# HALEON

OF SLEEP **PARALYSING** NOT MYSELF ANYMORE PHYSICALLY SICK

# Patient case study.

Headache

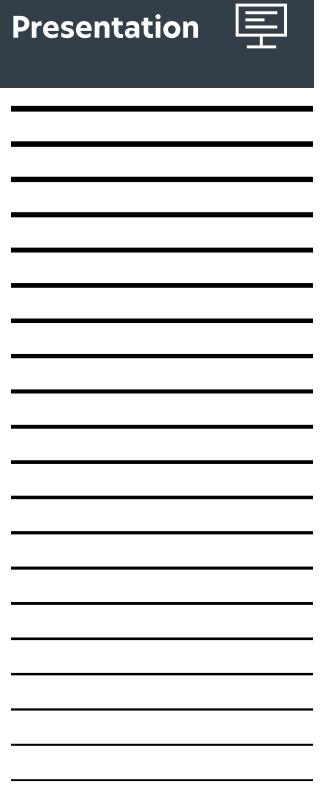
# #ListenToPain

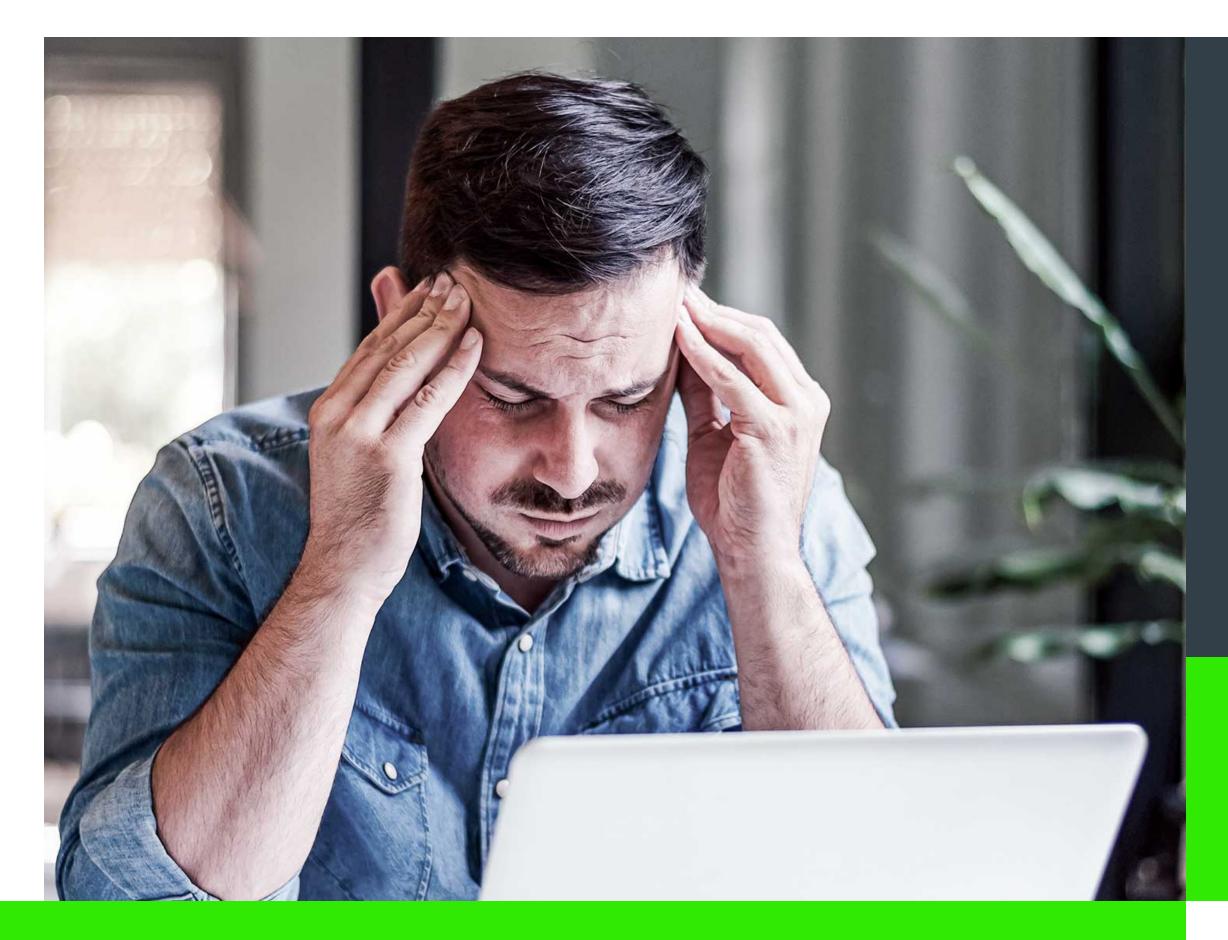
Brought to you by the makers of











# Gregory

45 years.

Gregory is an executive working in a middle management position at a leading financial organisation.

He complains of frequent headaches, often towards the end of the working day.















Treatment plan





Presentation =

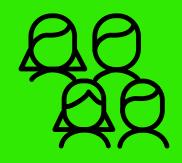




He undergoes regular health screenings.

3 years ago he was diagnosed with moderate hypertension and takes β-blocker 50mg once a day, regularly.

He has to continue working in the evenings in spite of a headache.1 This substantially impacts his work performance and Qol.<sup>1</sup>



1. Simic S, et al. Int J Environ Res Public Health 2020;17(18):6918.a.





History



















History



# **Detailed history:**

- Headaches mostly in the evenings since > 3 months, almost 4 times a week, lasting for 3 to 4 hours.
- Pain appears as a band extending bilaterally back from the forehead across the sides of the head to the occiput.
- Sometimes, headache extends to the posterior neck muscles.
- Varies from mild-to-moderate-intensity pressure-pain.
- No associated nausea or vomiting.
- Feels eye strain but no visual disturbances.

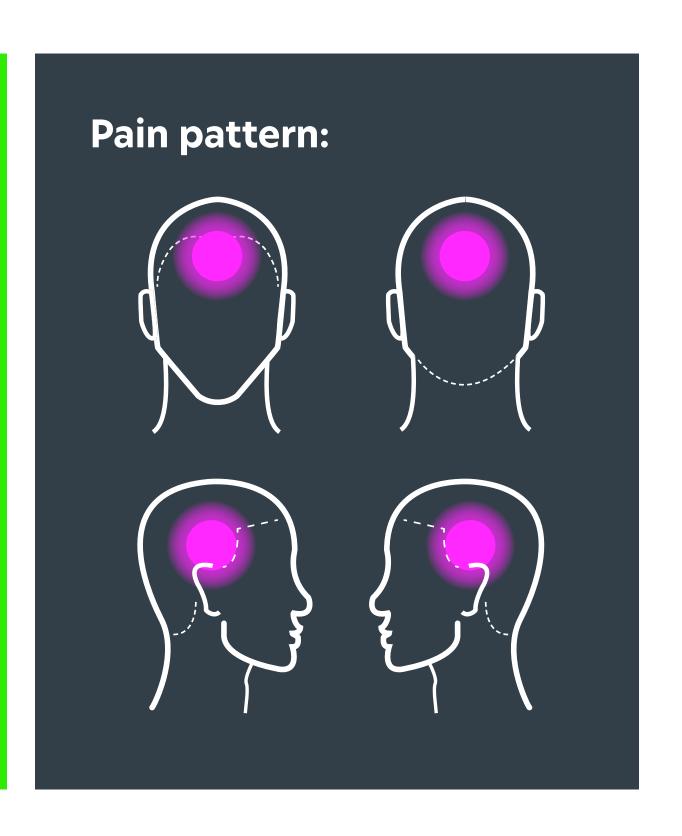
# Aggravating and alleviating features:

Continuous and long working hours seem to trigger the headaches.

# **Past history:**

- Hypertension for 3 years, takes atenolol 50mg once a day, regularly, BP is well maintained since then.
- No history of diabetes or any other chronic illness.
- No significant family history.
- Has regular health check ups.

diagnosis



BP. blood pressure.







Clinical examination









**Treatment plan** 









### Clinical examination





# Clinical examination.

- General appearance: Good.
- Pericranial muscle tenderness present.
- BP: 126/80mmHg.
- PR: 66bpm.
- Temperature: 37°C.
- BMI: 22.1kg/m<sup>2</sup>.

Q

Systemic and physical examination did not reveal any significant findings.



BMI, body mass index; BP, blood pressure; PR, pulse rate.







Clinical examination















Clinical examination

# Approach to evaluation and management.

01

What type of headache does Gregory have?

02

How can he best manage his headaches which are impacting his quality of life?

03

What do guidelines say?

04

What is the clinical evidence?

05

Which is the most suitable medicine for Gregory?





















**Clinical** examination



What type of headache does Gregory have?

Click an option to select your answer.

# MIGRAINE

TENSION HEADACHE

TRIGEMINAL AUTOMATIC CEPHALALGIAS

SECONDARY HEADACHE

OTHER HEADACHE DISORDER





History



Q

Clinical examination



What type of headache does **Gregory have?** 

Click an option to select your answer.

# **MIGRAINE**

**TENSION** HEADACHE

TRIGEMINAL AUTOMATIC **CEPHALALGIAS** 

**SECONDARY** HEADACHE

OTHER HEADACHE DISORDER







Clinical examination



What type of headache does **Gregory have?** 

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MIGRAINE

TENSION HEADACHE

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> SECONDARY HEADACHE

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Q

Clinical examination



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OTHER HEADACHE DISORDER





History



Clinical examination



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SECONDARY HEADACHE

OTHER

× HEADACHE

DISORDER







Clinical examination



What type of headache does **Gregory have?** 

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# MIGRAINE



TRIGEMINAL AUTOMATIC **CEPHALALGIAS** 

**SECONDARY** HEADACHE

OTHER HEADACHE DISORDER







Q

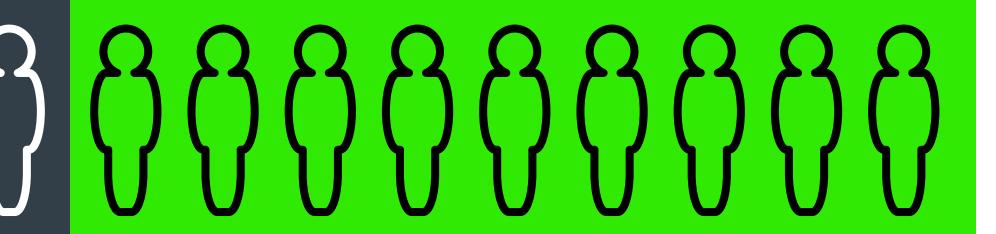


**Differential** diagnosis

Based on history and physcial examination ruling out any other cause of headache including hypertension (as his BP is well controlled),1

**Gregory is most** likely suffering from primary headache.

More than 90% of patients who present to their primary care provider for evaluation of headaches have a primary headache disorder.<sup>1,2</sup>



**International Classification of Headache Disorders** 

BP, blood pressure.

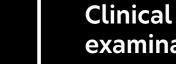
1. Headache Classification Committee of the International Headache Society. Cephalatgia 2018;38(1):1-211. 2. Rizzoli P, Mullally W. Am J Med 2018;131(1):17-24.

History

























# International Classification of Headache Disorders. 1,2

### Part 1

# The primary headaches

- **1.** Migraine
- **2.** Tension-type headache
- 3. Trigeminal autonomic cephalgia
- 4. Other primary headache disorders

### Part 2

# The secondary headaches

Headache (or facial pain) attributed to:

- **5.** Trauma or injury to the head and/or neck
- **6.** Cranial or cervical vascular disease
- **7.** Nonvascular intracranial disorder
- 8. A substance or its withdrawal
- **9.** Infection
- **10.** Disorder of homeostasis
- 11. Disorder of the cranium, neck, eyes, ears, nose, sinuses, teeth, mouth, or other facial or cervical structure
- **12.** Psychiatric disorder

### Part 3

# Painful cranial neuropathies, other facial pains, and other headaches

- **13.** Painful cranial neuropathies and other facial pain
- **14.** Other headache disorders









Clinical

examination













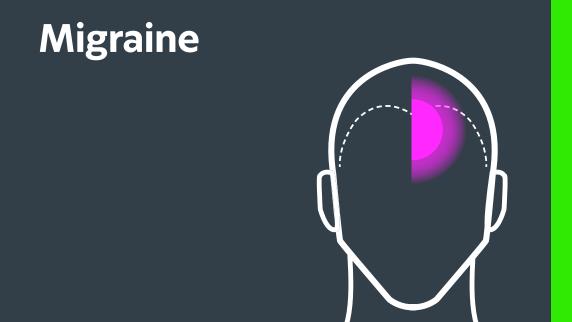


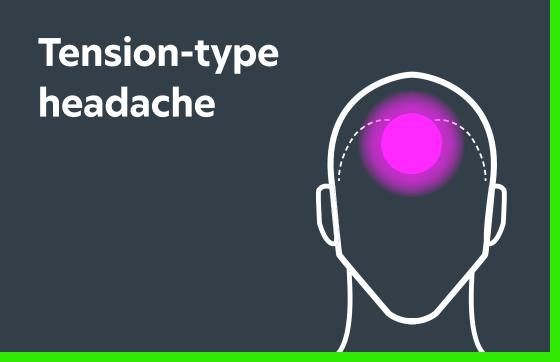


**Differential** diagnosis

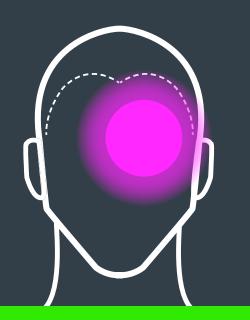


# What type of primary headache does Gregory have?





**Trigeminal** autonomic cephalalgias





How do we differentiate?







Clinical examination



Differential diagnosis





**4+1** 

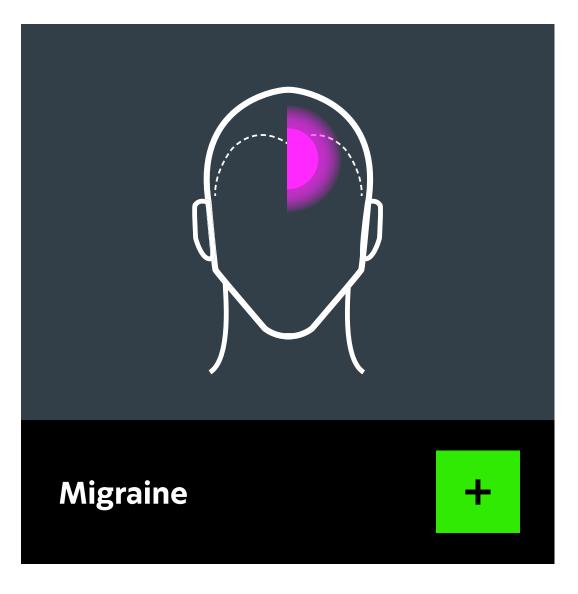


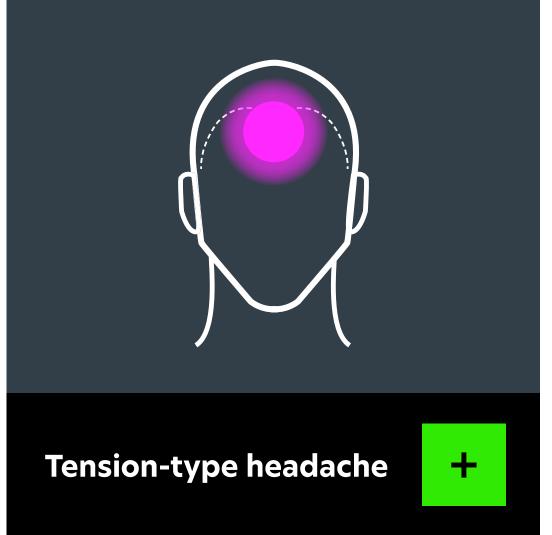


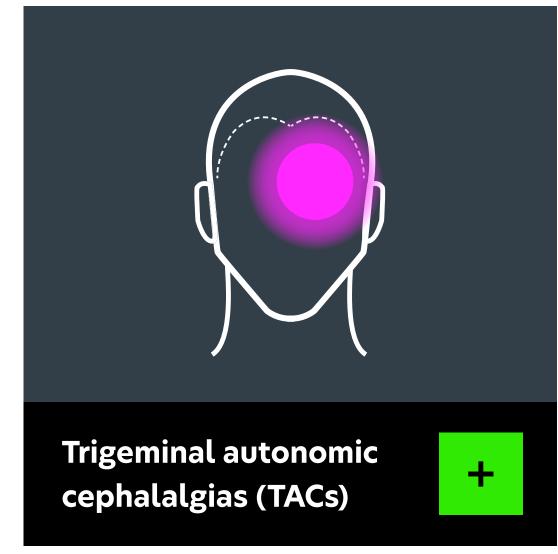


**Differential** diagnosis

What is the guidelines-based differential diagnosis of primary headaches?1-3







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 Ug





Treatment plan



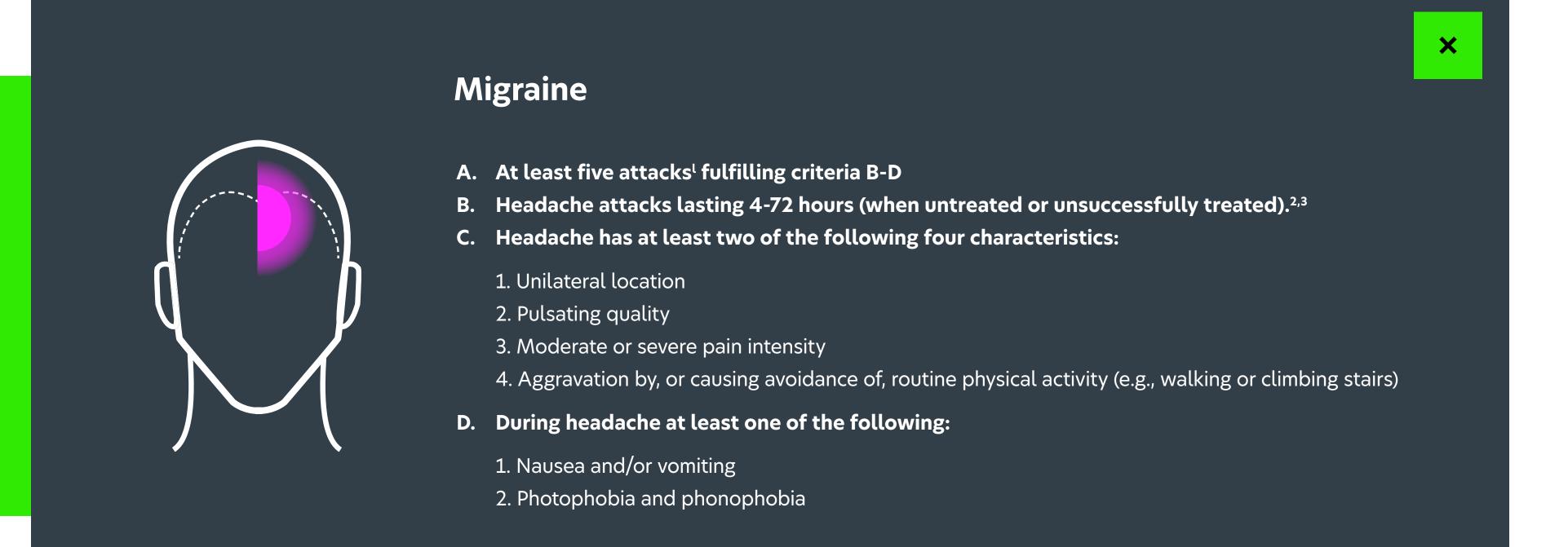






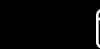
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diagnosis





4+1



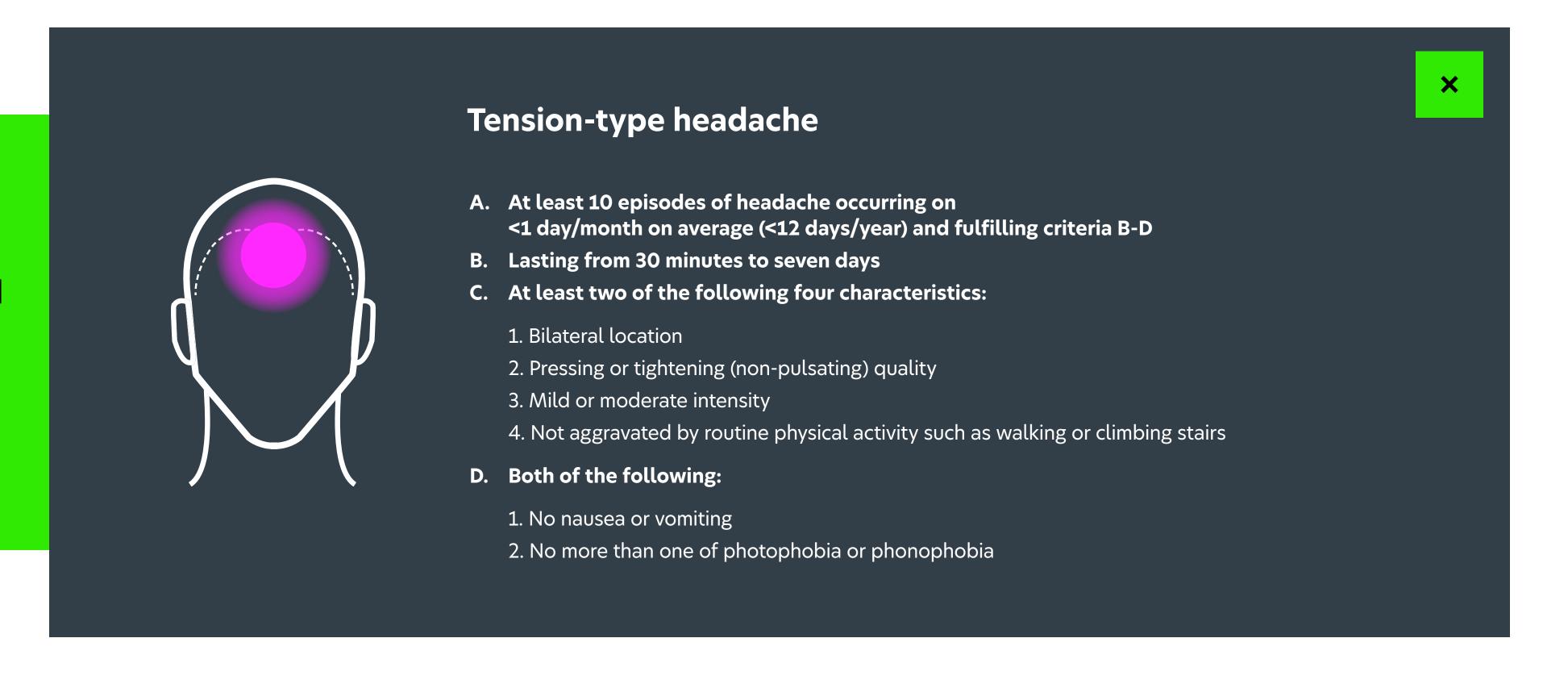






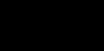
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History













4+1









**Differential** diagnosis

What is the guidelines-based differential diagnosis of primary headaches?1-3

# Trigeminal autonomic cephalalgias (TACs) A. At least five attacks¹ fulfilling criteria B-D B. Severe or very severe unilateral orbital, supraorbital and/or temporal pain lasting 15-180 minutes (when untreated)<sup>2,3</sup> C. Either or both of the following: 1. At least one of the following symptoms or signs, ipsilateral to the headache: a) Conjunctival injection and/or lacrimation b) Nasal congestion and/or rhinorrhoea c) Eyelid oedema d) Forehead and facial sweating e) Miosis and/or ptosis A sense of restlessness or agitation D. Occurring with a frequency between one every other day and eight per day<sup>2</sup>

1. Headache Classification Committee of the International Headache Society. Cephalalgla 2018;38(1):1-211. 2. Rizzoli P, Mullally W. Am J Med 2018;131(1):17-24. 3. Becker W, et al. Can Fam Physician 2015;61(8):670-679.







Clinical examination









Follow-up



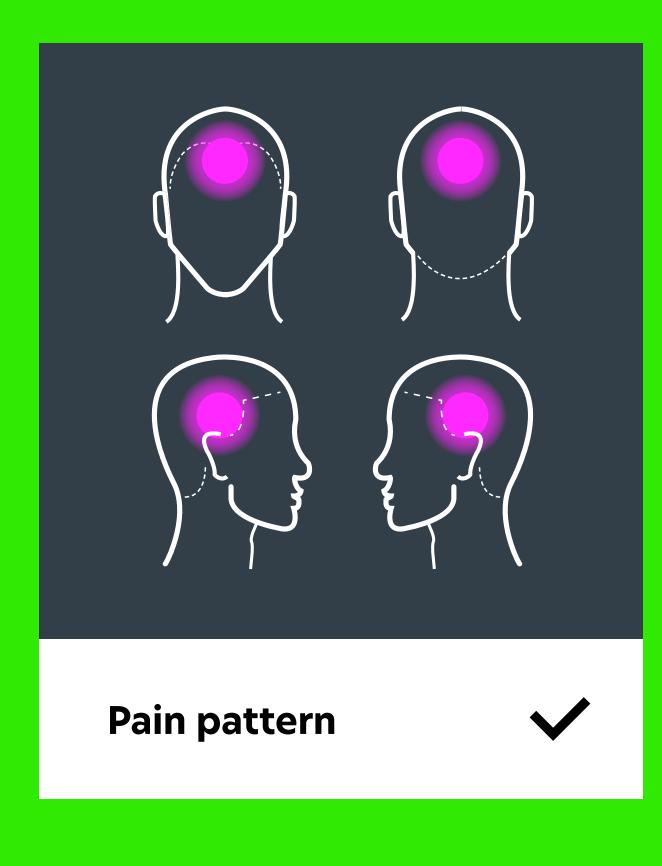


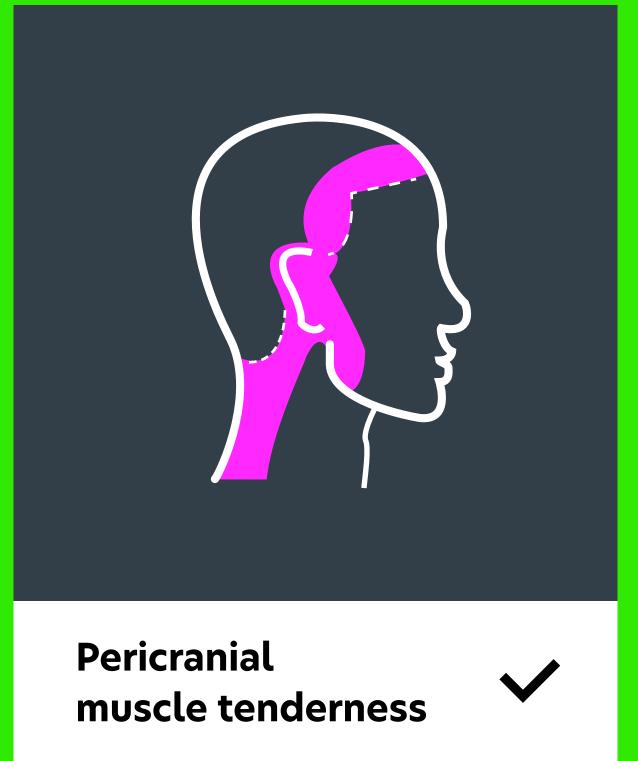


**Differential** diagnosis



# What is the diagnosis?





# Therefore, **Gregory has a** tension-type headache

- > It is a dull, bilateral, mild-to moderate-intensity pressure-pain.1
- Pericranial muscle tenderness is an important physical finding in the diagnosis of tension-type headache.1
- > No nausea and vomiting.

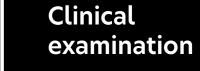
1. Rizzoli P, Mullally W. Am J Med 2018;131(1):17-24.





**History** 

















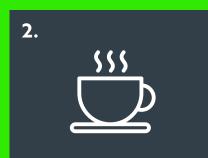






What lifestyle modifications should be suggested to **Gregory?** 

















Self-management interventions for tension-type headache are very effective in reducing pain intensity, mood and headache-related disability.1

- **1.** Eat nutritious food on a regular schedule
- 2. Avoid excess caffeine
- 3. Ease muscle tension. Massage, apply heat or ice
- **4.** Exercise regularly
- **5.** Quit smoking
- **6.** Relax. Try deep breathing exercises
- **7.** Get enough sleep
- 8. Keep stress under control

1. Probyn K, et al. BMJ Open 2017;7(8):e016670. 2. Mayo Clinic. Tension-type headaches: Self-care measures for relief. Available at: www.mayoclinic.org/diseases-conditions/tension-headache/in-depth/headaches/art-20047631 (last accessed May 2021).

examination

Clinical

























History



**Treatment** plan



# What are the pharmacological options for TTH?

Tension-type headache is often managed with over-the-counter analgesics. 1-3

Paracetamol (or APAP)

**Ibuprofen** 

Acetylsalicylic acid

All of the above in combination with caffeine



APAP, n-acetyl-para-aminophenol; TTH, tension-type headache

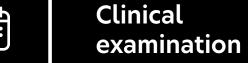
1. Derry C, et al. Cochrane Database Syst Rev 2012;(3):CD009281. 2. Ali Z, et al. Curr Med Res Opin 2007;23:841. 3. Zhang W. Drug Saf 2001;24:1127-1142.

**History** 

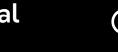
















Follow-up







**Treatment** plan



# What are the pharmacological options for TTH?

# Monotherapy in TTH.

For acute treatment of tension-type headaches, most guidelines recommend:

- Paracetamol (500-1000mg); level I or grade A.
- Ibuprofen (200-800mg); level I or grade A.

According to clinical guidelines, the choice of therapy should be based on patient risk profile.

### **Paracetamol is preferred in:**

- Elderly.
- GI risk.
- Kidney disease.
- Children.
- CVD conditions like hypertension & diabetes.

### **Ibuprofen is the suitable choice amongst OTC NSAIDs for:**

diagnosis

- Children under 14 years of age.
- Patients with GI risk.



**Based on robust evidence** 15 guidelines &

6 systemic reviews.<sup>1-23</sup>

**International Headache Society** The European Federation of Neurological Societies The American Headache Society **Canadian Headache Society** 

Primary efficacy parameter assessment for TTH is "pain free after 2 hours"

CVD, cardiovascular disease; GI, gastrointestinal; NSAID, non-steroidal anti-inflammatory drug; OTC, over-the-counter; TTH, tension-type headache.

View references >

**Presentation** 



























### References

- 1. Evers S, et al. Eur J Neurol 2009;16(9):968-981.
- 2. Marmura M, et al. Headache 2015;55(1)3-20.
- 3. Oskoui M, et al. Neurology 2019;93(11):487-499.
- 4. National Institute for Health and Care Excellence (NICE). Headaches in over 12s: diagnosis and management. Clinical guideline CG150. Available at: www.nice.org.uk/guidance/cg150 (last accessed May 2021).
- 5. British Association for the Study of Headache. National headache management system for adults 2019. Available at: www.headache.org.uk/wp-content/uploads/2023/02/bash-guideline-2019.pdf (last accessed May 2021).
- 6. Best Practice Advocacy Centre New Zealand. Diagnosing and managing headache in adults in primary care. Available at: www.bpac.org.nz/2017/docs/headache.pdf (last accessed May 2021).

History

- 7. Becker W, et al. Can Fam Physician 2015;61(8):670-679.
- 8. Canadian Neurological Sciences Federation. Canadian Headache Society guideline. Acute drug therapy for migraine headache. Available at: www.headachesociety.ca/\_files/ugd/9f0189\_2921105eb2a3419aa9e761d71a23fce0.pdf (last accessed May 2021).
- 9. China Knowledge Network. Guidelines for prevention and treatment of migraine in China. Available at: www.kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFQ&dbname=CJFDLAST2016&filenae=ZTYZ201610003&v= MzA1MjFyQ1VSTE9mWXVkdkZ5am1VNzNQUHpuU2RMRzRIOWZOcjQRlo0UjhlWDFMdXhZUzdEaDFUM3FUcldNMUY= (last accessed May 2021).
- 10. Japanese Society of Neurology. Clinical practice guideline for chronic headache 2013. Available at: www.ihs-headache.org/wp-content/uploads/2020/06/2528\_japanese-headache-society-clinical-practice-guideline-2013.pdf (last accessed May 2021).
- 11. Lanteri-Minet M, et al. J Headache Pain 2014;15(1):2.

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- 12. International Headache Society. International classification of headache disorders (ICHD) 3rd edition. Available at: www.ihs-headache.org/en/resources/guidelines (last accessed May 2021).
- 13. Federal Ministry of Health Nigeria. Nigeria standard treatment guidelines 2nd edition 2016. Available at: www.medbox.org/document/nigeria-standard-treatment-guidelines (last accessed May 2021).
- 14. The National Department of Health, Pretoria, South Africa. Standard treatment guidelines and essential medicines list for South Africa 2015. Available at: www.samedical.org/cmsuploader/viewFile/447 (last accessed May 2021).
- 15. Saudi Center for Evidence Based Health Care (EBHC) Migraine Headache: Diagnosis & Management. Available at: www.researchgate.net/publication/294425019\_Clinical\_Practice\_Guideline\_on\_Migraine\_Headache\_Diagnosis\_Management\_ Kingdom\_of\_Saudi\_Arabia\_EBHC/link/56c0819808aeedba05646a5f/download (last accessed May 2021).
- 16. Bordini C, et al. Arq Neuropsiquiatr 2016;74(3):262-271.
- 17. Haag G, et al. J Headache Pain 2011;12(2):201-217.
- 18. Derry S, Moore R. Cochrane Database Syst Rev 2013;(4):C0008040.
- 19. Suthisisang C, et al. Ann Pharmacother 2007;41(11):1782-1791.
- 20. Rabbie R, et al. Cochrane Database Syst Rev 2010;(10):CD008039.
- 21. Cameron C, et al. Headache 2015;55(4):221-235.
- 22. Silver S, et al. J Paediatr Child Health 2008;44(1-2):3-9.
- 23. Wenzel R, et al. Pharmacotherapy 2003;23(4):494-505.

















**Differential** diagnosis







**Treatment** plan



# What are the pharmacological options for TTH?

# Combination therapy in TTH.

Compared to monotherapy, combinations of the following showed significantly improved efficacy with favourable tolerability in the vast majority of patients with TTH except for patients with CVD:24

- Paracetamol + caffeine.
- **Ibuprofen + caffeine.**

**Presentation** 

The German and Italian guidelines recommend:

- Paracetamol + caffeine as first-line or Level I.
- **Ibuprofen + caffeine is recommended as Level II** by Italian (SISC) guideline only.







**Based on robust evidence** 15 guidelines & 6 systemic reviews.<sup>1-23</sup>

**International Headache Society** The European Federation of Neurological Societies The American Headache Society **Canadian Headache Society** 

Primary efficacy parameter assessment for TTH is "pain free after 2 hours"

CVD, cardiovascular disease; SISC, Società Italiana per lo Studio delle Cefalee; TTH, tension-type headache

View references >



























### References

- 1. Evers S, et al. Eur J Neurol 2009;16(9):968-981.
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- 9. China Knowledge Network. Guidelines for prevention and treatment of migraine in China.

  Available at: www.kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CJFQ&dbname=CJFDLAST2016&filenae=ZTYZ201610003&v=

  MzA1MjFyQ1VSTE9mWXVkdkZ5am1VNzNQUHpuU2RMRzRIOWZOcjQRlo0UjhlWDFMdXhZUzdEaDFUM3FUcldNMUY= (last accessed May 2021).
- 10. Japanese Society of Neurology. Clinical practice guideline for chronic headache 2013.

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- 13. Federal Ministry of Health Nigeria. Nigeria standard treatment guidelines 2nd edition 2016. Available at: www.medbox.org/document/nigeria-standard-treatment-guidelines (last accessed May 2021).
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  Available at: www.researchgate.net/publication/294425019\_Clinical\_Practice\_Guideline\_on\_Migraine\_Headache\_Diagnosis\_Management\_
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History







Differential diagnosis



Treatment plan

**Treatment** plan



# What is the most suitable medicine for Gregory?

Gregory's risk profile includes: **Existing comorbidities - CVD (HYPERTENSION)** 

Click an option to select your answer.

**PARACETAMOL** /APAP PARACETAMOL /APAP + CAFFEINE **IBUPROFEN** IBUPROFEN + **CAFFEINE** 



APAP, n-acetyl-para-aminophenol; CVD, cardiovascular disease.



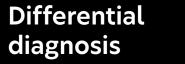


History













**Treatment** plan



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**PARACETAMOL** /APAP + CAFFEINE

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Q



**Treatment** plan



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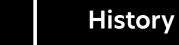
× IBUPROFEN

IBUPROFEN + CAFFEINE



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**Treatment** plan



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Treatment plan



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IBUPROFEN + CAFFEINE



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History





Q

HALEON

Follow-up



What should Gregory's follow-up management be?

Click an option to select your answer.

**RECOGNISING TRIGGERS** 

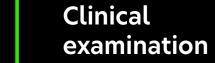
LIFESTYLE **MODIFICATIONS** 

**ALTERNATE THERAPIES** 























What should Gregory's follow-up management be?

Click an option to select your answer.

RECOGNISING **TRIGGERS** 

> LIFESTYLE MODIFICATIONS

ALTERNATE **THERAPIES** 





















# What should Gregory's follow-up management be?

包

Click an option to select your answer.

# RECOGNISING TRIGGERS

LIFESTYLE MODIFICATIONS

> ALTERNATE **THERAPIES**





















HALEON

Follow-up

What should Gregory's follow-up management be?

包

Click an option to select your answer.

RECOGNISING TRIGGERS

LIFESTYLE MODIFICATIONS

**ALTERNATE THERAPIES** 





















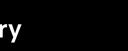


# What should **Gregory's** follow-up management be?

Click an option to select your answer.

- ALL OF THE ABOVE













**Differential** 

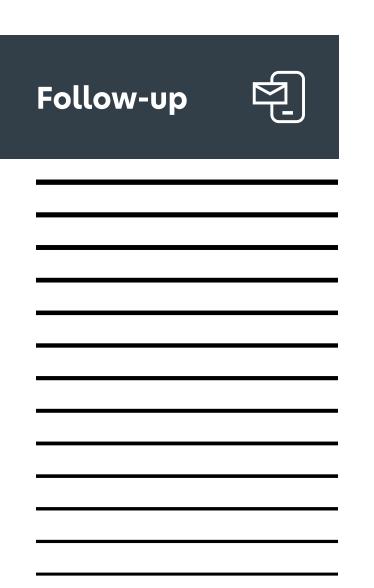
diagnosis











# Gregory's follow-up management.

Treatment goals for patients with TTH should not only include effective analgesic agents, but also discovering and ameliorating any circumstances that may be triggering the headaches or causing the patient concern.1

# Lifestyle modifications

Seek consistency in lifestyle behaviours and dietary habits, such as change of food consumption pattern and alternative food choices, and cessation of smoking etc.<sup>1</sup>

# **Alternate therapies**

Consider offering non-medication treatments like biofeedback, relaxation training, self-hypnosis, and cognitive therapy, and traditional physical therapy exercises, using ice packs, massage, and "passive mobilisation" of the cervical facets.<sup>1</sup>

**Recognising triggers** 

There is evidence of an association between TTH and diet. Missing meals, smoking, spicy food, foods rich in MSG, coffee and chocolate may be triggers for TTH in South Asian populations.<sup>2</sup>

MSG, monosodium glutamate; TTH: tension-type headache. 1. Miliea P, Brodie J. Am Fam Physician 2002;66(5):797-804. 2. Tai M, et al. J Pain Res 2018;11:1255-1261.





History















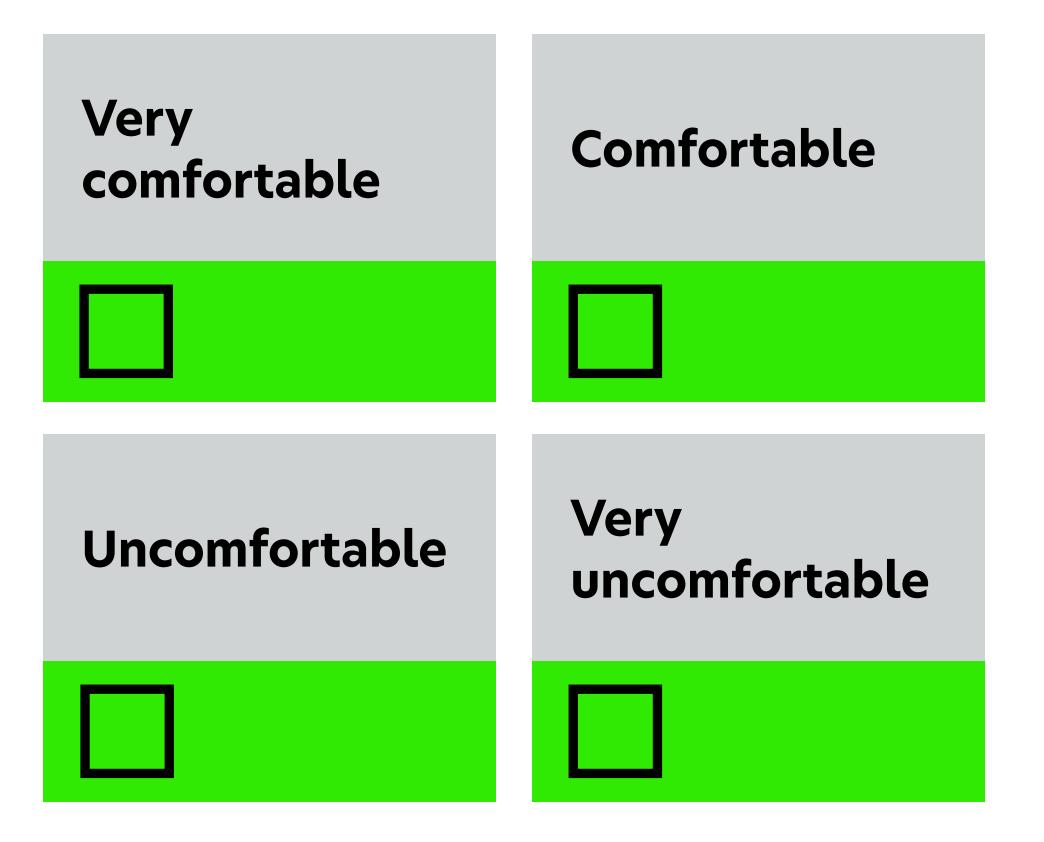






Based on this case study, how comfortable are you in making recommendations to patients like Gregory?

Click an option to select your answer.



















**Treatment plan** 







Based on this case study, how comfortable are you in making recommendations to patients like Gregory?

Click an option to select your answer.



















**Treatment plan** 









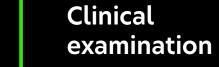
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**Treatment plan** 



Follow-up

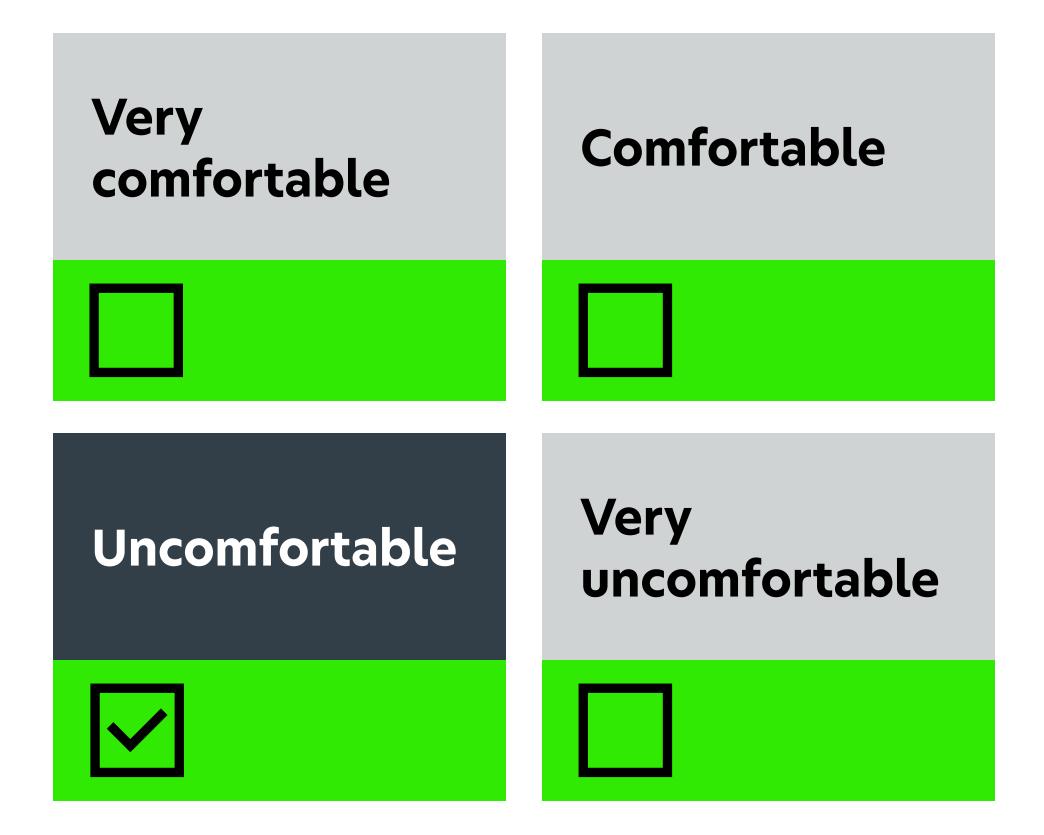






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Clinical examination









**Treatment plan** 







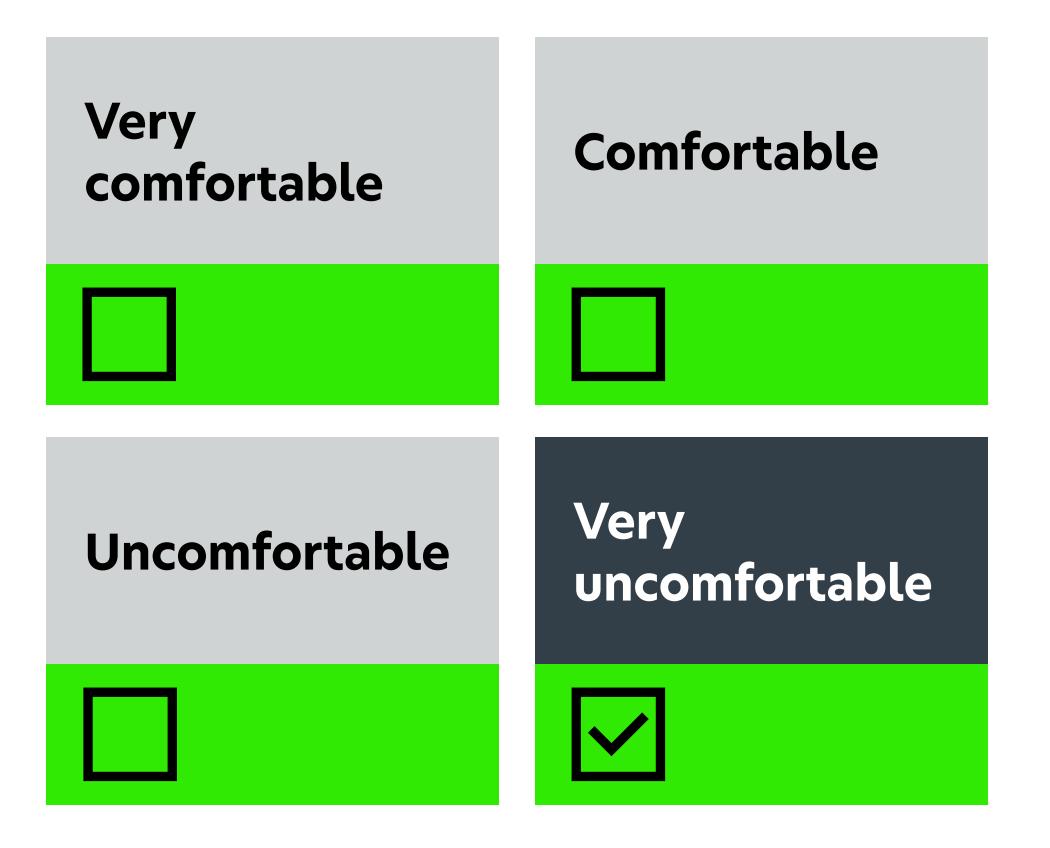






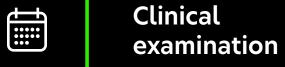
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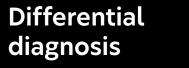
















**Treatment plan** 





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