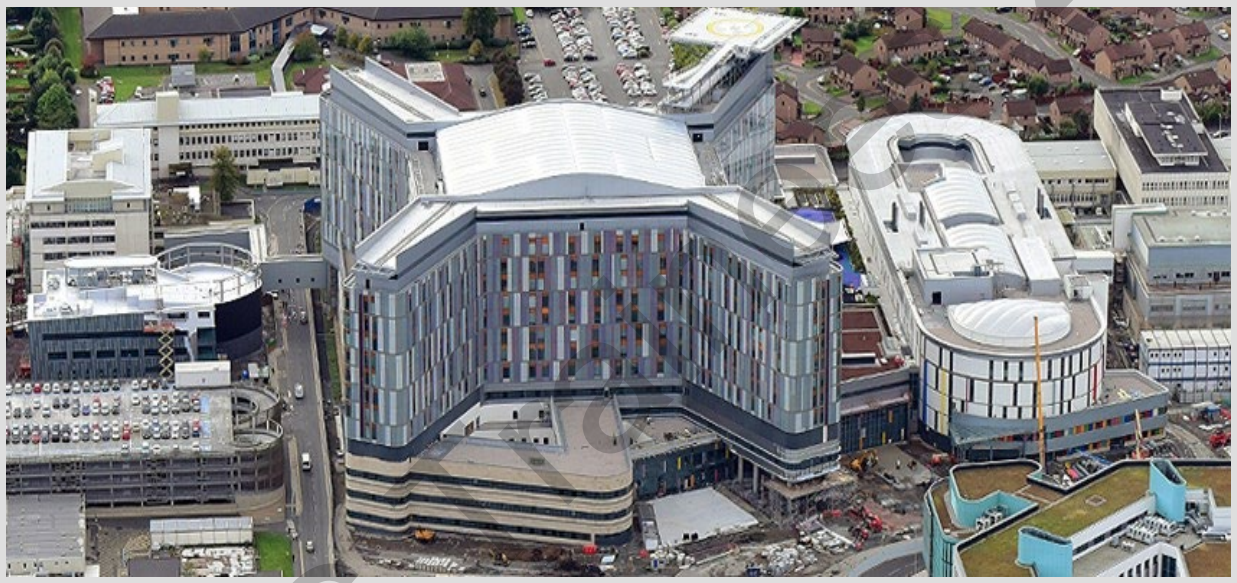
Transient loss of consciousness (TLoC) in the older patient - an update (and some key take home messages)



Dr Lara Mitchell
QEUH
BGS Trainees' weekend 2020 Glasgow
Jan 2020
@laramit66043489

Case 1 Mr R 84 years

27th Oct 2018

I had been to the toilet, I collapsed forward and bumped my head. Not sure if I blacked out.

I heard a crash. He was wedged in next to a radiator. Not quite right last week. Two episodes when he was dizzy and pale.

PMH Glaucoma, Alzhiemers dementia, Epilepsy

DH Timolol eye drops, lamotrogine, galantamine ,laxatives

O/E News 0, head injury with 12 cm laceration to head. HS normal. No postural drop

Investigation

ECG- sinus bradycardia

Bloods OK, CT scan head NAD

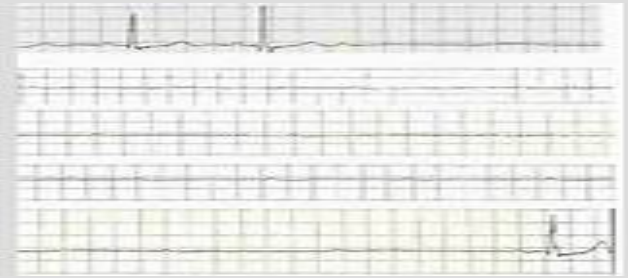
What is the diagnosis?

1. Urinary tract infection
2. Fall with head injury
3. Vasovagal
4. Orthostatic hypotension
5. Arrhythmia
6. Not sure

Case 1 Mr R 84 years

28th Oct 2018

Telemetry overnight



Two alarms
6 and 12 second pause
Refer cardiology and change eye drops
Stop galantamine

4pm
Further episode on the ward
News 0
BUT 6 seconds pause on telemetry

Diagnosis- Collapse secondary to sinus pause secondary to timolol and galantamine

PPM on 30th October

Definitions
Differentials

Risk stratification

The basic assessment

ESC Guidelines for the diagnosis and management of syncope EHJ 2018
Syncope unit: Rationale and requirement- the European Heart Rhythm Association position statement endorsed by the Heart Rhythm Society Europace

Definitions

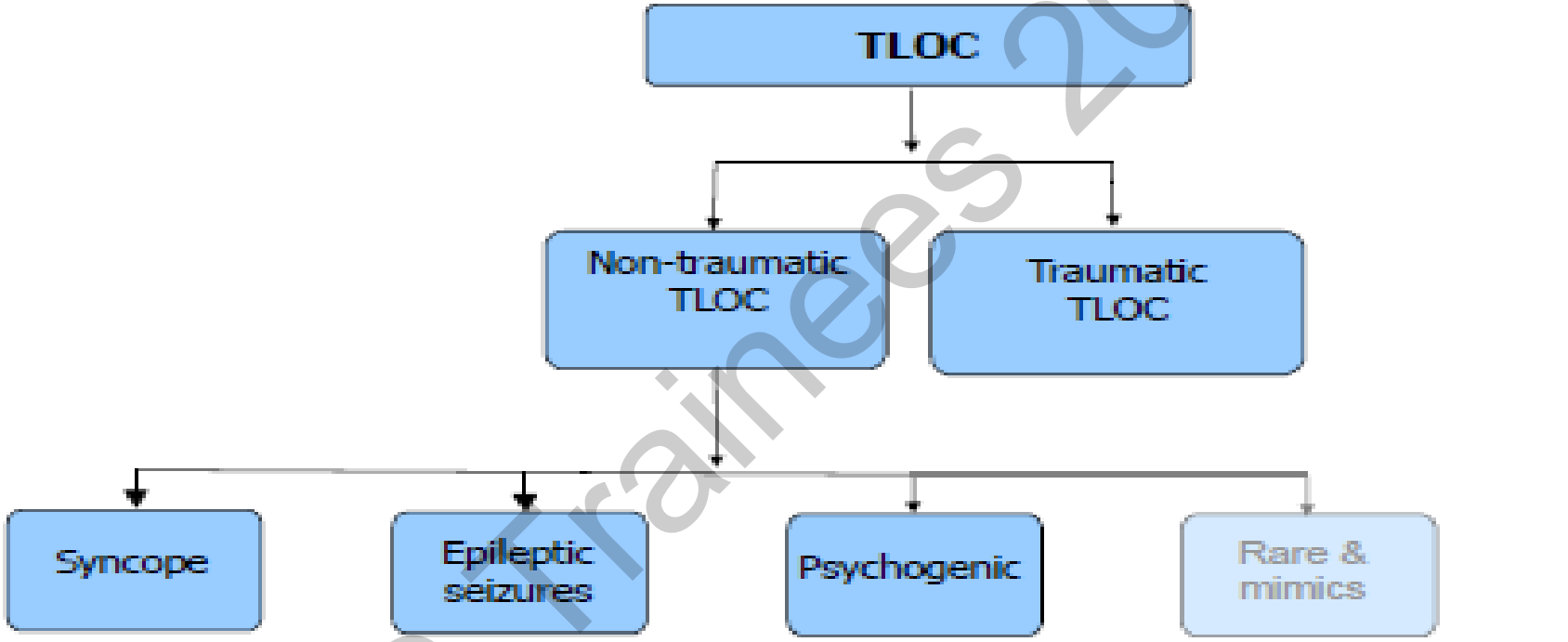
T-LoC

A state of real or apparent LOC with loss of awareness, characterised by amnesia for the period of unconsciousness, abnormal motor control, loss of responsiveness and a short duration.

Syncope

T-LoC due to reversible transient global cerebral hypoperfusion characterised by rapid onset, short duration, and spontaneous complete recovery.

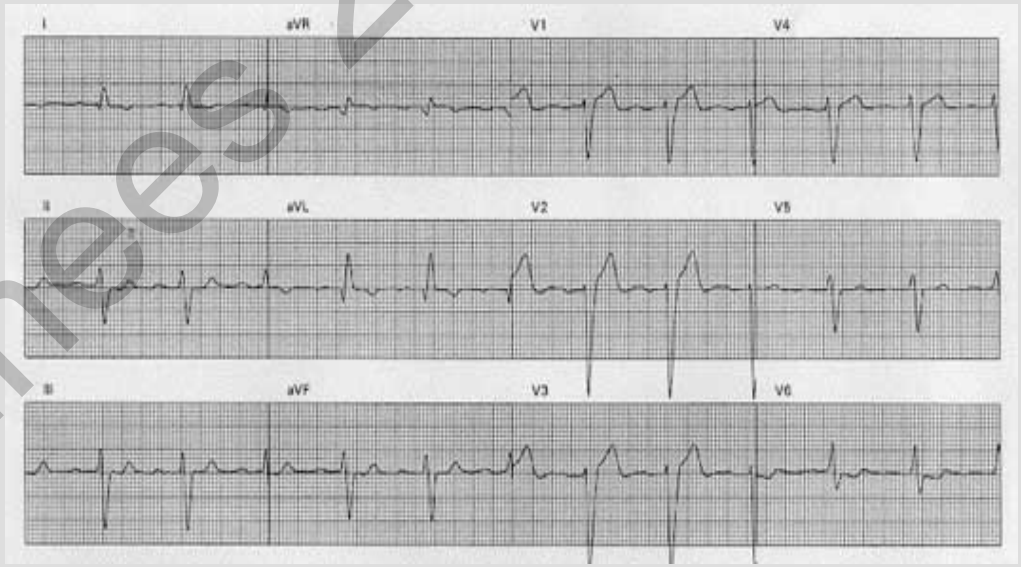
Definitions



Classification of syncope

Cardiac arrhythmias

- sinus node dysfunction
- AV conduction disease
- Tachyarrythmia
- Device malfunction
- Inherited syndromes



Structural heart disease

- Valvular disease

Classification of syncope

Orthostatic syncope

(autonomic nervous system)

MEDICATION

- Volume depletion
- Autonomic failure
  - Primary – idiopathic
  - Secondary
- alcohol

- Autoimmune autonomic neuropathy **(ganglionic AchR Abs)**
- Pure autonomic failure
- Multi-System Atrophy
- Lewy Body Dementia

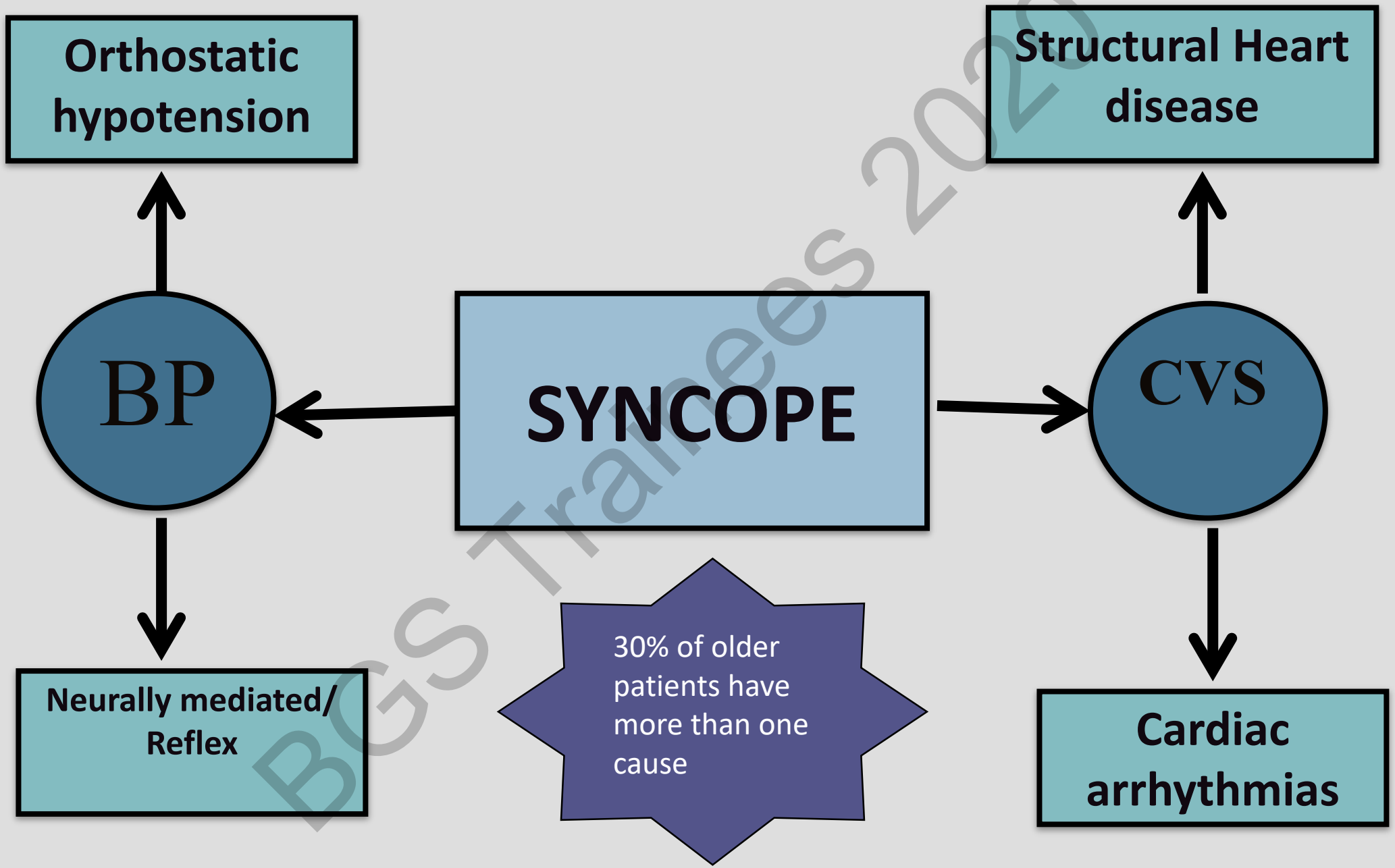
- Diabetes **(HbA1c)**
- Amyloid **(myeloma screen)**
- Adrenal insufficiency **(SST)**
- Collagen/vascular diseases **(autoimmune screen)**
- Lambert Eaton Myasthenic Syndrome **(anti-Ca channel Abs)**
- HIV **(HIV test)**
- Syphilis **(VDRL)**

Classification of syncope

Reflex (neurally mediated) syncope

(vasodilatation and bradycardia)

- Vasovagal faint
- Carotid sinus syncope
- Situational syncope- cough, micturition, post exercise



And those incorrectly diagnosed as syncope

Loss of consciousness

- Epilepsy
- Vertebrobasilar Insufficiency
- Intoxication
- Metabolic disorders

→ TIA in vertebrobasilar region
Focal signs- vertigo, dipolplia, nystagmus

Consciousness only apparently lost

- Drop attacks
- Dissociative attacks

→ Altered gait and balance
BP/CVS
Psychogenic
Menieries
Epilepsy

Dissociative attacks (psychogenic pseudosyncope)

Sudden, high frequency and random

50% with some prodrome

Normal ECG

Prolonged loss of awareness

Normal haemodynamics with symptoms

Why is this so difficult?

50% not witnessed

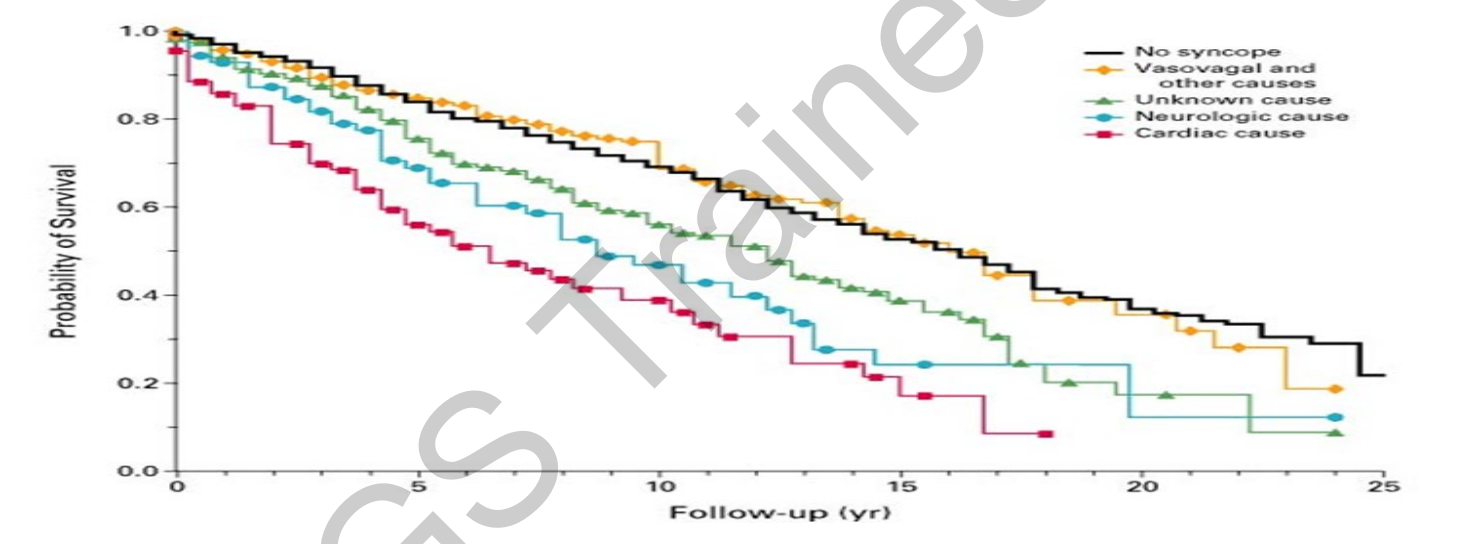
30% amnesic

Lack of prodrome

Cognitive impairment

Why is it important?

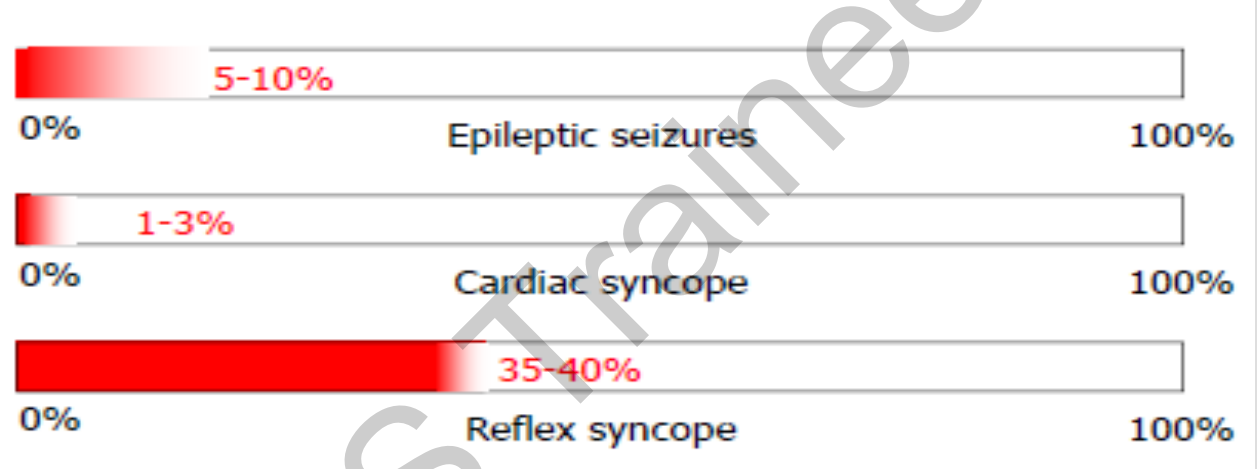
- Increase in Mortality/ morbidity
  - 25% excess 1 year mortality vs neurally mediated
  - Structural heart disease is the greatest predictor of increased mortality



Soteriades, E et al. N Engl J Med 2002;347:878-885

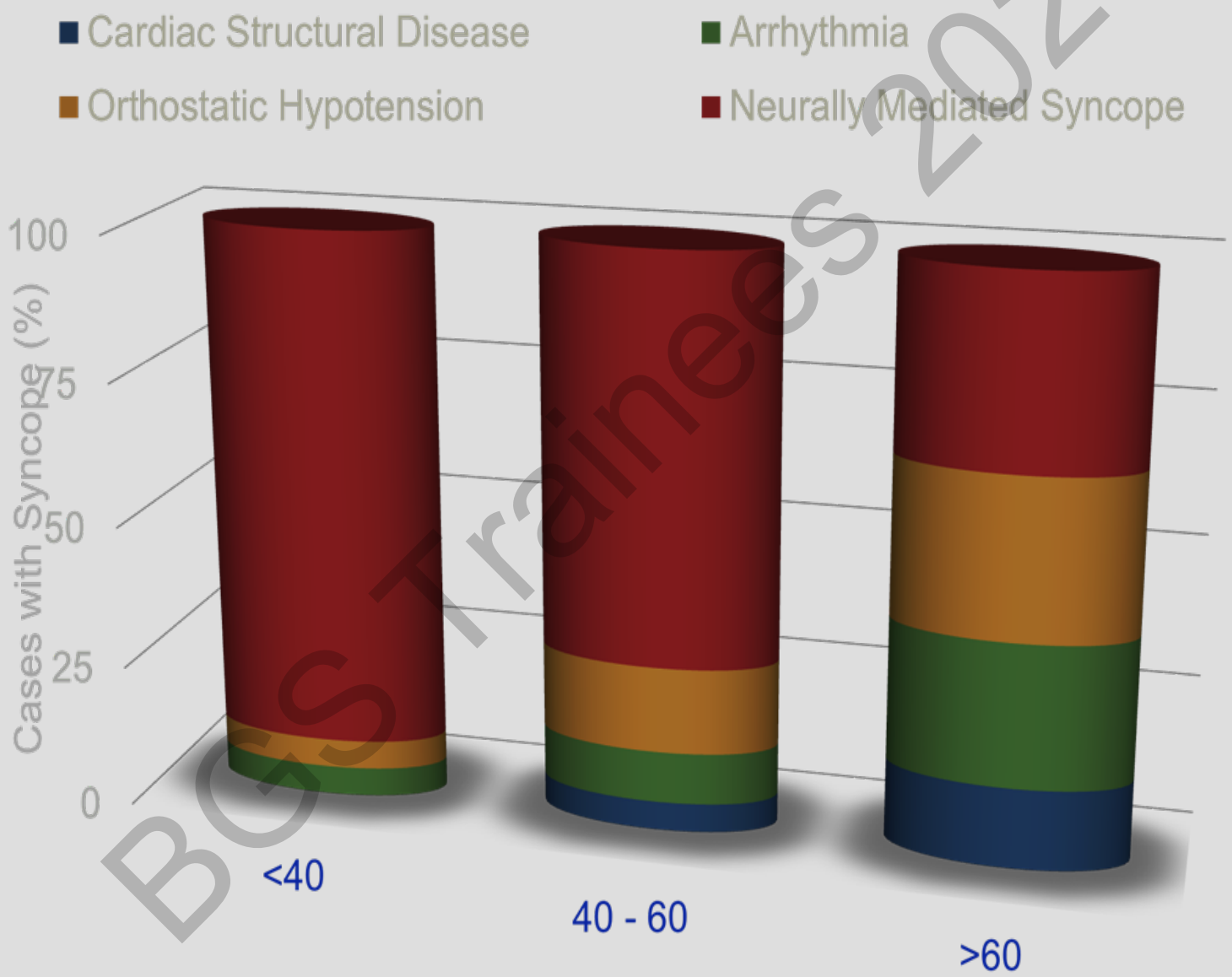
Why is it important?

- Lifetime risk



Soteriades, E et al. N Engl J Med 2002;347:878-885

Causes of syncope by age



Case 2 Mr AN 58 years

PC/ Collapse
?seizure.

HPC/ 3 episodes of collapse today. 2 unwitnessed episodes at home. 1 witnessed episode in department → witnessed by nursing staff, patient became very rigid + shaking, although no post ictal phase. Drinks 4 cans of lager most days. Had 2 today. Previously had ?seizure a year ago.

PMH/ Asthma.

DH/ Salbutamol

PMH
Depression
Mild asthma

DH
Sertraline 200mg
Inhalers

Examination
normal
ECG normal
BP 130/70

Case 2 Mr AN 58 years

What do you think the diagnosis is?

1. Cardiac
2. Seizure
3. Dissociative episode
4. Vasovagal
5. Alcohol related

Case 2 Mr AN 58 years

Do you

1. Discharge no follow up
2. Discharge follow up GP
3. Discharge with follow up at a clinic
4. Admit

Case 2 Mr AN 58 years

Episode of collapse in LOC. Previous similar episode in 2017 - seen in first seizure clinic
Some autonomic feature - sweaty, nausea etc prior to collapse.
No post ictal features.
Apparent "seizure" in ARE though no post ictal features.

Temp:
Pulse:
BP:
SpO_2:
FiO2:
RR: Me

Consultant's Designation: Consultant

Clinical Questions & Answers

Relevant history **Admitted with unwitnessed collapse, no prodromal features, previous episode in 2017 - seen in first seizure clinic with no findings, patient reports occasional 'palpitations / extra beat'**
ECG Findings **Normal sinus rhythm, ran sinus bradycardic (lowest 48 bpm)on ward telemetry overnight**
Provisional diagnosis **Unexplained**
Requestor's contact details **ARU1 82347**

awareness of extra / skipped beat.
Ventral tendency to faint whilst having blood taken - s
preceding symptom of sweating, nausea etc.

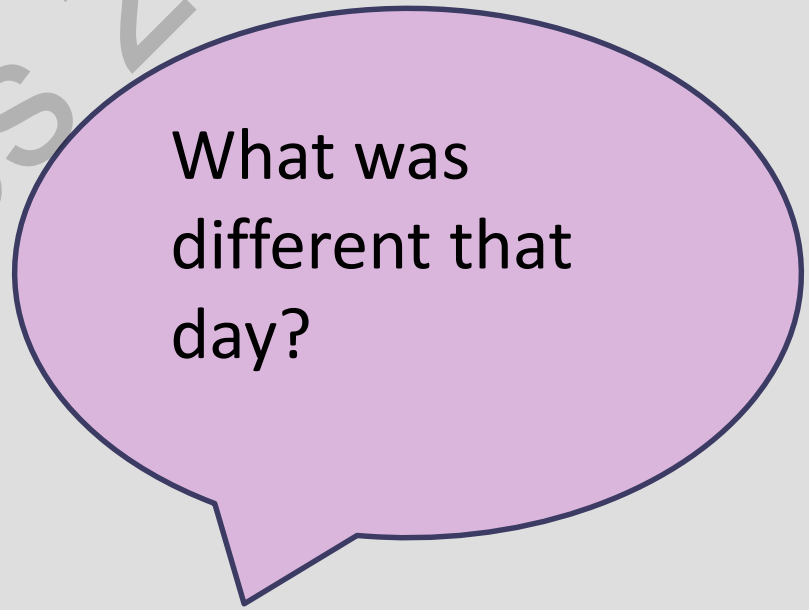
p: Most features sound like syncope / vasovagal episod
rather than seizure
o telemetry overnight.

Case 2 Mr AN 58 years

Seen at syncope clinic

What are the clues?

Drunk 3 pints
Some vasomotor symptoms
Vomited profusely
Under extreme stress



Diagnosis:
Vasovagal syncope secondary to gambling/ stress

Take home messages one: Be a medical detective

HISTORY

COLLATERAL HISTORY

Examination

Investigations

simple

complex

Combine data- Symptoms, signs, timing, age, circumstance

Be pernickety about the history

Provokers
Prodrome
Posture

Take home messages one continued: Be a medical detective Fit or faint

	POINTS
Wake with tongue cutting	2
Déjà vu or jamais vu	1
Emotional stress associated with LOC	1
Head turning during a spell	1
Unresponsive, unusual posture, limb movement or amnesia? (any one of these)	1
Confusion after a spell	1
Lightheaded spells	-2
Sweating before a spell	-2
Spell assn with prolonged sitting or standing	-2

If point score is >1 likelihood is seizure or if <1 likelihood is syncope

Sheldon et al

Syncope versus Seizure

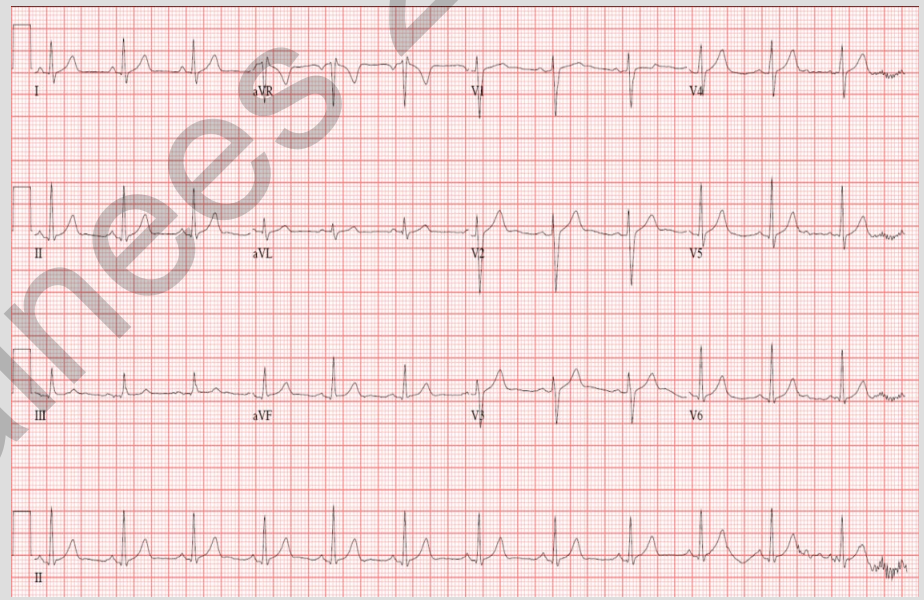
	Syncope	Seizure
Trigger	Common	Rare
Prodrome	Very common	Common
Onset	Gradual	Sudden
Duration	1-30 seconds	1-3 minutes
Colour	Very pale	Cyanosed
Convulsions	Common	Common
Eyes closed	Some	Less common
Incontinence	Uncommon	Common
Lateral tongue bite	Very rare	Common
Breathing	Quiet	Apnoea
Recovery	Rapid	Slow
Injury	Rare	Common

Initial evaluation

Heart sounds

Quick neuro

Postural BP



Bloods

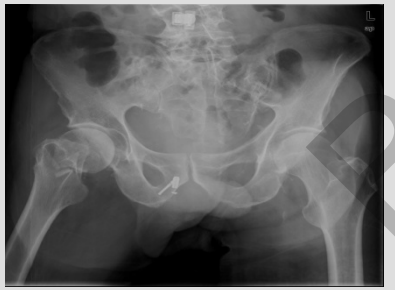
ECG

BM

Initial evaluation in older adult

Gait and Balance- Get up and Go
Eye movements/ nystagmus
Hallpike
Find and Fire up the otoscope

Assess Injury



Cognition/ Delirium

Frailty

Further investigations – monitors are the key (telemetry if require admission)

Frequency of TLOC	24 Hr Tape	Extended Monitor	Implantable loop recorder (ILR)
≥ Daily	✓	×	×
≥ Weekly	×	✓	×
≥ Monthly	××	✓	?
≤ Monthly	×××	?	✓

Active stand

Echo- if structural/ known heart disease, abnormal ECG or examination

BP monitors- to guide treatment

ETT

Tilt tables.....

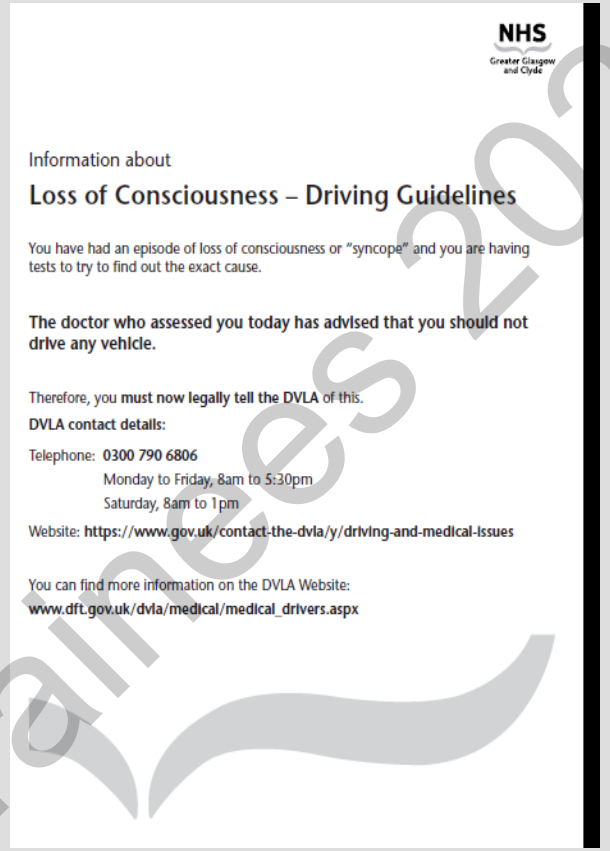
Driving

Fitness to drive

Prodrome/ Position

Solitary/ Recurring

Legal responsibility



NHS
Greater Glasgow and Clyde

Information about

Loss of Consciousness – Driving Guidelines

You have had an episode of loss of consciousness or "syncope" and you are having tests to try to find out the exact cause.

The doctor who assessed you today has advised that you should not drive any vehicle.

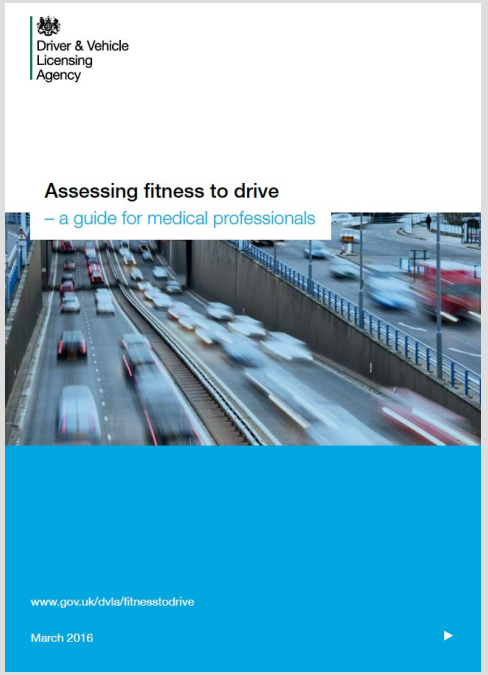
Therefore, you **must now legally tell the DVLA** of this.

DVLA contact details:

Telephone: **0300 790 6806**
Monday to Friday, 8am to 5:30pm
Saturday, 8am to 1pm

Website: **https://www.gov.uk/contact-the-dvla/y/driving-and-medical-issues**

You can find more information on the DVLA Website:
www.dft.gov.uk/dvla/medical/medical_drivers.aspx



Driver & Vehicle Licensing Agency

Assessing fitness to drive

– a guide for medical professionals

www.gov.uk/dvla/fitnesstodrive

March 2016

TLOC circumstances are crucial to accurate driving advice

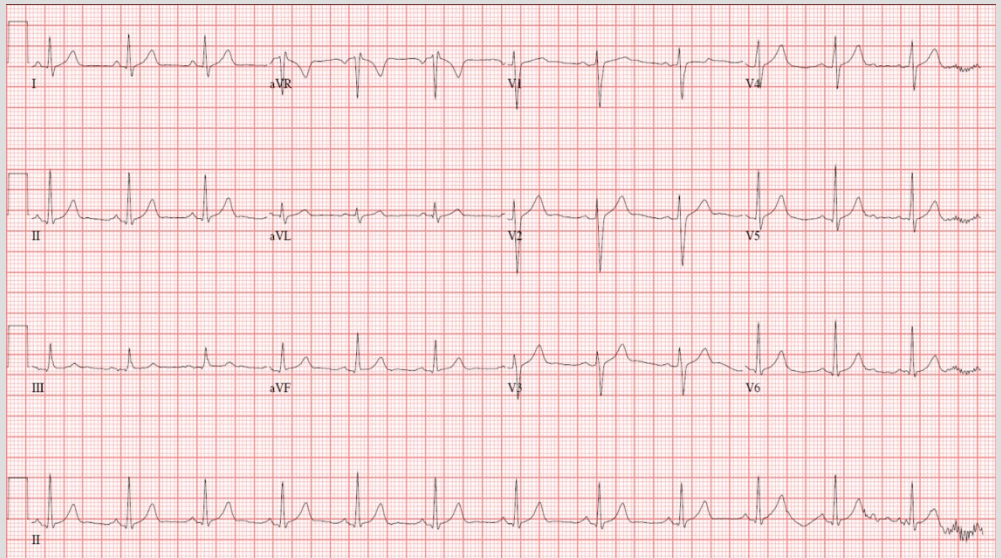
Take home message two: Risk stratification

OESIL

▪ Age > 65	1
▪ CVS in history	1
▪ Lack of prodrome	1
▪ Abnormal ECG	1

Mortality

1 risk factor	**0.8%**
2 risk factors	**19.6%**
3 risk factors	**34.7%**
4 risk factors	**57.1%**



Score or pathway?

Risk stratification is the key

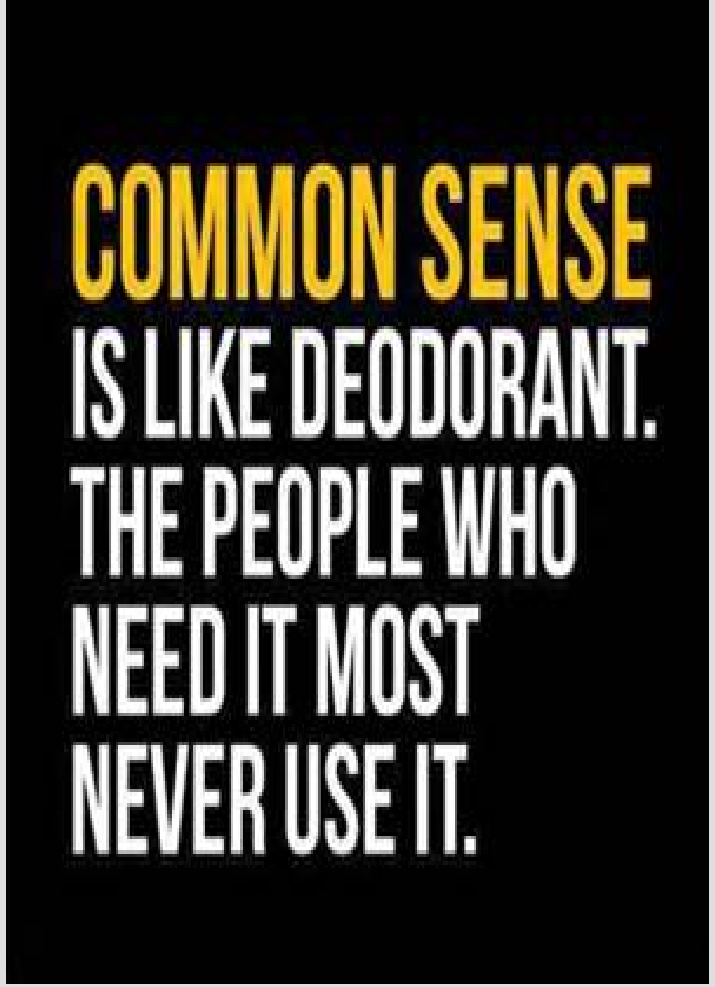
Canadian syncope risk score

1. Clinical evaluation
   - VVS predisposition -1
   - Hx of heart disease 1
   - Systolic <90 or > 180 2

2. Investigations
   - Trop elevated 2
   - Abnormal QRS axis 1
   - QRS >130 ms 1
   - QTc > 480 2

3. Diagnosis in ED
   - VVS -2
   - Cardiac syncope 2

CALCULATES RISK OF 30 DAY MORTALITY



RECOGNISE

1. LOW RISK
   who can be safely discharged

2. HIGH RISK
   Need to be able to spot the cardiovascular condition that requires urgent investigation

Bad heart
FH SCD
Exercise TLoC
Odd ECG

Syncope Pathway for Emergency Department & Secondary Care QEUH

NHS Greater Glasgow and Clyde

Definite or possible total loss of consciousness (T-LOC)
Provisional Diagnosis and Risk Stratification

Suspected Seizure

Other Causes of collapse

Vasovagal Syncope (VV

Diagnose if:

- Features suggestive of
  Posture, Provoking fac
  Prodromal symptoms
- No features to suggest
  plausible alternative ca
  transient myoclonic je
  urinary incontinence c
  feature of VVS)
- No high risk ECG abn

WPW, long QT,

rt disease, heart

ncope after exercise

(esp. >65 yrs)

ac death <40 yrs

tations

Discharge with Informat
to Primary Care

- Uncomplicated and inf
  VVS or OH.
- Uncomplicated and inf
  situational syncope (e.g cough, swallowing, or micturition syncope)

initial conservative management has been attempted

syncope

- Injury as a result of syncope
- Occupational or driving implications

ire Immediate

identified

talisation

ardiogenic syncope, especially if <12 hours of presentation, or multiple episodes

- Other factors may influence the need for admission e.g. frailty, co-morbidities

NB: Remember to advise patients about driving (see Driving Guidelines).

Do not refer alcohol related blackouts to Syncope Service.

Bruce McLintock, James Reid, Eileen Capek, Lesley Anderton, Lara Mitchell. Unscheduled care bed days can be reduced with a syncope pathway. Br J Cardiolol 2019;16(4)

Case 3 : Mr A 82 years (referred from TIA clinic) July 2017

TLoC (May 2017)

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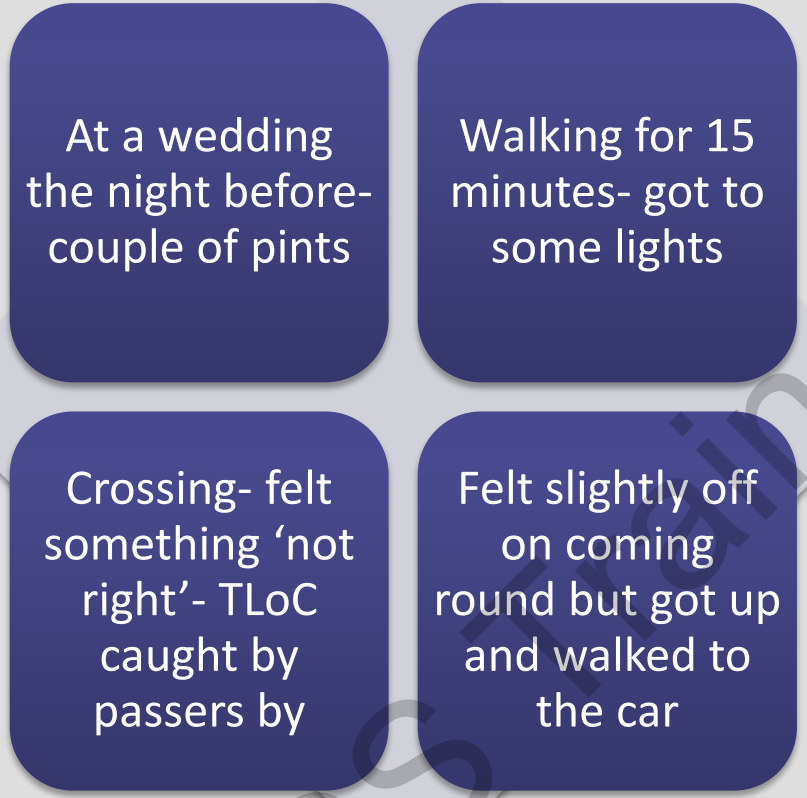

PMH PAF , hypertension, OA

DH Apixaban 5mgBD, bisoprolol 2.5mg OD, losartan 50 mg OD, simvastatin 40 mg OD, naproxen PRN

O/E Get up and Go normal, BP 130/70 no drop
HS normal/ no bruits heard
ECG sinus rhythm, LVH

Diagnosis

Loss of consciousness- no clinical pointers (SINGLE EPISODE)

Case 3 : Mr A 82 years

PRIOR TO CLINIC

1.Echo- preserved LV function/ normal valves

2. Monitor – Sinus rhythm with a 1.8 second pause overnight and short atrial run lasting 3 seconds

3. BP 150/84

AT CLINIC

1. Full Bruce ETT

2. HUT GTN- normal

3. CSM normal

4. Another monitor- short run of PAF

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1.Echo- preserved LV function/ normal valves

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AT CLINIC

1. Full Bruce ETT

2. HUT GTN- normal

3. CSM normal

4. Another monitor- short run of PAF

Case 3 Mr A 82 years

Do you

1. Discharge no follow up
2. See again in 6 months
3. ILR
4. CT head

Case 3 : Mr A 82 years

18 months

August 2017

If he blacks out again- proceed to an ILR

Feb 2018

No further TLoC

May 2018

Phoned my secretary unexplained TLoC- no real pointers

June 2018

ILR

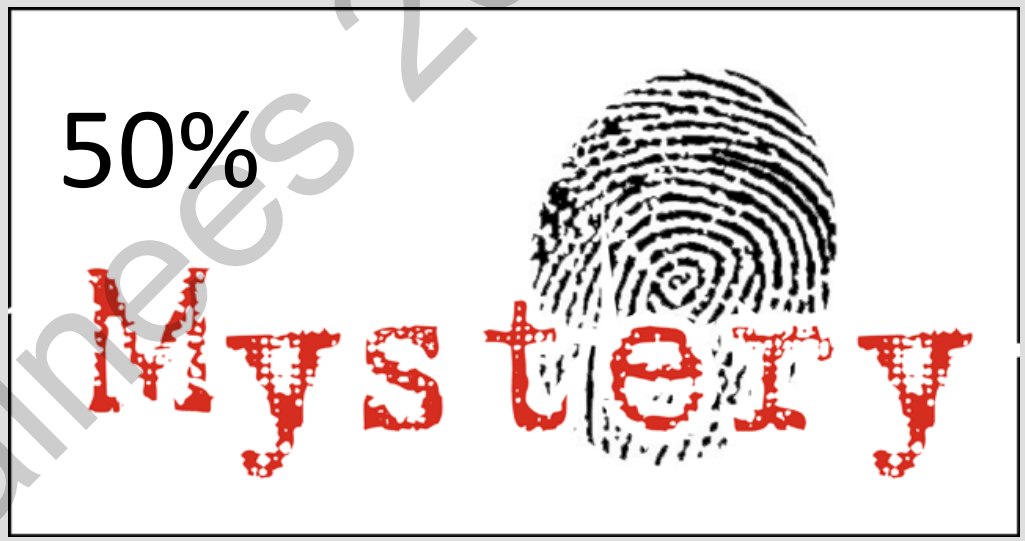
August 2018

Dizzy standing outside a café. No TLoC . 7 second pause coming out of PAF

September 2018

PPM

Take home messages three:- Its still about risk stratification



30% will have more than one episode

Take home message four: What happens if there is no syncope service?

Cardiologists

Geriatricians

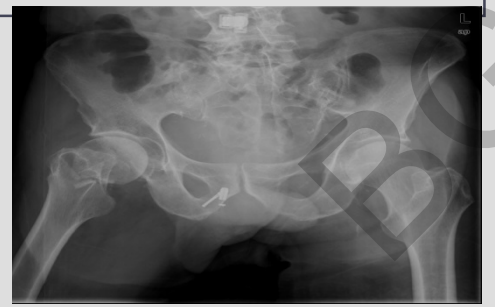
Neurologists

Medicine

ENT

Orthopaedics

A&E



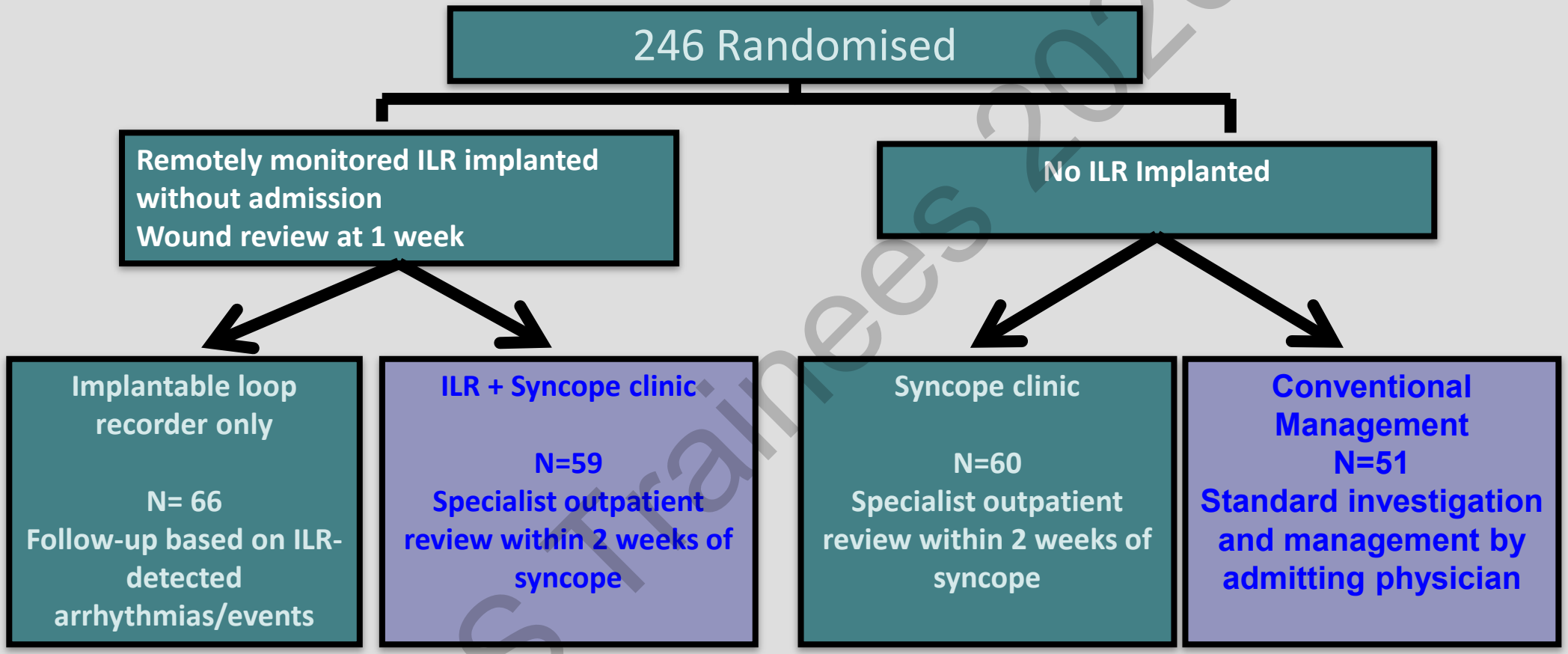
Differential diagnosis

Clinical overlap

Often multifactorial in elderly

Medication, dehydration, physiological (neurohumoural), locomotor (gait and balance), cognition

EaSyAs II Study



Sulke, N. et al. Europace Published Online 2015

Management

Orthostatic hypotension

Non pharmacological

- Behavioural modification
- Balance of systolic hypertension and orthostatic hypotension (SPRINT)
- SH/OH

Pharmacological

- Fludrocortisone
- Midodrine (2RCT)
- Droxidopa

Information for Patients with

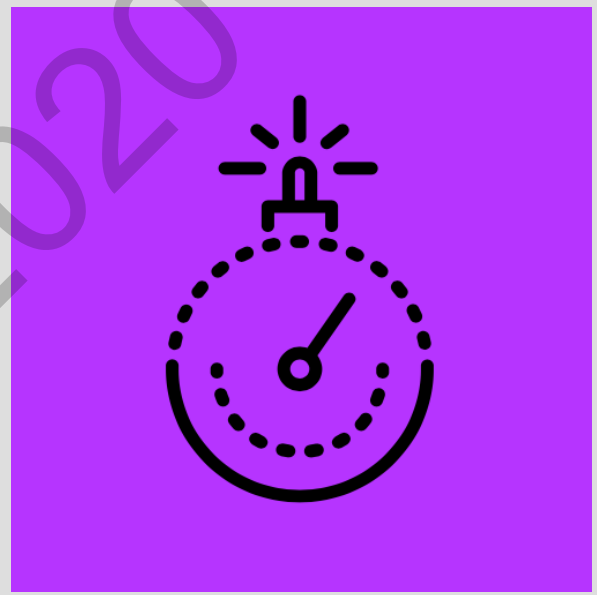
Dropping Blood Pressure
(Orthostatic Hypotension)

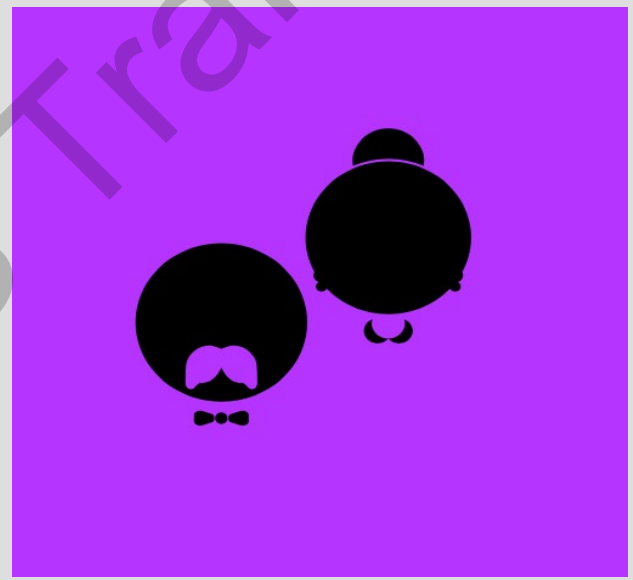
Management

Vasovagal syncope

Non-Pharmacological

- Behavioural modification
- What are their triggers?
- Drink 2 litres of fluid
- Buttock clenching- 1 RCT 243 patients





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