BELMATT
HEALTHCARE TRAINING

ENT and Dizziness

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Aims and objectives

- Know how to assess and manage common ENT problems in primary care
- Know about watchful waiting and use of delayed prescriptions
- Know how and when to refer to ENT secondary care for non-urgent referrals
- Know about ENT emergencies and how to refer

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Ear

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AOM: Infection in middle ear, characterised by presence of middle ear effusion associated with acute onset of signs and symptoms of middle ear inflammation

Recurrent AOM: ≥3 episodes in 6m or ≥4 in 1y with absence of middle ear disease between episodes

Persistent AOM (treatment failure): symptoms persist after initial management (no antibiotics, delayed antibiotics or immediate antibiotic prescribing strategy) or symptoms worsening

Acute otitis media (AOM) definitions

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Bacterial infection: most common- strep pneumoniae, h influenzae (only 10% due to type B and preventable by HIB vaccine), moraxella catarrhalis

Viral infection: most common- respiratory syncytial virus and rhinovirus

Complications: hearing loss; chronic perforation and otorrhoea, CSOM, cholesteatoma, intracranial complications

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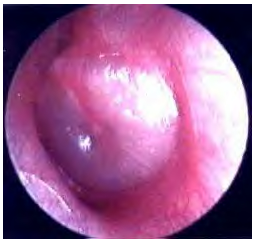
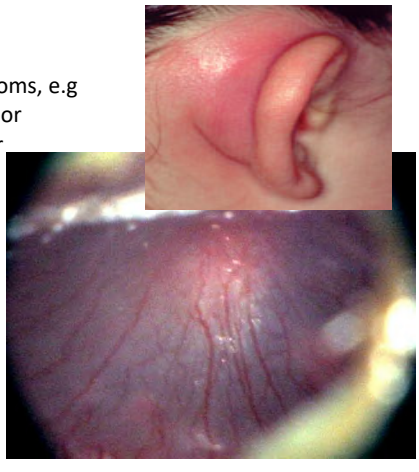
AOM: diagnosis

Presents with earache (!)
In younger children-non specific symptoms, e.g rubbing ear, fever, irritability, crying, poor feeding, restlessness at night, cough, or rhinorrhoea



AOM

Mastoiditis



AOM

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AOM Differential diagnoses

- Other URTI: may be mild redness of TM, self limiting
- Otitis media with effusion (OME)/ glue ear: fluid in middle ear without signs of acute inflammation of TM
- CSOM: persistent inflammation and TM perforation with exudate >2-6w. May lead to . . . . .
- Acute mastoiditis (rare)- swelling, tenderness and redness over mastoid bone, pinna pushed forward
- Bullous myringitis (rare)- haemorrhagic bullae on TM caused by Mycoplasma pneumoniae (90% spontaneous resolution)

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Management of AOM: when to refer or admit?

- Advise a no antibiotic or delayed antibiotic strategy for most people with suspected AOM but:
  - consider antibiotics in children < 3m,
  - bilateral AOM
  - systemically unwell
  - high risk of complications e.g. immunosuppression, CF.
- For all antibiotic prescribing strategies: inform patient average duration of illness for untreated AOM is 4 days.
- Admit: According to "Feverish illness in Children" NICE Guidance
- Adults and children with suspected complications e.g. meningitis, mastoiditis, or facial paralysis
- Amoxicillin or Erythromycin

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Treatment AOM

Antibiotics should not be routinely prescribed for uncomplicated AOM.

1st line – Amoxicillin oral 500mg 8 hourly

Antibiotics should not be routinely prescribed for uncomplicated AOM.

2nd line – doxycycline oral 100mg 12 hourly AND metronidazole oral 400mg 8 hourly

For severe disease or when risk of complications:

2nd line – Co- Amoxiclav oral 625mg 8 hourly for 5 days

For severe disease or when risk of complications:
1st line – clarithromycin oral 500mg 12 hourly

- Most cases are viral and self limiting.
- Antibiotics should be delayed for 2-3 days and patient re-assessed.

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Follow up of AOM

Routine follow up not usually required

Follow up if:

- symptoms worse or not settling within 4 days
- otorrhoea persists >2w
- perforation
- if hearing loss persists in absence of pain or fever, ie OME

Recurrent AOM: Second line co-amoxiclav

http://guidance.nice.org.uk/CG47 Feverish illness in children

http://guidance.nice.org.uk/CG69 Respiratory Tract Infections

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Otitis media with effusion (OME) / Glue ear

Definition: non-purulent collection of fluid in middle ear

- (must be > 2/52 after recent AOM to be classed as Glue ear)

Causes:

- Eustachian tube dysfunction
- > 50% due to AOM especially in < 3 yrs
- Other: low grade bacterial/viral infections; gastric reflux; nasal allergies; adenoids or nasal polyps; CF; Down's
- Pressure changes e.g. with flying or scuba diving (adults)

Symptoms:

- hearing loss
- absence of earache or systemic upset
- can present with problems of speech/language development, behaviour or social interaction

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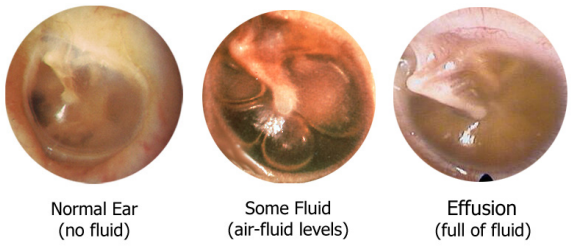

Normal Ear (no fluid) | Some Fluid (air-fluid levels) | Effusion (full of fluid)

Otitis media with effusion

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Other causes of hearing loss (or perceived loss)-

- Foreign body in EAC
- perforated TM
- SNHL
- listening problems inc ADHD and learning difficulty

Initial management of OME

- Ask about developmental delay or language difficulties
- Hearing test
- Drugs not recommended as OME usually self limiting but consider ICS if there is associated allergic rhinitis

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Hearing Loss < 25 DB

Rpt audiogram at 3/12

If persistent OME refer

Hearing loss > 25 DB and/or Speech & Language delay

Refer

Early intervention with grommets gives no benefit for long-term hearing, language and behaviour and increases risk of TM abnormalities. Subgroup with hearing loss > 25DB may benefit from early grommet insertion.

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Otitis externa (OE)

- Inflammation of EAC
- Localised OE: folliculitis that can progress to a furuncle
- Diffuse OE: more widespread inflammation e.g. swimmers ear
- OE defined as: acute if episode<3w; chronic if >3m
- Malignant OE: extends to mastoid and temporal bones resulting in osteitis. Typically in elderly diabetics. Suspect if pain seems disproportionate to clinical findings

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Localised OE

Causes: usually infected hair root by staph aureus

Symptoms: severe ear pain (compared to size of lesion); relief if furuncle bursts; hearing loss if EAC very swollen

Signs: tiny red swelling in EAC (early); later has white or yellow pus-filled centre which can completely occlude EAC

Management: analgesia; cold compress; antibiotic only if severe infection or high risk patient - flucloxacillin or erythromycin

Refer: if needs I+D, no response to antibiotic or cellulitis spreading outside EAC

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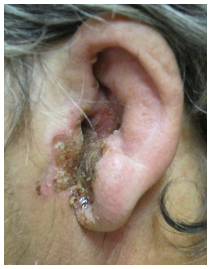

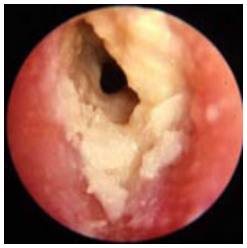

- Management: Use topical ear preparation for 7 days;
  - 2% acetic acid for mild cases
  - antibiotic plus steroid e.g. Locorten-Vioform
  - Gentisone HC (NB not if perforation)
- If wax/debris obstructing EAC or extensive swelling or cellulitis
  - Pope wick
  - Dry mopping (children)
  - Microsuction (ENT PCC)
- Advise re prevention of OE: keep ears clean and dry; treat underlying eczema/psoriasis
- Failure of topical meds:
  - review diagnosis/compliance
  - consider PO fluclox or erythromycin
  - ?fungal (spores in EAC)
  - Swab and refer

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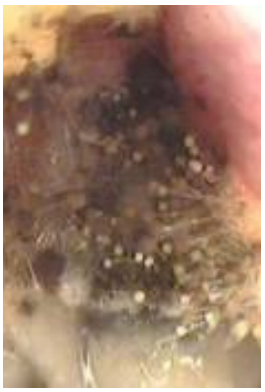
Chronic OE

- Causes:
  - Secondary fungal infection- due to prolonged use of topical antibacterials or steroids
  - Seborrhoeic dermatitis; contact dermatitis
  - Sometimes no cause can be found for OE
- Symptoms:
  - mild discomfort; pain usually mild
- Signs:
  - lack of ear wax; dry, hypertrophic skin leading to canal stenosis; pain on exam
  - Assess risk /precipitating factors; severity of symptoms; signs of fungal infection- whitish cotton-like strands in EAC, black or white balls of aspergillus. Look for signs of dermatitis, evidence of allergy (ear plugs etc) or focus of fungal infection elsewhere, e.g. Skin, nails, vagina- can cause 2' inflammation EAC
- Investigations:
  - only take swab for C+S if treatment fails as interpretation can be difficult: sensitivities are determined for systemic use and much higher concentrations can be achieved by topical use; organisms may be contaminants, usually fungal overgrowth after using antibacterial drops due to suppressed normal bacterial flora



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Nose

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Rhinosinusitis

Causative factors – allergic, viral, bacterial, fungal, autoimmune.

Acute <12wks, Chronic >12wks, Recurrent (>4/yr)

15% population. 6 million lost working days / yr in the UK

Presents as "My cold won't go away" – persistant symptoms of URTI, without improvement after 10-14 days or worsening after 5 days

Major:

- Nasal congestion/obstruction
- Purulent discharge
- Loss of smell
- Facial pain / ear pain or fullness

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Minor:	Tenderness over sinus area Fever Headache Halitosis Fatigue / Lethargy Post nasal drip
What to exclude on examination:	Periorbital swelling, extraocular muscle dysfunction, decreased VA or proptosis Foreign bodies Concomitant otitis media (in children) CNS complications Polypoid changes or deviated septum
What to expect on examination:	Erythema / swelling of nasal mucosa Mucopurulent secretions Tenderness over sinuses

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Consider emergency admission to hospital if symptoms are accompanied by:	• Systemic illness • Swelling or cellulitis in face • Signs of CNS involvement • Orbital involvement
Consider urgent ENT referral if:	• Persistant unilateral symptoms such as (suspecting sinonasal tumour):
Consider routine referral to ENT if:	• More than 3-4 episodes per year lasting > 10 days with no symptoms between episodes

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Acute Rhinosinusitis

Antibiotics should ONLY be prescribed in SEVERE infection as this condition can have a viral cause.

1st line – Co- Amoxiclav oral 625mg 8 hourly

2nd line – Doxycyline oral 100mg 12 hourly

1st line – Clarithromycin oral 500mg 12 hourly

2nd line – Doxycycline oral 100mg 12 hourly /Azithromycin

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Management of chronic rhinosinusitis (referral toolkit)

Initial drug therapy for 2-3 months duration of topical nasal steroid spray (nasonex/avamys) +/- antihistamine

If symptoms of allergic aetiology perform skin prick or immunoglobulin assay

Give PIL *http://www.patient.co.uk/health/Sinusitis-Chronic.htm*

Advice re smoking

(ENT would usually advocate daily saline douching)

If initial treatment fails:

Commence topical nasal steroid drop for 4 weeks (returning to steroid spray afterwards)

Consider oral prednisolone 25mg od for 2 weeks

Broad spectrum antibiotics only if purulent nasal discharge

If no response to above treatment then refer

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Sore throat: causes

Common infections:

- rhinovirus; coronovirus, parainfluenza virus; common cold (25% sore throats)
- GABHS causes 15-30% sore throats in children and 10% in adults
- Herpes simplex virus type 1 (more rarely type 2) = 2%
- Epstein Barr virus: infectious mononucleosis (glandular fever)- <1%. Suspect IM if sore throat persists >2w - do FBC and IM screen.

Non-infectious causes

- Physical irritation
- Hayfever
- Stevens Johnson syndrome
- Kawasaki disease
- Oral mucositis 2' chemo /radiotherapy

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Sore throat: complications

- Complications of streptococcal pharyngitis are rare:
- Suppurative complications:
  - OM
  - acute sinusitis
  - peritonsilar cellulitis / peritonsillar abscess (quinsy
  - Pharyngeal abscess
  - Retropharyngeal abscess, more common in children
- Non suppurative complications are rare:
  - rheumatic fever
  - post-streptococcal glomerulonephritis

R sided quinsy showing displacement of uvula to L

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Sore throat: when to refer

- Admit if stridor or respiratory difficulty
- Trismus, drooling, dysphagia.
- Dehydration /unable to take fluids
- Severe suppurative complications, ie if abnormal throat swelling/suspected abscess
- Systemically unwell and at risk of immunosuppression
- Suspect Kawasaki disease
- Profoundly unwell and cause unknown

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Sore throat: management in primary care

Reassure sore throat usually self limiting and symptoms resolve within 3d in 40% cases, 1w in 85% (even if due to streptococcal infection)

Advise see healthcare professional if symptoms do not improve, and urgently if breathing difficulties, stridor, drooling, muffled voice, severe pain, dysphagia or unable to take fluids or systemically ill

Symptoms of infectious mononucleosis usually resolve within 1-2w, mild cases within days. But lethargy continues for some time and rarely may continue for months or years. Advise re contact sport.

Advise regular paracetamol, ibuprofen, fluids ++ but avoid hot drinks; saline mouthwashes; discuss role of antibiotics

Consider delayed prescription or immediate antibiotics – use Centor scoring - Antibiotic regime: Prescribe phenoxymethylpenicillin for 10d; or erythromycin or clarithromycin for 5d. Avoid amoxicillin (EBV)

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- Sore throats are due to acute tonsillitis
- Episodes of sore throat are disabling and prevent normal functioning
- Seven or more well documented, clinically significant, adequately treated sore throats in the preceding year **or**
- Five or more such episodes in each of the preceding two years **or**
- Three or more such episodes in each of the preceding three years

SIGN 2010, Management of sore throat and indications for tonsillectomy
http://www.sign.ac.uk/pdf/qrg117.pdf

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Treatment

Mild – Phenoxymethyl penicillin oral 500mg 6 hourly	Mod-Severe – Benzylpenicillin IV 1.2g 6 hourly AND Metronidazole IV 500mg 8 hourly	Oral Step down if no positive cultures: Penicillin V oral 500mg 6 hourly AND metronidazole oral 400mg 8hrly
Mild – Clarithromycin oral 500mg 12 hourly	Mod-Severe – Clindamycin IV 900mg 8 hourly	Oral Step down if no positive cultures: Clindamycin oral 450mg 6 hourly

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QUINSY

Benzylpenicillin IV 1.2g 6 hourly AND Metronidazole IV 500mg
8 hourly for 10 days

Clindamycin IV 900mg 8 hourly

Oral Step down: Clindamycin oral 450mg 6 hourly

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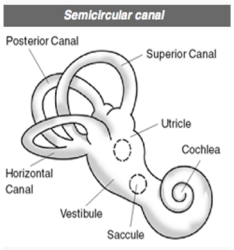
Vertigo

- Dysfunction of vestibular system (central vs. peripheral)



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Vertigo:

- 'is a symptom and refers to a perception of spinning or rotation of the person or their surroundings in the absence of physical movement'

Peripheral vertigo = labyrinthine cause

Benign paroxysmal positional vertigo (BPPV)

Vestibular neuronitis:

Meniere's disease:

Central vertigo = cerebellar cause

Common

- Migraine

Uncommon

- stroke and TIA
- cerebellar tumour
- acoustic neuroma
- MS

Vertigo

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Central vs. Peripheral Vertigo

Peripheral

Nystagmus **unidirectional**, horizontal with a **torsional** component

Other neurologic signs absent

Deafness or tinnitus may be present

Central

Nystagmus can be in any direction

Other neurological signs often present

Gait instability

Deafness or tinnitus typically absent

Often less severe

More likely to be chronic, not episodic

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Assessment of vertigo

Most balance problems that present in primary care are not rotatory vertigo, but unsteadiness. A full time GP is likely to see 10-20 people with vertigo in 1y

To determine vertigo rather than dizziness, ask:

- "do you feel light-headed or do you see the world spin around you as if you had just got off a roundabout"
- about timing, duration, onset, frequency and severity of symptoms
- aggravating factors, e.g. head movement
- effect on daily activities
- associated symptoms:
  - hearing loss, tinnitus (unilateral/bilateral), headache, diplopia, dysarthria /dysphagia, ataxia, nausea, vomiting

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- Recent URTI or ear infection suggests vestibular neuronitis or labyrinthitis
- Migraine: inc likelihood of migrainous vertigo
- Head trauma/ recent labyrinthitis: BPPV
- Trauma to ear: perilymph fistula
- Anxiety or depression can worsen symptoms or cause feelings of lightheadedness (e.g. from hyperventilation)
- Acute alcohol intoxication can cause vertigo

- Examination
  - ENT – incl. Weber and Rinnes tests
  - Full Neuro incl cerebellar testing + gait. Particularly looking for nystagmus

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Romberg's test:

- identifies peripheral or central cause of vertigo (but not sensitive for differentiating between them)
- Ask patient to stand up straight, feet together, arms outstretched with eyes closed. If patient unable to keep balance- the test is positive (usually fall to side of lesion)
- A positive test suggests problem with proprioception or vestibular function.

Dix-Hallpike manoeuvre:

- to confirm diagnosis of BPPV

Assessment of vertigo: specific tests

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Features of central causes of vertigo

- severe or prolonged
- new onset headache
- focal neurological deficits
- central type nystagmus (vertical)
- excess nausea and vomiting
- prolonged severe imbalance (inability to stand up even with eyes open)

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Features of peripheral causes of vertigo

BPPV:

- vertigo induced by moving head position
- episodes last for seconds

Vestibular neuronitis and labyrinthitis:

- vertigo persists for days and improves with time
- no hearing loss or tinnitus with vestibular neuronitis
- in labyrinthitis, sudden hearing loss with vertigo and tinnitus may be present

Meniere's disease:

- ages 20-50y women>men
- vertigo, not provoked by position change
- episodes last 30 min to several hours
- symptoms of tinnitus, hearing loss and fullness in ear
- may be clusters of attacks and long remissions

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BPPV

- Diagnosis usually made by history
- Dix Hallpike maneuver – video on youtube
  - Positive in 50-80% of patients
- Canalith repositioning maneuvers
- Medical therapy usually not helpful due to transient symptoms

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Dix-Hallpike manoeuvre - demonstration

- Be cautious with patients with neck or back pathology or carotid stenosis as manouvre involves turning and extending neck
-
- http://northerndoctor.com/2010/09/27/dizziness-dix-hallpike-and-the-epley-manoeuvre/

- Ask patient to:
  - report any vertigo during test
  - keep eyes open and stare at examiner's nose
  - sit upright on couch, head turned 45' to one side
  - lie them down rapidly until head extended 30' over end of bed, one ear downward If neck problems- can be done without neck extension
  - observe eyes closely for 30 sec for nystagmus- note type and direction
  - support head in position and sit up
  - Repeat with other side
  - test is positive for BPPV if vertigo and nystagmus (torsional and beating towards ground) are present and nystagmus shows latency, fatigue and adaptation

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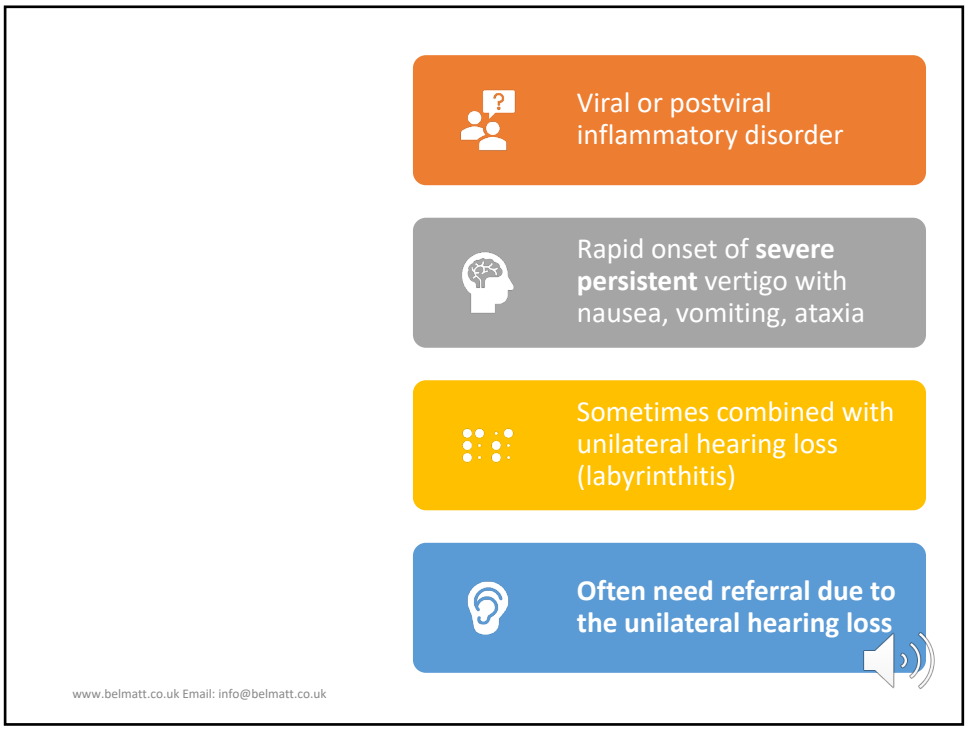

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Meniere's disease

- Excess endolymphatic fluid pressure
- **Episodic, acute vertigo**, lasts minutes to hours
- **Presentation**
- Vertigo (20 minutes- few hours) with
  - Unilateral fluctuating sensorineural deafness
    - Initially recovers but overtime becomes permanent
  - Sense of fullness in the ear
  - Tinnitus
- **Treatment**
- Rehabilitation and lifestyle measures
  - Salt restriction (<2g per day),
  - Reduce caffeine, chocolate, cheese and alcohol
- Long term treatment
  - Betahistine trial (16mg tds)- conflicting evidence see table below
- Acute attack
  - Prochlorperazine for maximum 3 days

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Vestibular neuritis	**Single attack of continuous horizontal vertigo lasting hours or days, nausea +/- vomiting, and imbalance. Followed by disequilibrium. Preceding viral illness is common. Loss of vestibulo-ocular reflex (test using head-impulse test) on affected side.**	**No tinnitus. Hearing and otoscopy are normal.**	• **If symptoms persist without improvement for >1week, or** • **symptoms persist for >6weeks**
Benign Paroxysmal Positional Vertigo	Vertigo associated with head turning or rolling over in bed. Often with nausea and vomiting. Resolves over days but often followed by disequilibrium. Test: Dix-Hallpike. Treatment: Epley manoeuvre.	Not affected	• **Unable to perform or access Epley manoeuvre** • **No benefit after Epley has been repeated** • **Symptomatic for> 4 weeks,or** • **>3 periodsof BPPV**
Meniere's disease	Triad of vertigo, tinnitus and hearing loss, often with sensation of pressure in affected ear. Attacks from 1-24 hours long but often followed by persistent disequilibrium.	Tinnitus may be present, and often worsens over time. Hearing loss comes and goes at first but may eventually bepermanent.	• **Refer routinely to ENT if suspected**
Vestibular migraine	**Migrainous symptoms associated recurrently with unsteadiness or vertigo. Symptoms may occur outside classic 'aura' timing. Largely diagnosis of exclusion.**	**Possible tinnitus, hearing unaffected.**	• **May need referral to confirm diagnosis, especially if presenting acutely for the first time.**

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Red Flags

- CVA – any neuro signs. Posterior stroke can present with dizziness
- Usually, dizziness is not the only feature.
- Exclude red flags warranting urgent referral for possible central cause (See isolated vertigo and stroke) especially
- Stroke (especially posterior circulation), demyelination, unilateral acute hearing loss, abnormal neurological symptoms or signs, new headache
- Distinguish vertigo from other causes of acute dizziness.
- Hypotension, Pre-syncope, disequilibrium in the elderly (associated with peripheral neuropathy, eye problems

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Anti Emetics

CYCLIZINE	PROCHLORPHERAZINE	PROMETHAZINE	BETAHISTINE	CINNARIZINE
For nausea, vomiting, vertigo, or labyrinthine disorders, prescribe	vertigo and Meniere's disease, prescribe prochlorperazine 5 mg orally three times a day (maximum dose 30 mg daily)	promethazine teoclate 25 mg orally at night. The dose may be	betahistine 16 mg orally three times daily (preferably with food).	For vestibular symptoms, prescribe oral cinnarizine 30 mg three times a day.
cyclizine 50 mg orally up	Prochlorperazine buccal ta blets 3-6 mg twice a day (to be placed high in the buccal cavity and allowed to dissolve) A one-off dose of prochlorperazine 12.5 mg by deep intramuscular injection followed by oral medication after an interval of 6 hours, if required Parkinson's disease.	increased to 100 mg	Maintenance dose is	
to three times a day.		daily.	usually 24-48 mg daily.	
If the oral route is not				
appropriate, cyclizine				
50 mg by intramuscular				
injection can be given				
up to three times a				
day.				

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So...

- Don't get in a spin
- Methodical steps.
- What do they mean. Vertigo or not?
- If vertigo – central or peripheral?
- Think red flags!
- Examine the ear if vertigo!

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Presentation	Likely cause	Management
Short, sharp pain Exacerbated by cold stimuli	Reversible pulpitis	Dental review, antibiotics not needed
Dull, aching, severe & persistent pain No swelling Exacerbated by thermal stimuli	Irreversible pulpitis	Urgent dental review Antibiotics are ineffective
Tender tooth with inflammation of surrounding tissue	Pulp necrosis follows untreated pulpitis. The death of the pulp often gives temporary relief of the pain, but the offending tooth will be tender to touch and pressure	Urgent dental review Tooth may temporarily respond to antibiotics but GP prescription not advised
Severe tenderness to touch, swelling and tooth mobility	An apical abscess, often due to untreated periodontitis	Needs surgical drainage by dentist, but may respond in short term to antibiotics if a dental review in the next few hours is not possible. If prescribed, low dose amoxicillin is first choice.

Dental problems

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Two-Week-Rule

NICE Guidance CG27 June 2005

Refer urgently patients with:

- an unexplained lump in the neck, of recent onset, or a previously undiagnosed lump that has changed over a period of 3 to 6 weeks
- an unexplained persistent swelling in the parotid or submandibular gland
- an unexplained persistent sore or painful throat
- unilateral unexplained pain in the head and neck area for more than 4 weeks, associated with otalgia (ear ache) but a normal otoscopy
- *unexplained ulceration of the oral mucosa or mass persisting for more than 3 weeks*
- *unexplained red and white patches (including suspected lichen planus) of the oral mucosa that are painful or swollen or bleeding*

For patients with persistent symptoms or signs related to the oral cavity in whom a definitive diagnosis of a benign lesion cannot be made, refer or follow up until the symptoms and signs disappear. If the symptoms and signs have not disappeared after 6 weeks, make an urgent referral.

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- Hoarseness > 3/52 → CXR → ENT if NAD

- Refer urgently patients with a thyroid swelling associated with any of the following:
- a solitary nodule increasing in size
- a history of neck irradiation
- a family history of an endocrine tumour
- unexplained hoarseness or voice changes
- cervical lymphadenopathy
- very young (pre-pubertal) patient
- patient aged 65 years and older

- Do not delay referral with Ix (e.g. TFTs / USS)
- Request thyroid function tests in patients with a thyroid swelling without stridor or any of the features listed above. Refer patients with hyper-/hypo-thyroidism and an associated goitre, non-urgently, to an endocrinologist. Patients with goitre and normal thyroid function tests without any of the features listed above should be referred non-urgently

- http://guidance.nice.org.uk/CG27

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Thank you

Diagnosis is the key

Examination is normally to sure up you thought process

If you're unsure always ask colleagues for advice

Keep patient safety the center of all you do

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