESS	<ul style="list-style-type: none"> • Persistent vertigo • Insidious onset • Affects more adults • Progressive, unilateral hearing loss • Tinnitus 	<ul style="list-style-type: none"> • Facial numbness • Facial weakness • Hearing loss • Other neurological problems • Café au lait lesions 	<ul style="list-style-type: none"> • Acoustic neuroma
	<ul style="list-style-type: none"> • Persistent vertigo • Ear ache/pain • Common in children 	<ul style="list-style-type: none"> • Sore, inflamed ear • Respiratory infection i.e. cold / flu 	<ul style="list-style-type: none"> • Otitis media
	<ul style="list-style-type: none"> • Attacks of dizziness with no normal periods • Usually 3-4 hours after eating • Palpitations • Restlessness 	<ul style="list-style-type: none"> • Tachycardia • Sweating • Agitated 	<ul style="list-style-type: none"> • Reactive hypoglycaemia
	<ul style="list-style-type: none"> • Vertigo of sudden onset • Variable lengths from hours to days • Nausea and vomiting • Any age 	<ul style="list-style-type: none"> • Possible hearing loss • If during attack patient in distress • Possibly viral infection 	<ul style="list-style-type: none"> • Labyrinthitis / Otitis interna
	<ul style="list-style-type: none"> • Usually acute onset of vertigo • Deteriorating • Possibly recurring • Normal hearing • Blurred vision 	<ul style="list-style-type: none"> • Poor coordination • Nausea and vomiting • Slurring • Diplopia • Other neurological signs 	<ul style="list-style-type: none"> • Brainstem syndrome • Brainstem lesion
	<ul style="list-style-type: none"> • Non-movement induced vertigo • Acute episodic onsets, lasting hours or days • Tinnitus • Normal in elderly patients • Hearing loss • Nausea and vomiting 	<ul style="list-style-type: none"> • Nystagmus • +ve Halpike's test • Hearing deficit 	<ul style="list-style-type: none"> • Meniere's disease
	<ul style="list-style-type: none"> • Recurring attacks • Little associations • No apparent reasons 	<ul style="list-style-type: none"> • Patient may exhibit evidence of stress • No pathologies present 	<ul style="list-style-type: none"> • Psycho-emotional • Psychosomatic
	<ul style="list-style-type: none"> • Recurring light-headedness • Posture related • Usually in elderly 	<ul style="list-style-type: none"> • Patient may be on BP medications • Diabetic patient 	<ul style="list-style-type: none"> • Orthostatic hypotension
	<ul style="list-style-type: none"> • Patient may relate to emotional events • Paraesthesiae in fingers, lips and eyelids 	<ul style="list-style-type: none"> • No evidence of pathologies • Patient may be worried, stressed or preoccupied with health 	<ul style="list-style-type: none"> • Hyperventilation
	<ul style="list-style-type: none"> • History of recurring attacks of vertigo • Normal during relapses • No hearing loss • Not usually in children 	<ul style="list-style-type: none"> • May be induced by head movements • Nystagmus with head movements 	<ul style="list-style-type: none"> • Benign positional vertigo
<p>Construct your own chart for these conditions</p>		<p>OTHER CAUSES:</p> <ul style="list-style-type: none"> • Acoustic neuroma • Drug-induced • Sick sinus syndrome • Wolf-Parkinson white syndrome 	

PAIN image

EXERCISE

Identify the likely causes of headaches affecting the areas identified below.

Question sheet



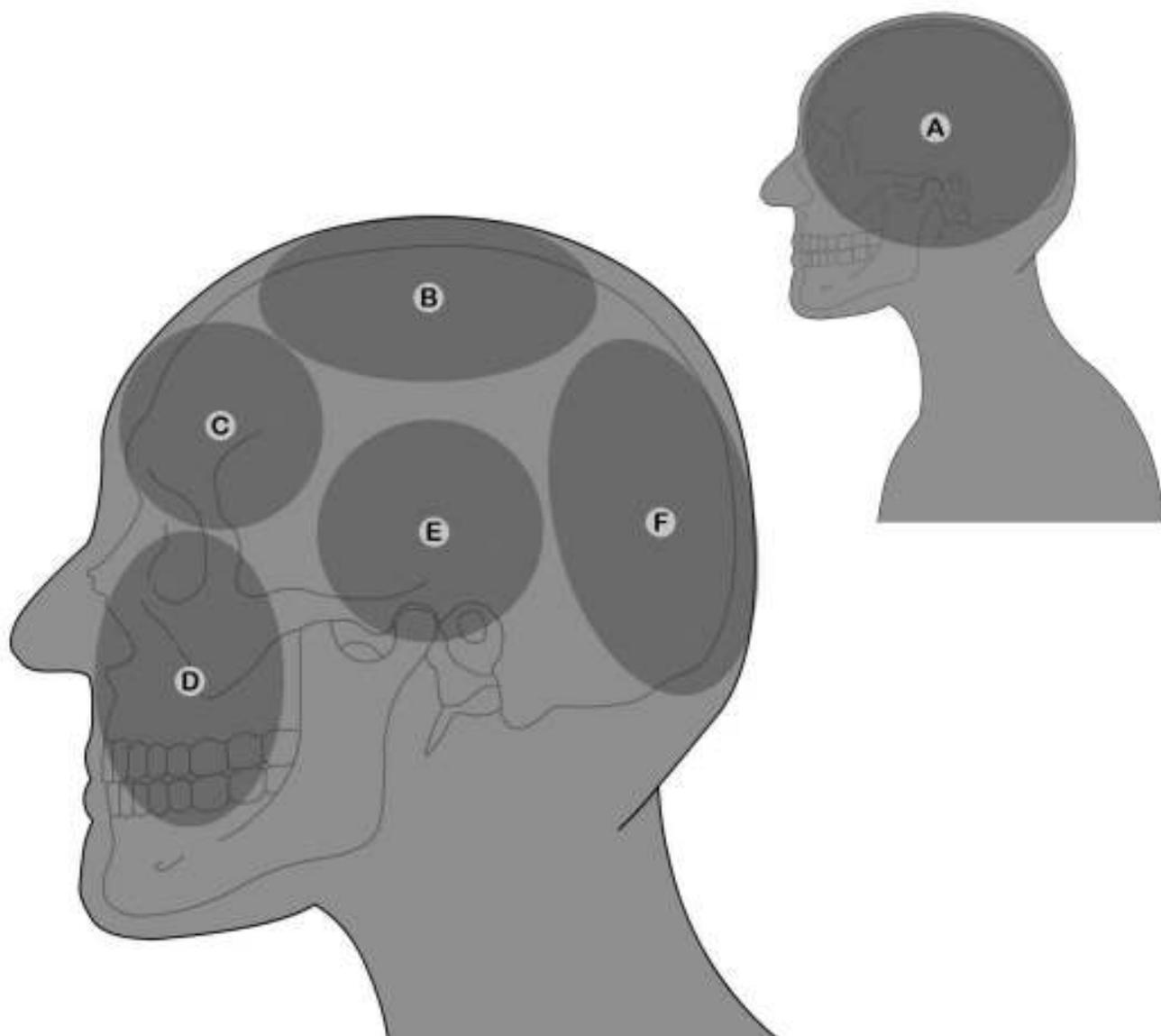
- A**
- B**
- C**
- D**
- E**
- F**

PAIN image

EXERCISE

Identify the likely causes of headaches affecting the areas identified below.

Answer sheet



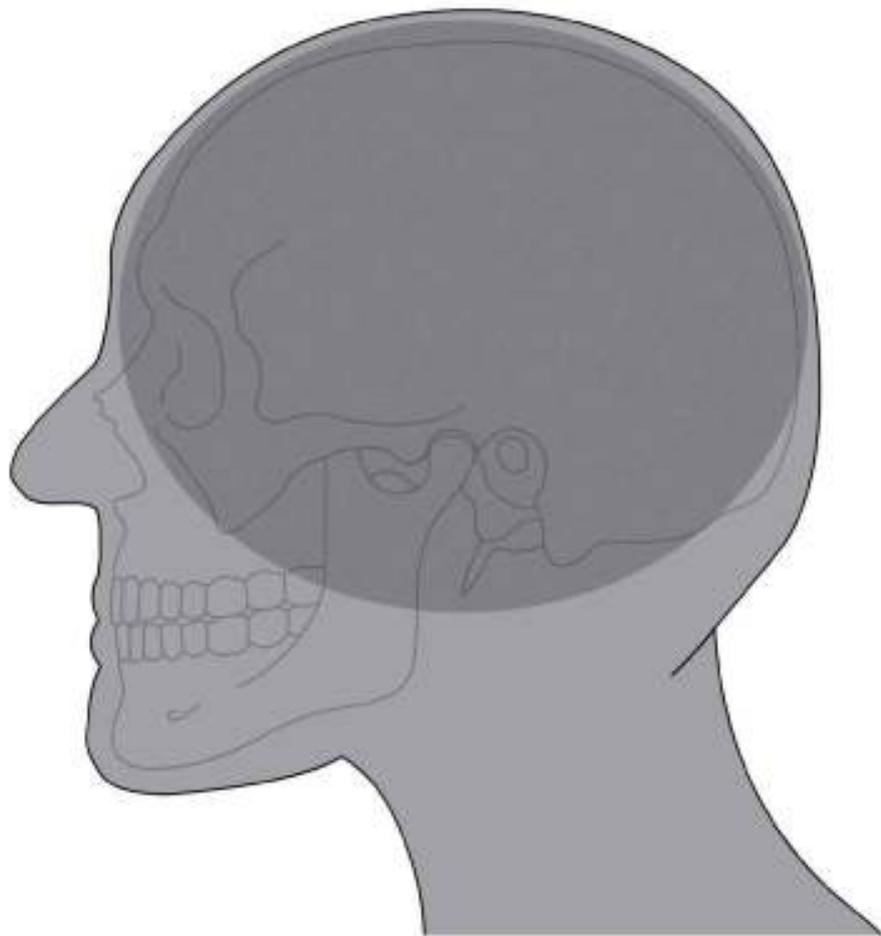
- A** Diffuse / generalised headaches
- B** Vertex headaches
- C** Frontal headaches
- D** Facial headaches
- E** Temporal headaches
- F** Occipital headaches

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Generalised headaches:

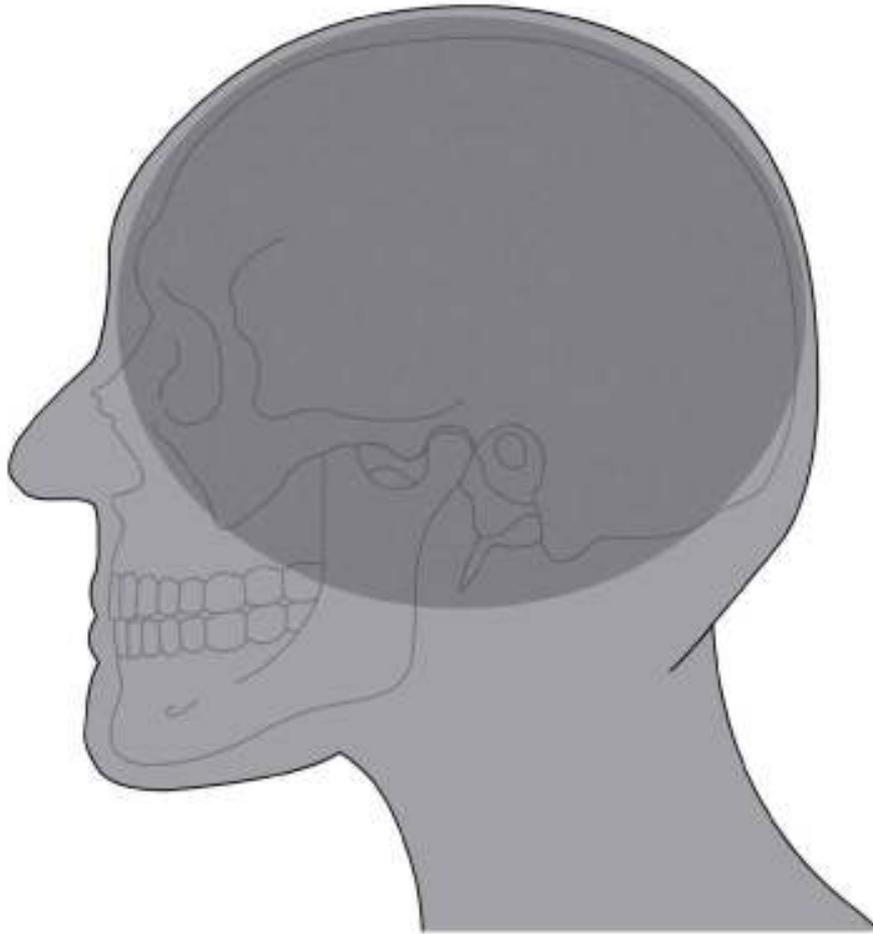
- A**
- B**
- C**
- D**
- E**
- F**
- G**

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Generalised headaches:

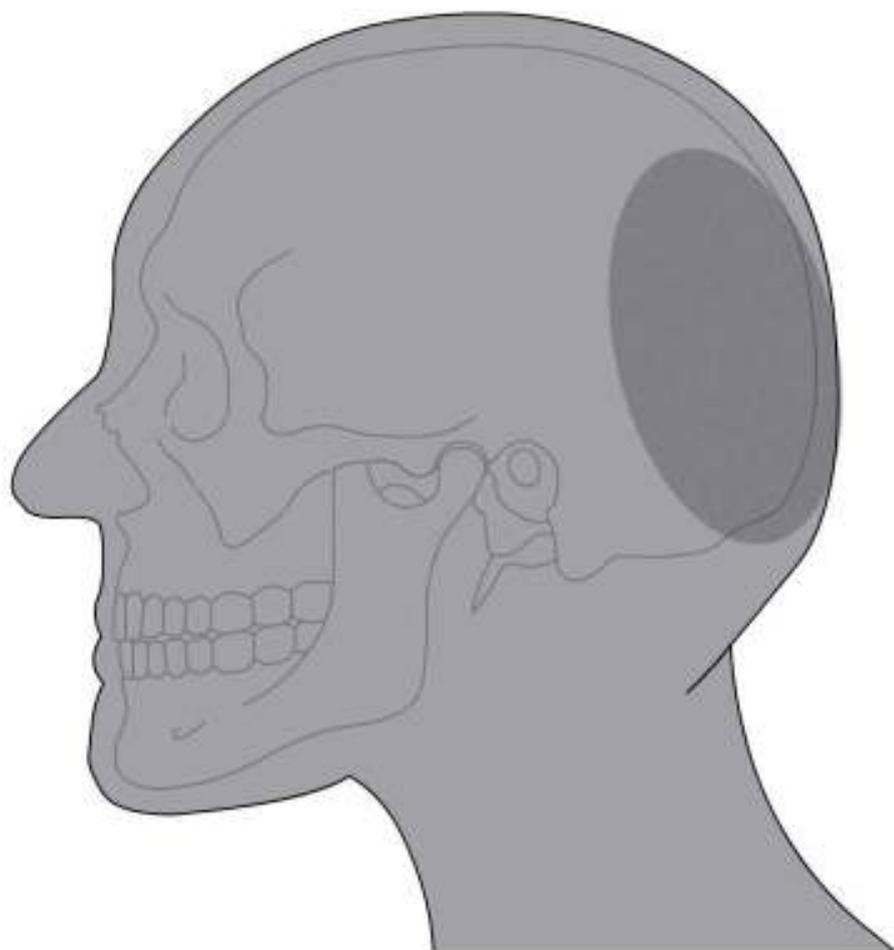
- A** Intracranial tumours.....
- B** Hypertension.....
- C** Migraine.....
- D** Vascular disease.....
- E** Uraemia.....
- F** Trauma (esp. subdural haematoma).....
- G** Drug related (several).....

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Occipital headaches:

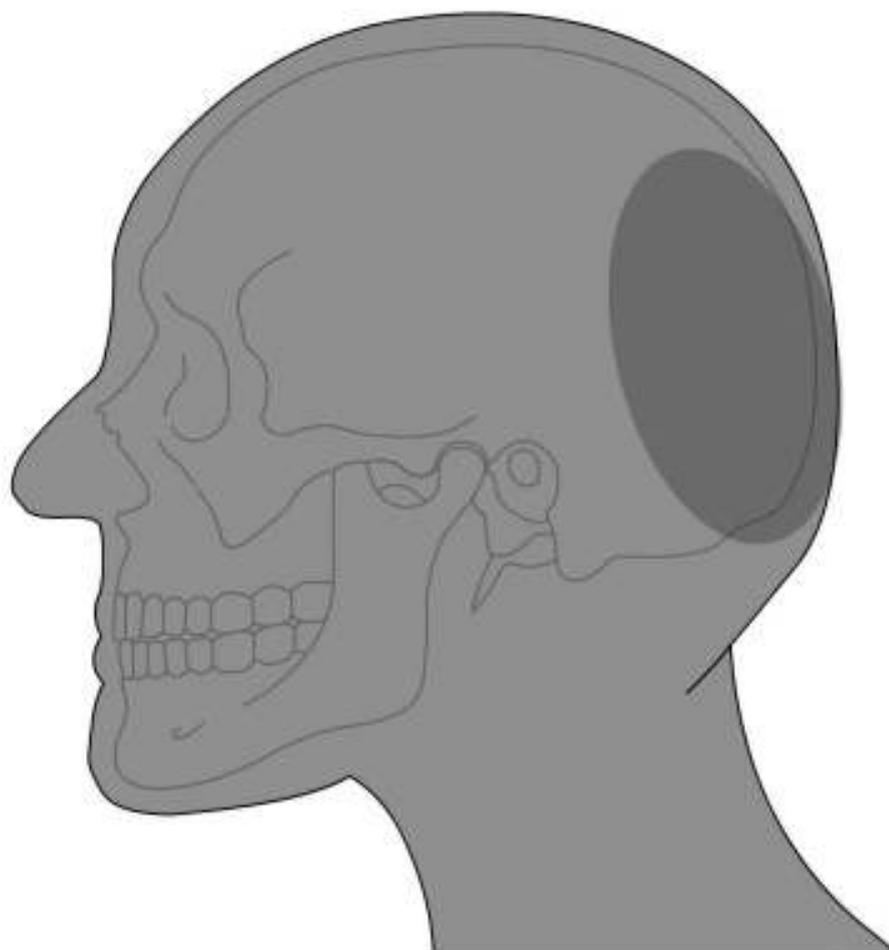
- A**
- B**
- C**
- D**
- E**
- F**

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Occipital headaches:

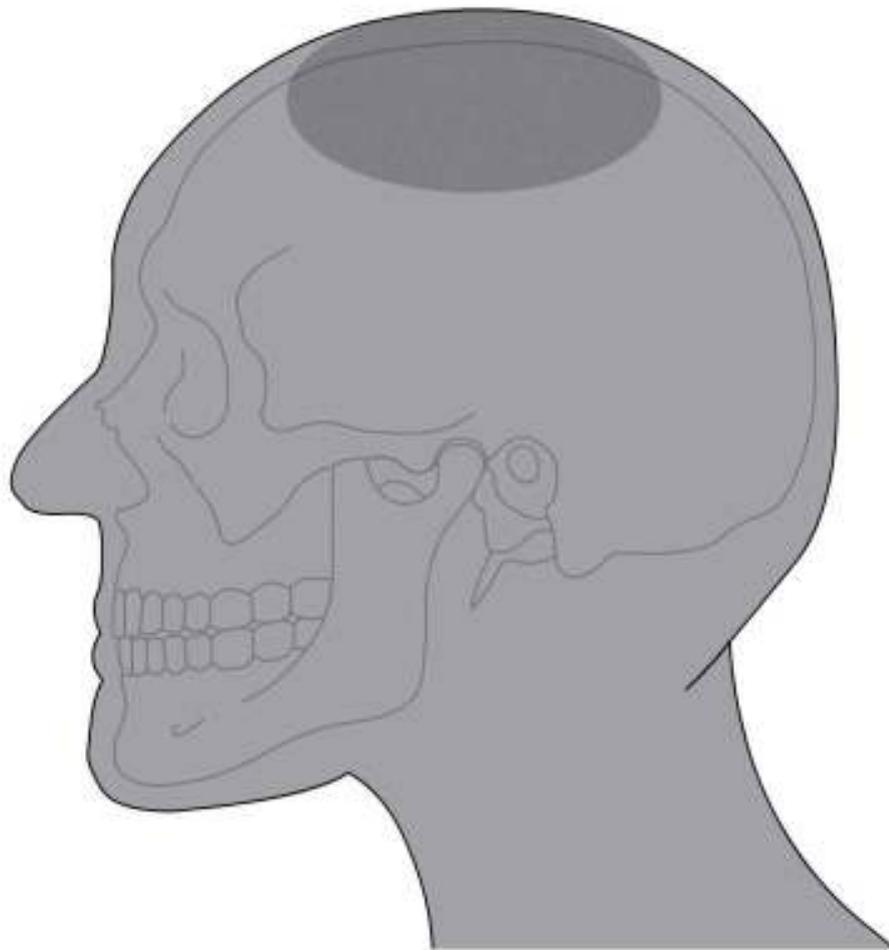
- A** Hypertension
- B** Uraemia
- C** Alcohol related
- D** Infratentorial lesions
- E** Myofascial disease
- F** Subarachnoid haemorrhage

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Vertex headaches:

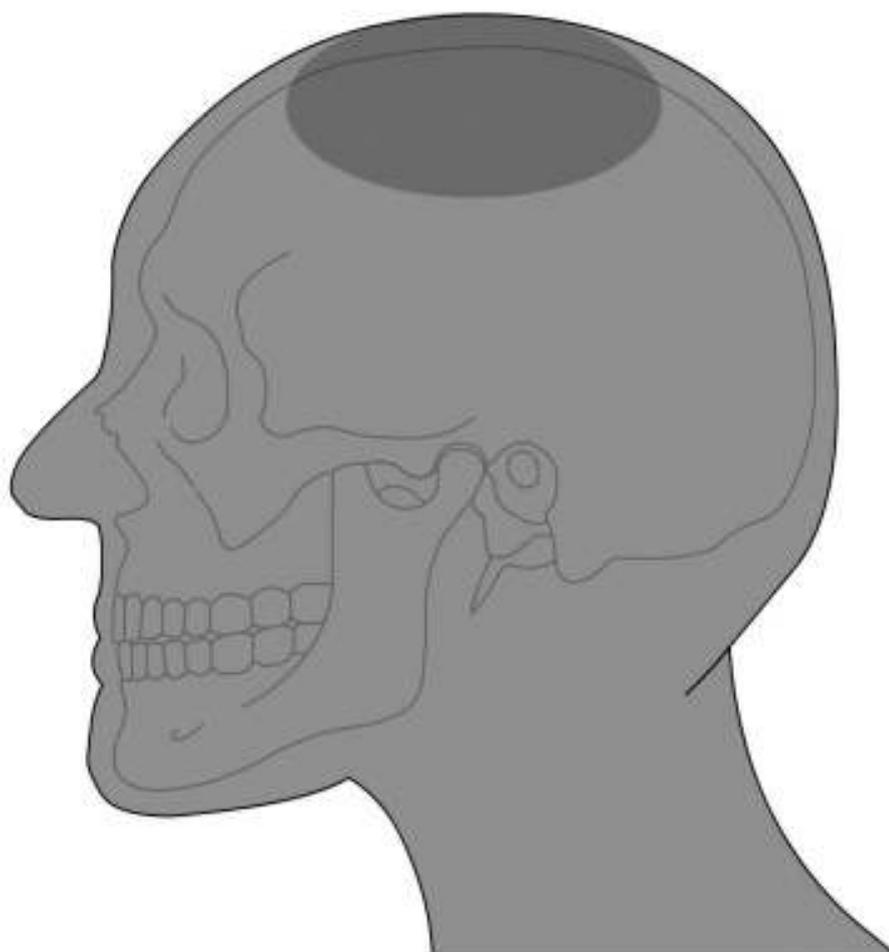
- A**
- B**
- C**
- D**
- E**
- F**
- G**

PAIN image

EXERCISE

Identify some of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Vertex headaches:

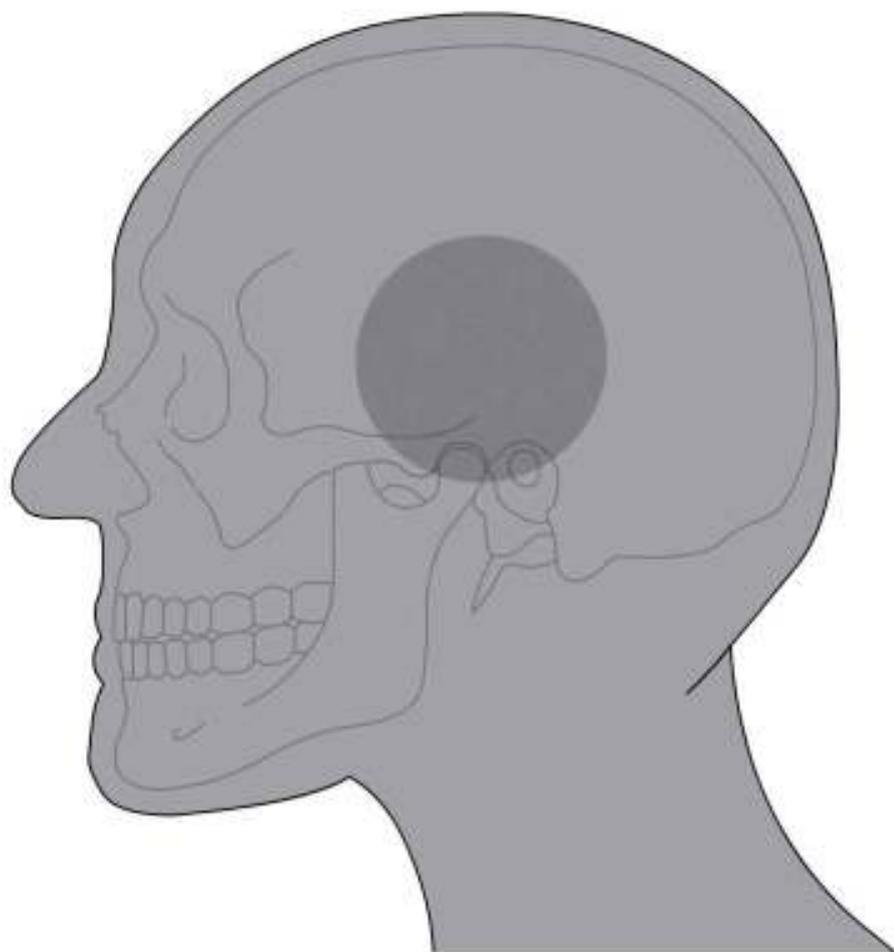
- A** Hypertension
- B** Migraine
- C** Drug related (several)
- D** Fever, viral infection and systemic diseases
- E** Intracranial tumours
- F** Myofascial disease
- G** Sphenoid and ethmoid disease

PAIN image

EXERCISE

Identify some of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Temporal headaches:

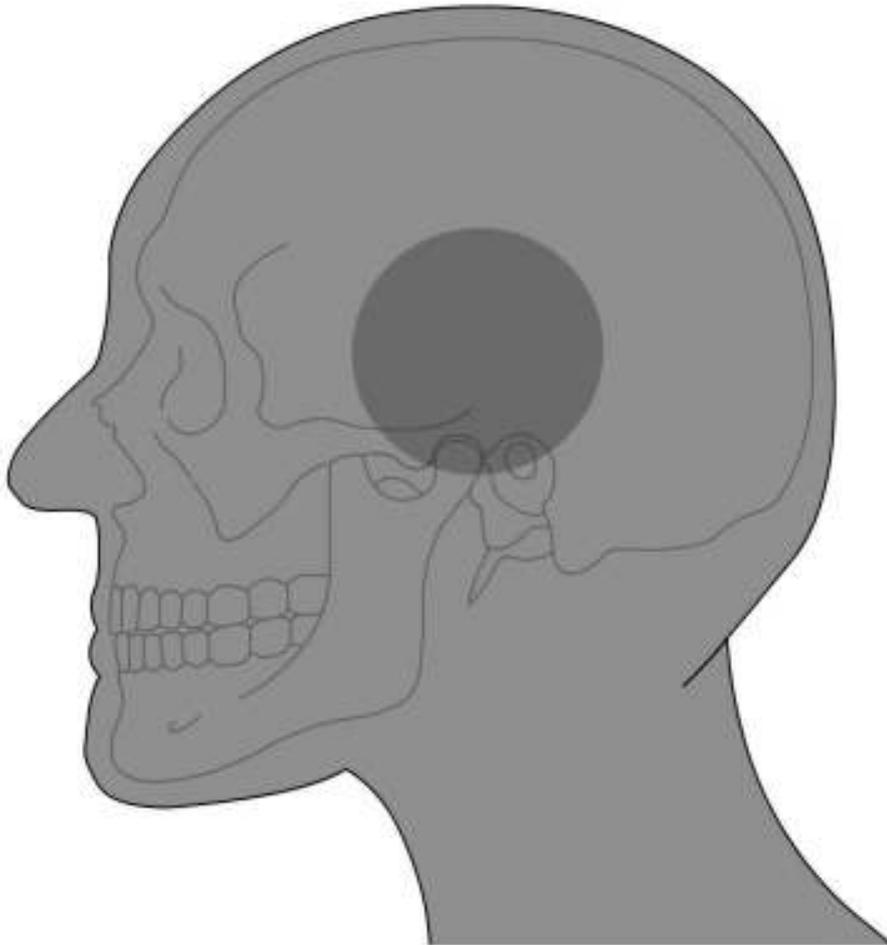
- A**
- B**
- C**
- D**
- E**
- F**
- G**

PAIN image

EXERCISE

Identify some of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Temporal headaches:

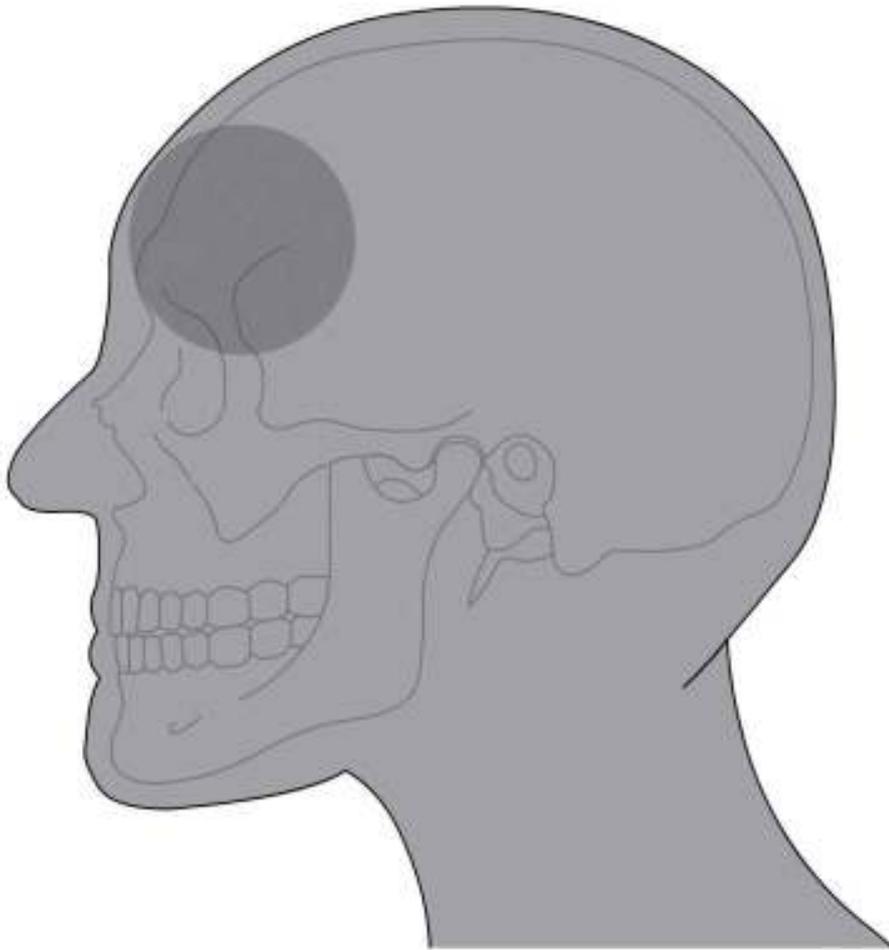
- A** Temporal arteritis
- B** TMJ problems
- C** Dental disease
- D** Muscle tension
- E** Ear problems
- F** Polymyalgia rheumatica
- G** Referral from cervical spine

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Frontal headaches:

A

B

C

D

E

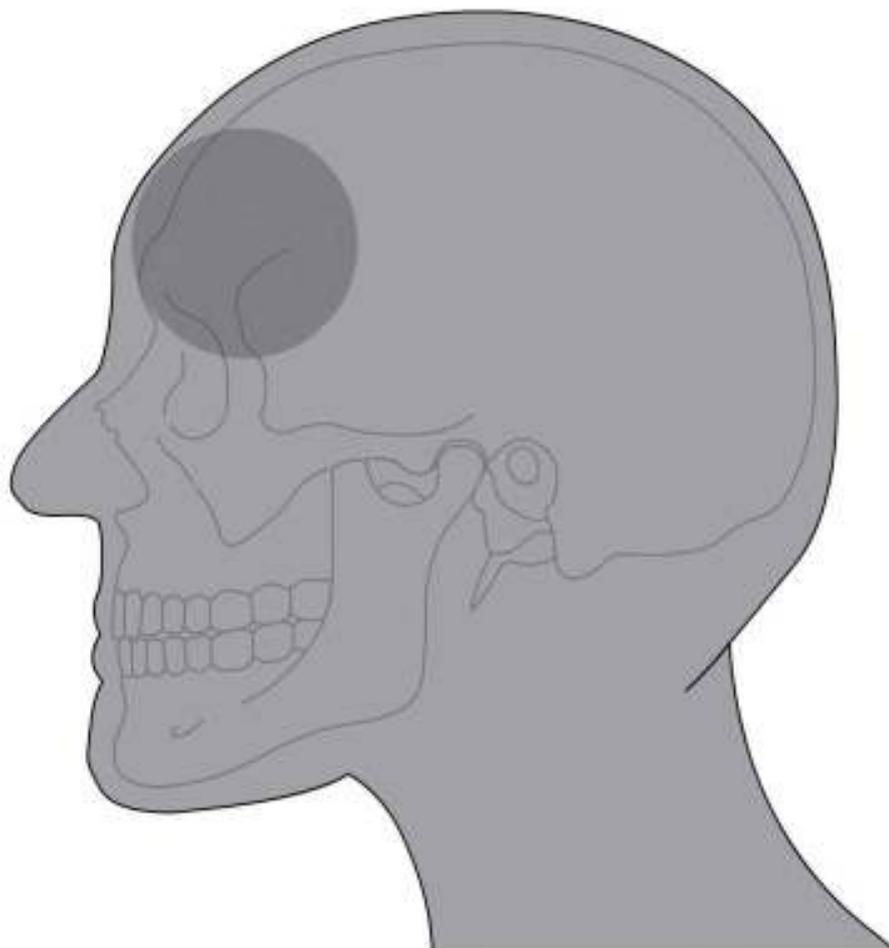
F

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EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Frontal headaches:

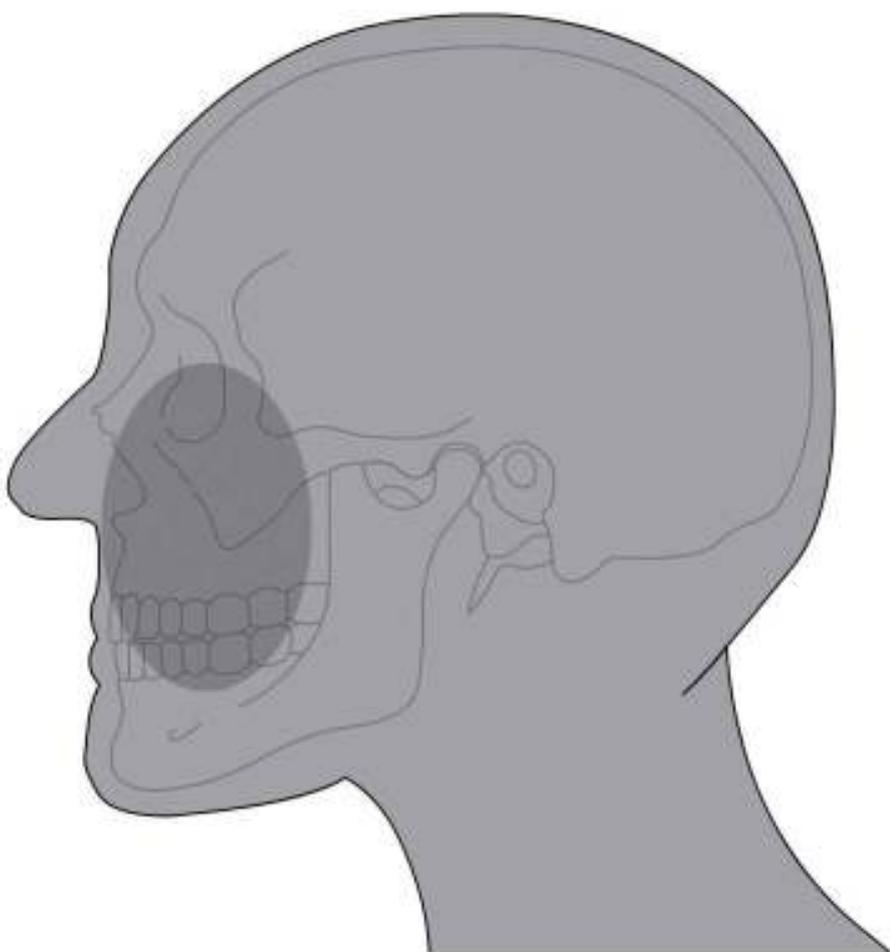
- A Sinusitis
- B Muscle tension
- C Eye disease
- D Neuralgias
- E Temporal arteritis
- F TMJ dysfunction

PAIN image

EXERCISE

Identify **some** of the most likely causes of headaches affecting the areas highlighted below.

Question sheet



Causes of Facial headaches:

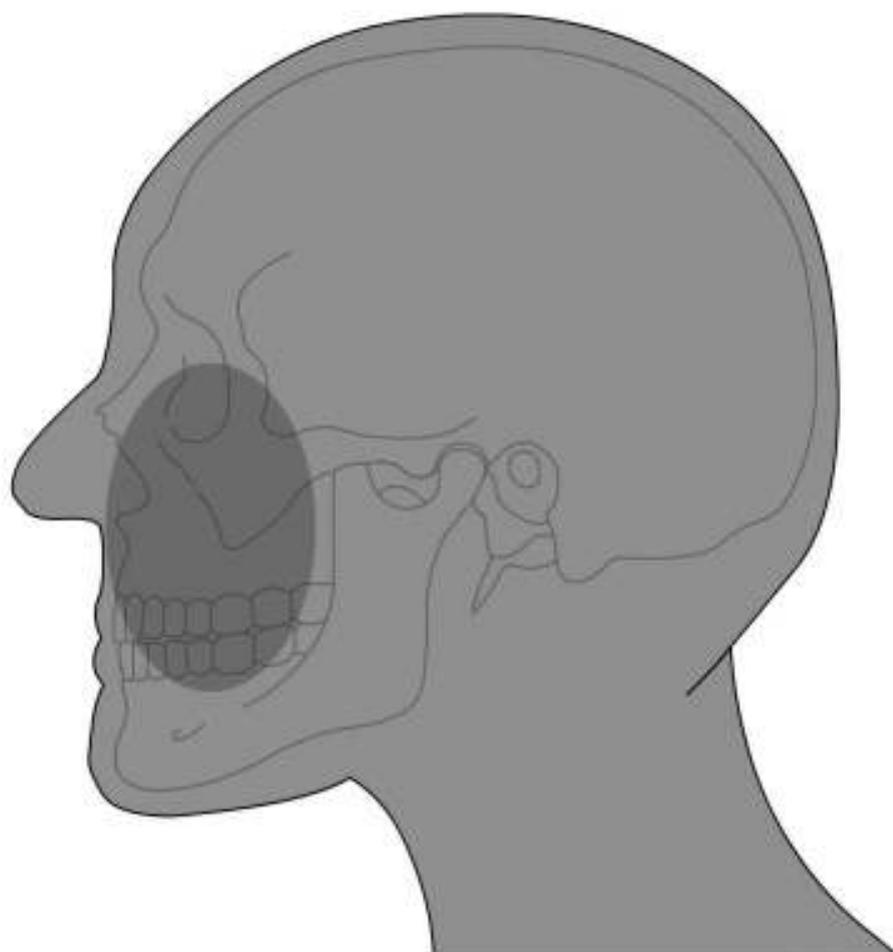
- A**
- B**
- C**
- D**
- E**
- F**
- G**

PAIN image

EXERCISE

Identify some of the most likely causes of headaches affecting the areas highlighted below.

Answer sheet



Causes of Facial headaches:

- A** Sinusitis
- B** Dental disease
- C** Neuralgias
- D** Temporal arteritis
- E** Horner's syndrome
- F** TMJ dysfunction
- G** Myofascial disease

Case history: Headache

A 16-year-old girl suddenly developed severe headaches and took to her bed early. It was a cold December's day and her mother thought she had contracted a bad cold. The next day she failed to get up for school and her mother found her still in bed and in a confused state. She was immediately admitted to hospital in a state of collapse. When the doctor questioned her mother, she told him that her daughter had developed malaise and lethargy in the last two days and vomited once. On the day of admission she complained of a severe headache and weakness. She had become confused and disoriented and vomited profusely.

Examination showed delirium, dehydration, a tachycardia of 140 per minutes, blood pressure of 110/60 mmHg, temperature 38°C. Purpuric areas were identified on the arms. There was neck stiffness, a positive Kernig's sign and signs of cerebral irritability. The optic discs were pink with early papilloedema. Reflexes were normal and the plantar response showed a marked withdrawal reaction. The right knee joint was swollen, hot and tender.

1. What would be the most likely diagnosis?
2. State your reasons for arriving at the above diagnosis.
3. State two other possible diagnoses.
4. What agent do you suspect is responsible for her condition?
5. Name the most frequently performed diagnostic test used to confirm this?
6. Give possible causes for her swollen right knee.

References, Bibliography and Recommended reading

Jamison J R (2007), Differential Diagnosis for primary Practice, 2nd edn., Churchill Livingstone. (ISBN-13: 978-0443102875)

Goodman C G, Snyder T K (2007), Differential Diagnosis for Physical Therapists: Screening for Referral, 4th edn, Saunders. (ISBN: 978-0721606194)

Seller R H, Differential Diagnosis of Common Complaints, Saunders, 3rd edn, 1996 ISBN: 978-1416029069

Beck R, et al (2003), Tutorials in Differential Diagnosis, 4th edn., Churchill Livingstone. ISBN: 978-04430615-7-8

DVD-VIDEO recordings

Syrimis A (2007), Clinical Examinations DVDs, Bloomsbury Educational Ltd,

ISBNs:

- Respiratory system examination: 978-0-9551291-0-0
- General system examination: 978-0-9551291-1-7
- Cardiovascular system examination: 978-0-9551291-2-4
- Abdominal system examination: 978-0-9551291-3-1
- Peripheral nervous system examination: 978-0-9551291-4-8
- Cranial nerves examination: 978-0-9551291-5-5
- Musculoskeletal examination: 978-0-9551291-6-2
- Case History Taking: 978-0-9551291-7-9
- Clinical Examinations: Complete DVD series: 978-0-9551291-9-3

<http://www.clinicalexams.co.uk/student-resources-section.htm>

(For additional lecture notes, Q&As and images, Username & Password provided in class)

Boon N A, Colledge N R, Walker, B & Hunter J A A (2006), Davidson's Principles and Practice of Medicine, 20th Edition, Churchill Livingstone ISBN: 978-0-4430703-5-8

Bickley, L. S.; Szilagyi, P. G.; 2003; ***Bates' Guide to Physical Examination and History Taking***; (8th Ed); Lippincott; New York.

Epstein, O.; et al.; 1997; *Clinical Examination*; (2nd Ed.); Mosby; London. (similar to Bates but presents the information in a different but equally good way. Some very good photographs and is user friendly).

Marsh J; 1999 *History and Examination*; Mosby London. (a great 'crash course' book with sample questions. Very user friendly. I recommend it).

Forbes, C. D.; Jackson, W. F.; 1998; *Color Atlas and Text of Clinical Medicine*; (2nd Ed.); Mosby; London. Excellent reference book for photographs of various pathologies.

Haslett, C.; et al.; 1999; *Davidson's Principles and Practice of Medicine*; (18th Ed.); Churchill Livingstone; Edinburgh. (Use to put your clinical findings into context of general medicine).

Bradley J, Rubenstein D, Wayne D, The Clinical Manual, Blackwell Scientific publications. ISBN 0-632-03312-6. This is another very good pocket size book but you may have to order it. I find this book very useful because it also had a summary of the main pathologies and their signs and symptoms.