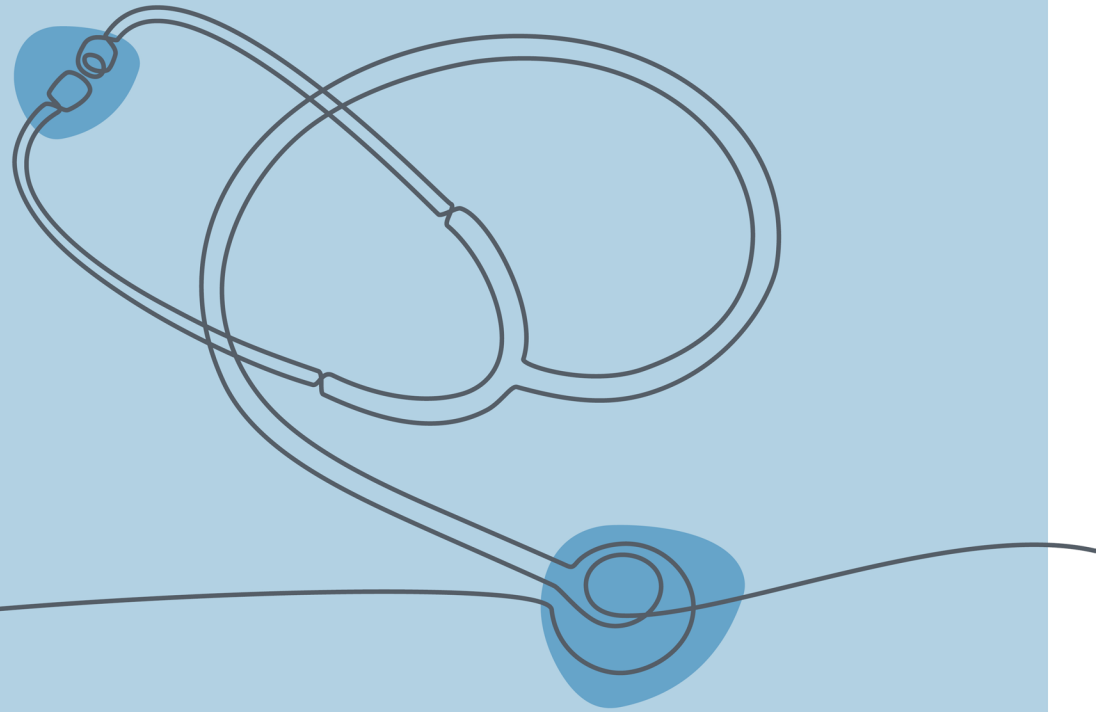
General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

SATURDAY 8 JUNE 2024 | CSDS

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Welcome!

Generalism

NOUN

a philosophy of care distinguished by a commitment to the breadth of practice within each discipline and collaboration with the larger health care team in order to respond to patient and community needs.

Acknowledgement

Metro North Hospital and Health Service and Brisbane North PHN respectfully acknowledge the Traditional Owners of the land on which our services and events are located. We pay our respects to all Elders past, present and future and acknowledge Aboriginal and Torres Strait Islander people across the State.

The plan for today…

8.30am **Welcome address & GPLO update**

8.50am **First session**
- Management of the breathless patient
- Trauma informed care

10.10am  ***Morning tea***

10.40am **Second session**
- Adult ADHD
- Addiction Medicine & AOD
- Head injuries, concussion and pot concussion symptoms

12.25pm  ***Lunch***

1.00pm **Case studies**
- Syphilis
- ECG
- Vaccination update
- OSA & driving
- Sore shoulders

3.00pm **Last session**
- Managing hypertension in CKD
- Radiology – the butterfly effect

4.10pm **Quiz**

4.30pm **Closing address**

GPLO Update

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Brisbane North
HEALTHPATHWAYS

Obstructive Sleep Apnoea (OSA) in Adults

Red flags

- MVA or work-related accidents related to sleepiness or inattention over the past 12 months
- Dozing while driving at least once or twice a month
- Suspected or confirmed sleep hypoventilation

Background

About obstructive sleep apnoea (OSA) in adults

Assessment

1. Take a history:
   - With the patient's consent, seek collateral information from the patient's partner or another family member whenever possible.
   - Consider OSA in patients who present with a history of loud snoring and/or exc
   - Check for other clinical features of OSA.
2. Consider risk factors and exacerbating factors.
3. Measure daytime sleepiness severity using the Epworth Sleepiness Score (ESS) questionnaires (required if referring to a QLD health facility):
   - STOP-BANG
   - OSA-50 Questionnaire
   - Berlin Questionnaire

Shoulder Pain and Shoulder Injuries

Red flags

- Septic arthritis
- Rheumatological disease e.g., rheumatoid arthritis (RA), polymyalgia rheumatica (PMR)
- Malignancy

Background

About shoulder pain and shoulder injuries

Assessment

1. Take a history. Check:
   - Mechanism of injury (if any) and the patient's age group to determine most likely cau
   - Symptoms
   - Personal history
2. Perform examination.
3. Consider differential diagnosis:
   - Intrinsic shoulder pathology
   - Extrinsic shoulder pathology

Concussion

This pathway is about concussion in adults and children.

Background

About concussion

Assessment

1. If immediate assessment of a head injured patient is required, perform primary survey. Asse
   - concerning clinical features or
   - concerning mechanism of injury.
2. Take history of the event. Consider the possibility of non-accidental abuse in all children pres
3. Determine whether criteria for concussion are met – history of direct or indirect force to the he the force transmitted to the head, plus neurological dysfunction as evidenced by:
   - physical symptoms, or

Syphilis

Red flags

- Sexually transmitted infection in a minor
- Syphilis during pregnancy
- Suspected neurosyphilis

Background

About syphilis

Assessment

1. Have a low threshold for screening, testing, and referral. Early or infectious syphilis can have protean manifestations.
2. Consider indications for screening and screen:
   - patients from high-risk groups.
   - all pregnant women.
3. For all other patients, consider signs and symptoms related to the stage of infection. Be aware that syphilis may be asymptomatic or mimic other conditions, including HIV seroconversion, flu-like illnesses, drug rashes, and dermatological conditions.
   - Primary syphilis
   - Secondary syphilis
   - Early latent syphilis
   - Late latent syphilis
   - Tertiary syphilis
4. If the patient is a minor (aged < 18 years), assess if the sexual activity is abusive or puts the minor at risk of harm.
5. Arrange investigations:
   - Arrange syphilis serology in all patients at risk or suspected of having syphilis.
   - Collect treponemal PCR swab from any suspicious lesion (as well as serology).
     - Collect as much material as possible using friction on the base of the ulcer with the PCR swab.

Incidental Findings on Imaging

Incidental findings are commonly noted on imaging. This can lead to uncertainty about the need for follow-up investigations or referral. If unsure of significance, discuss with radiologist or specialist.

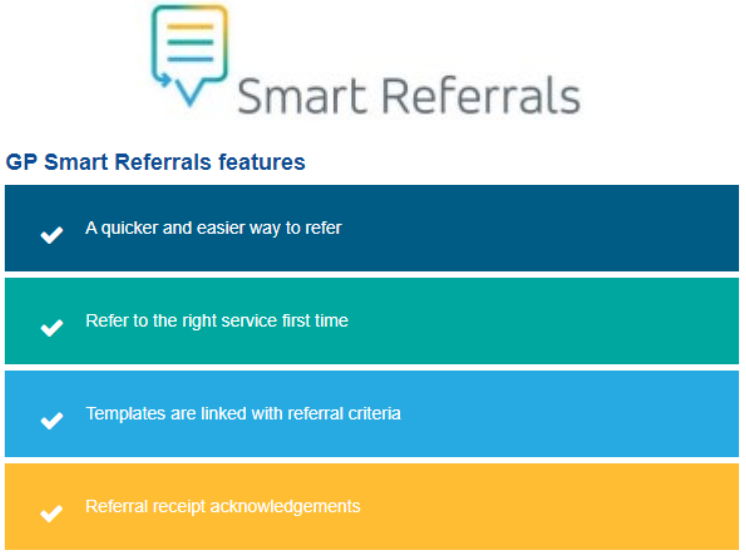
Abdominal

- Gallbladder polyps
- Liver and spleen lesions
- Renal lesions
- Mesenteric panniculitis
- Incidental pancreatic lesions
- Splenic artery aneurysm

Smart Referrals

Why should I use it?

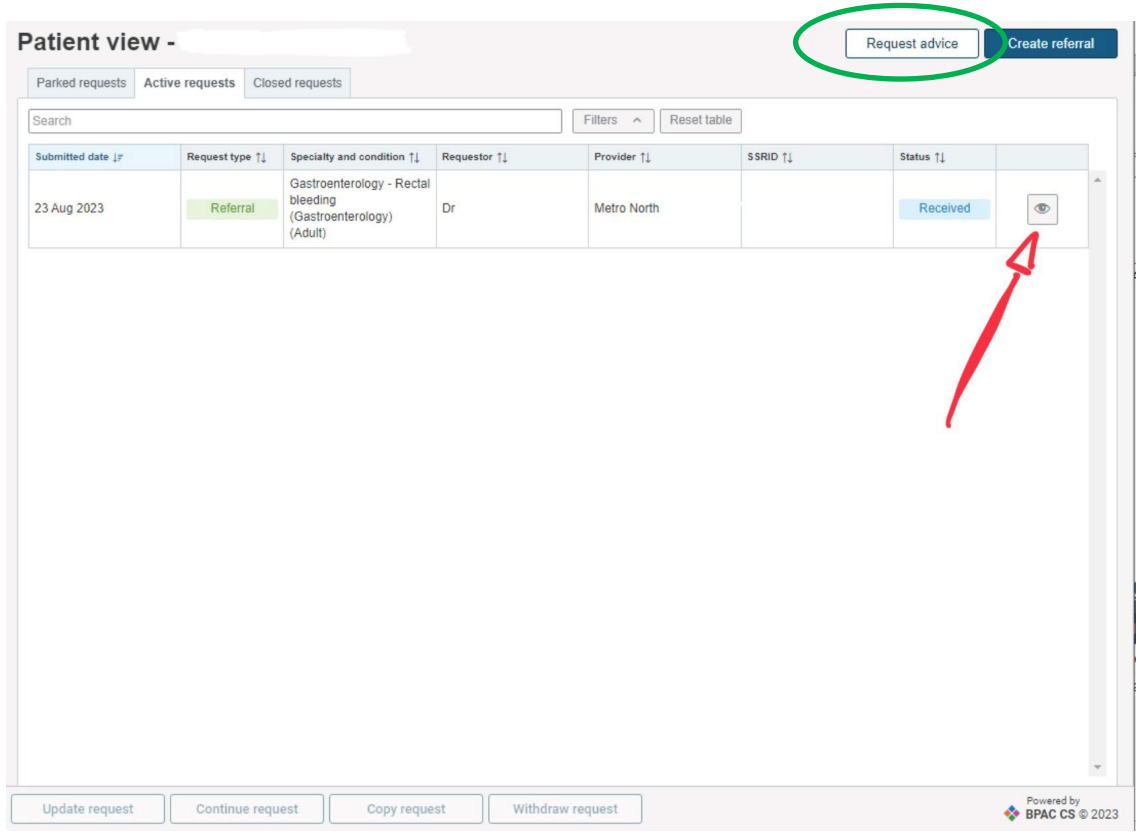
1. Allows you to attach any test results, imaging reports and other clinical documents (eg ECG, photos) from the patient's clinical record or your PC to the referral
2. GPSR supports you in provision of essential clinical information, reducing the number of referrals being returned to you requesting additional clinical information
3. Integrated with a service directory to ensure the appropriate speciality closest to the patient's address is identified
4. Can be used to request written advice from certain specialties within Metro North

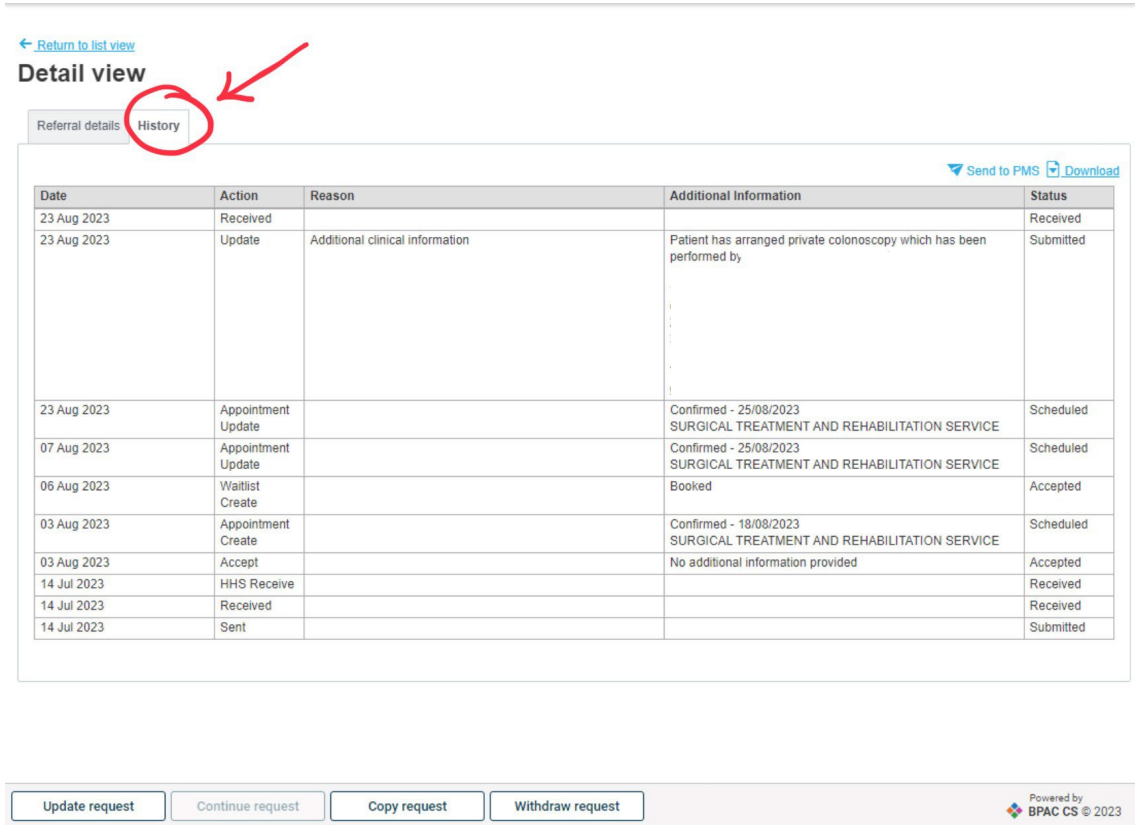


- Integrates with *Best Practice* and *Medical Director* software
- Aligned with state-wide referral guidelines to prompt essential referral information required to triage, decreasing the number of referrals returned for additional clinical information.

Brisbane North PHN Digital Health Support Officers
GPSR@brisbanenorthphn.org.au

GPSR


Patient view -
Request advice
Create referral
Parked requests
Active requests
Closed requests
Search
Filters
Reset table
Submitted date
Request type
Specialty and condition
Requestor
Provider
SSRID
Status
23 Aug 2023
Referral
Gastroenterology - Rectal bleeding (Gastroenterology) (Adult)
Dr
Metro North
Received
Update request
Continue request
Copy request
Withdraw request
Powered by BPAC CS © 2023


Return to list view
Detail view
Referral details
History
Send to PMS
Download
Date
Action
Reason
Additional Information
Status
23 Aug 2023
Received
Received
23 Aug 2023
Update
Additional clinical information
Patient has arranged private colonoscopy which has been performed by
Submitted
23 Aug 2023
Appointment Update
Confirmed - 25/08/2023 SURGICAL TREATMENT AND REHABILITATION SERVICE
Scheduled
07 Aug 2023
Appointment Update
Confirmed - 25/08/2023 SURGICAL TREATMENT AND REHABILITATION SERVICE
Scheduled
06 Aug 2023
Waitlist Create
Booked
Accepted
03 Aug 2023
Appointment Create
Confirmed - 18/08/2023 SURGICAL TREATMENT AND REHABILITATION SERVICE
Scheduled
03 Aug 2023
Accept
No additional information provided
Accepted
14 Jul 2023
HHS Receive
Received
14 Jul 2023
Received
Received
14 Jul 2023
Sent
Submitted
Update request
Continue request
Copy request
Withdraw request
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metronorth.health.qld.gov.au

Queensland Government | Virtual Ward
Metro North Health

Search...

About the Virtual Ward | Health professionals | COVID-19 | Monkeypox

Home » Health professionals

Health Professionals

If you are a Queensland Health employee, please refer to the Metro North Virtual Ward Intranet Page (QH network only) available on QHEPS to access the internal referral form.

The Metro North Virtual Ward (VW) is an additional telehealth service that complements the current Virtual Emergency Department, Covid Virtual Ward, and Hospital-in-the-home services available within the Metro North Health region. Given the success of the virtual care model, the Metro North VW can now admit and manage patients with conditions other than COVID.

The VW can assist GP's by providing an inpatient equivalent admission for eligible patients.

On admission patients will be provided with team-based care via regular phone calls and/or video consults. The ward is based at the Royal Brisbane and Women's Hospital, from 0700 to 1930, 7 days a week, with overnight access to medical support. The patients will have access to medical, nursing, pharmacy, and social work support.

What can Virtual Ward provide?

Monitoring determined by patient's primary illness and co-morbidities.

Where required, patients will be provided with the following monitoring equipment free of charge and delivered to their home:

- Oxygen saturation probe
- Blood pressure monitor
- Thermometer
- Facilitation of relevant investigations i.e.- Blood tests, medical imaging including MRI, ECG, Echo
- Facilitation of Specialist opinion
- Pharmacy review
- Referral to Allied Health

Which patients are eligible for admission to the VW?

Patients who require a brief period of monitoring and treatment which would otherwise require them to stay in hospital.

Patients at risk of deterioration, which if detected early, can be managed at home with the aim that hospital admission be avoided.

Patients where daily review in between planned GP review would be helpful.

Examples of conditions that may be suitable for admission include:

- COVID
- community acquired pneumonia, infective exacerbations of asthma and other chronic obstructive airway conditions
- infections including cellulitis, osteomyelitis, UTI
- severe hypertension without neurological red flags for short term monitoring, medication adjustment
- hyperglycaemia without ketoacidosis for short term monitoring, medication adjustment.
- electrolyte abnormalities requiring monitoring
- supratherapeutic INR for short term monitoring
- serendipitous lumps to expedite investigation and Specialist review.

How to refer your patients to VW?

Phone **07 3074 2109** in hours (0800-1700hrs) or phone RBWH switchboard out of hours on **07 36468111** and ask to speak to the Virtual Ward Consultant.

If your patient is accepted, please complete the VW referral form (available as Best Practice template or PDF) and email MN-VirtualWardAdmin@health.qld.gov.au.

How to monitor your patients progress?

You can review your patient's daily progress via the Health Provider Portal/ Viewer.

A discharge summary will be sent at the end of the admission.

If you would like to contribute further information at any stage about your patient, please phone the Virtual Ward Consultant on 07 3074 2109.

Metro North Virtual Emergency Department

Factsheet for General Practitioners

Metro North Health has developed a Virtual Emergency Department (MN Virtual ED) service to provide Queensland General Practitioners (GPs) with access to specialist emergency medicine advice, by telephone or video conferencing.

The MN Virtual ED consultant can assist you with advice, support and access to HHS services:

- This service is available to GPs across Queensland and can involve either a consultation about a patient or a joint consultation with the patient.
- Advice and support are available for any patient at any age with any condition.
- MN Virtual ED consultants can help you to manage your patient in the community by:
  - Providing specialist advice for ongoing management
  - Facilitating access to HHS based community services such a community nurses and HITH
  - Facilitating access to an outpatient specialist review.
- MN Virtual ED consultants can provide specialist advice to assist you in accessing inpatient services
  - Telephone advice from sub specialists
  - Urgent outpatient "Rapid Access Clinic" review
  - Direct review and admission by subspecialty teams for "known patients" bypassing the ED
  - Facilitated access to ED and other services when required.
- MN Virtual ED has access to existing online clinical information systems such as 'The Viewer'.

NOTE:

- **For life-threatening emergencies call triple zero (000) and request Ambulance Services.**

  The Virtual ED is not intended to be used for patients experiencing a life-threatening emergency.

How to access our Virtual ED service:

Call 1300 847 833 (1300 VIRTED)

Monday to Sunday 8 a.m. – 10 p.m.

Virtual ED is aware that your time is precious.

You will be connected to an experienced emergency nurse. **Please have the following information ready:**

1. Your name and phone number
2. The patient's name, date of birth, hospital number (if available) and brief description of the problem
3. The practice phone number

The experienced ED nurse will be accessing previous hospital information on your patient while you consult with the medical staff.

The MN Virtual ED consultant will speak with you immediately whenever they are available. During busy times they will call you back as soon as possible. MN Virtual ED recommends you ask your patient to sit in the waiting room for a short period until both medical practitioners are available.

- If you request a face-to-face consultation and you have a computer with a camera or a smartphone, the Virtual ED team will send you an appointment link.

Metro North Health | Queensland Government

GP & QAS Virtual Emergency Department

Open: 7 days (8am-10pm Monday to Sunday)

Patients should use our Patient Virtual ED service.

METRO NORTH VIRTUAL ED

- While the consultation is taking place, MN Virtual ED staff may contact your practice for further patient details if required, to complete the registration process.
- During the consultation a management plan will be agreed and later documented by the MN Virtual ED staff. These notes will be uploaded into the 'The Viewer' which is freely available for GPs who have registered for access.
- The following day, you will be contacted via email for feedback about the service and the patient will be contacted if necessary.

The MN Virtual ED service is currently operating from **Monday to Sunday 8 a.m. – 10 p.m.**

You will be notified of any extended or changed operating hours via the Brisbane North Primary Health Network GP Bulletin. Please make sure you have subscribed: https://brisbanenorthphn.org.au/news-events/newsletters

The MN Virtual ED service can be used for*:

- Asymptomatic hypertension
- Deep Vein Thrombosis (DVT)
- Diabetic patient with high BSLs
- Fever in children
- Low back pain
- Minor sports injuries incl minor head injuries
- Resolved TIA
- Soft tissue infections/cellulitis
- Urinary tract infection
- Vasovagal syncope
- Vertigo
- Viral Gastroenteritis
- Viral illness (including COVID-19)
- Wounds

*Please note this is not an exhaustive list, these are examples of some conditions where our Virtual ED consultants can assist. If you are unsure whether MN Virtual ED can assist, please feel free to call and speak with one of friendly staff.

Further information is available on the MN Virtual ED webpage Virtual Emergency Department (ED) - Metro North Health

Metro North Clinical Advice Line

Connecting GPs directly to Metro North specialties.

The Metro North Health Clinical Advice Line connects local GPs to specialist advice from hospital and community clinicians. There are two pathways:

1. Phone line
2. Written request for advice.

The range of adult specialities currently available to support patient care in the community includes:
(This list will expand over time so keep coming back for the latest advice services available)

1. Phone advice

Specialty	Catchment*	Exclusion Criteria
General Medicine and Rapid Access Clinic	TPCH	• Excludes Cardiology, Heart Failure or Respiratory Conditions • Excludes Residential Aged Care residents (Call RADAR - 1300 072 327)
Haematology	Metro North	• Excludes Patients under 16 years
Heart Failure Service and Rapid Access Clinic	Redcliffe TPCH	• Excludes New heart failure patients • Excludes Patients seen by another heart failure service
Inflammatory Bowel Disease	Redcliffe Caboolture	• Excludes Patient anticipated to require surgical input
Metro North Persistent Pain Centre/ Tess Cramond Pain and Research Centre Clinical advice available Tuesday – Friday 9:00am – 12:00pm	Metro North Central Queensland Central West Darling Downs West Moreton	• Excludes patients under 16 years • Excludes outside catchment
Metro North Virtual Ward	Metro North Central West Norfolk Island	• Excludes patients under 16 years • Excludes Residential Aged Care residents (Call RADAR - 1300 072 327)
Healthy Ageing Assessment Rehabilitation Team (HAART)	Kallangur Satellite Hospital	Patients may be ineligible if: • Currently accessing equivalent services in public or private sector • Reside outside of catchment area • Medically unstable requiring inpatient assessment or currently an inpatient • Only require therapy for maintenance of chronic condition • Residential aged care facility residents
Rapid Access to Community Care	Metro North	• Excludes Patients under 16years • Excludes Acute mental health, alcohol or drugs related. • Excludes Residential Aged Care Facility Residents (Call RADAR - 1300 072 327)
Sexual Health	Metro North	• Excludes Patients under 14 years
Sleep Disorders	TPCH Caboolture Redcliffe	• Excludes Patients seen by another Sleep Unit
Termination of Pregnancy	Metro North	• Excludes Outside Metro North referral catchment
Vestibular Rapid Access Service	TPCH	• Out of catchment for TPCH

Catchment** – **where the patient would usually be referred for a face to face specialist outpatient clinic appointment.

Note: If you think your patient is new to any of these services on the page, please ensure your patient is aware you are seeking advice and they consent to their demographic details, including Medicare number, being provided to Metro North Health at the time of the call.

Call the Clinical Advice Line, Monday to Friday 8:30am to 4.00pm on

1800 569 099

Note: this is for GPs only and the phone line is not open to patients.

Other advice lines and services for GPs can be found in our Services contact list (PDF)

Clinical Advice Line
1800 569 099
Open Monday to Friday
8.30am – 4.00pm

Note: This is for GPs only and the phone line is not open to patients.

Want to learn more?

For more information, please call the advice line or email MNH_SpecialtyAdviceLine@health.qld.gov.au.

The team can also undertake engagement sessions with interested GPs (Virtual or Face to Face).

Request for Advice (RFA)

2. Written request for advice

GPs can seek advice via the written "request for advice" (RFA) via GP Smart Referrals (GPSR) for the specialties listed below. Details of how to send the RFA in GPSR and how the response is provided via the Request for Advice function on GPSR information sheet. (PDF)

Specialty	Catchment*	Exclusion Criteria
General Medicine	TPCH	• Cardiology, Heart Failure or Respiratory Conditions • Residential Aged Care residents (Call RADAR)
Metro North Persistent Pain Centre/ Tess Cramond Pain and Research Centre	Metro North Central Queensland Central West Darling Downs West Moreton	• Excludes patients under 16 years • Excludes outside catchment
Paediatric Medicine	Redcliffe	• Out of catchment for Redcliffe
Rheumatology	Redcliffe	• Out of catchment for Redcliffe
Urology	RBWH	• Out of catchment for RBWH

Catchment – where the patient would usually be referred for a face to face specialist outpatient clinic appointment.

Please do not request urgent advice via this method. If there are no in-catchment services that offer Request for Advice for your patient, the Service will show as 'Out of Catchment'. In this instance it is recommended that a referral is created to an appropriate service within catchment for the patient.

GP Psychiatry Support Line

ENQUIRIES

1800 16 17 18

Monday - Friday
Excluding public holidays

7am to 7pm (AEST)
Australian Eastern Standard Time

Advice is available regarding all age brackets of patients, including children and young adults

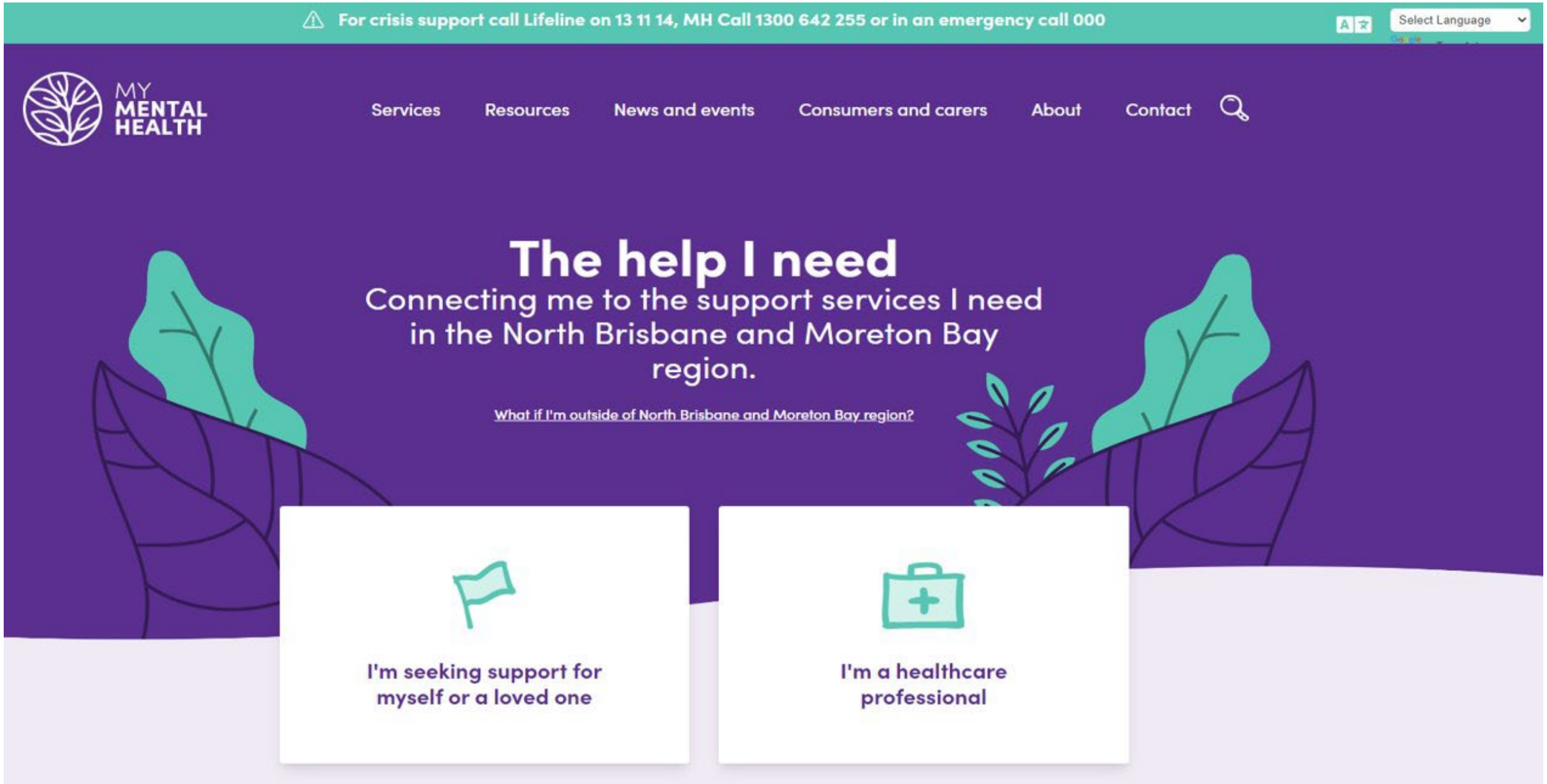
This is NOT a triage or referral service

This is NOT an emergency service
In case of emergency, please ring 000

This service is for GPs only

Email Enquiries:
admin@gpsupport.org.au

BOOK A SESSION ONLINE


For crisis support call Lifeline on 13 11 14, MH Call 1300 642 255 or in an emergency call 000
Select Language
MY MENTAL HEALTH
Services
Resources
News and events
Consumers and carers
About
Contact
The help I need
Connecting me to the support services I need in the North Brisbane and Moreton Bay region.
What if I'm outside of North Brisbane and Moreton Bay region?
I'm seeking support for myself or a loved one
I'm a healthcare professional

HEAD TO HEALTH

- The national **Head to Health phone service** provides assessment and navigation to connect people to the right mental health services for them.

- Head to Health is a free service, available for anyone who needs mental health and wellbeing support. Head to Health is also available to friends, carers, families, **GPs and other health professionals to help find a suitable service for the people their supporting.**

- When you call, you will be asked to enter your post code and then the call is routed through to the local Head to Health team. You can call Head to Health on 1800 595 212 (Monday to Friday 8.30 am – 5.00 pm)

1800 595 212

headtohealth.gov.au

Head to Health is a collaborative initiative of Primary Health Networks and funded by the Australian Government.

My Mental Health Services **Map**

Access to a greater range of mental health services in North Brisbane and Moreton Bay

Access an expanded range of mental health, alcohol and other drug, and suicide prevention services commissioned by Brisbane North PHN. Most services below can be accessed using the My Mental Health Services eReferral. There is no cost to the client. Some services have eligibility and exclusion criteria.

For acute/hospital presentations, please contact **1300 MH Call - 1300 64 2255** or if an emergecy, contact **000**.

	Low intensity			Mild/moderate intensity		Moderate intensity	High intensity		Crisis services
SERVICE	**IUIH Social and Emotional Wellbeing (Institute for Urban Indigenous Health) 1800 254 354** Provides an integrated social health model, including primary mental health services, alcohol and other drug treatment services and suicide prevention services								
	Richmond Fellowship Queensland - New Access 1300 159 795	**World Wellness Group - Problem Management Plus** 07 3333 2100	**Peach Tree Perinatal Wellness - Sunshine Parenting Program** 0468 449 430	**headspace** Caboolture 07 5428 1599 Nundah 07 3370 3900 Redcliffe 07 3897 1897 Indooroopilly 07 3157 1555 Strathpine 07 3465 3000	**Change Futures: Psychology in Aged Care Wellbeing Program** 07 3857 0847	**Brisbane MIND** 1800 752 235 Healthcare/pension card required	**ASHA** 07 3283 8769	**Mental Health Hubs** **Communify:** The Recovery and Discovery Centre, inner north Brisbane 07 3510 2777 **Neami:** The Living and Learning Centre, Strathpine 07 3493 6780 **Stride Hub:** Caboolture 07 4593 0500	**Safe Spaces** **Communify** 07 3004 0101 **Neami** 07 3493 6710 **Stride** Caboolture 07 5232 1590 **Redcliffe Youth Space** 07 435 827 817
AGE	**12 years and older**	**18 years and older**		**12 - 25 years**	**65 years and older**	**All ages including children 0 - 11**	**12 - 25 years**	**18 years and older**	**All ages**
DESCRIPTION	Supports people to tackle day-to-day pressures and set practical goals (6 session coaching programs designed by Beyond Blue).	For people who identify as culturally and linguistically diverse to help manage stress and adverse situations (Group, phone and face-to-face sessions).	Mothers of infants aged 0-12 months experiencing mild postnatal depression and/or anxiety symptoms (6-week group program).	Provides early intervention mental health services and assistance in promoting young peoples' wellbeing.	For residents of aged care facilities. Provides group and individual support to people over the age of 65.	Short term psychological therapy for those who cannot access the universal service *Better Access*. Eligible clients must identify in one of the following under serviced groups: • children 0-11 years • culturally and linguistically diverse communities • LGBTIQ+ communities • people who have experienced trauma or abuse • people at risk of suicide • residents of Bribie Island and Kilcoy	Provides mobile outreach support to vulnerable young people in the Moreton Bay north region. Please contact the service directly for referral pathways.	Delivering integrated clinical and non-clinical services for people with severe mental illness. Service types: • care coordination (including mental health nursing) • psychological group therapy • one-on-one psychosocial support.	Safe Spaces provides people experiencing emotional distress, friendly and welcoming support, in a safe environment, as an alternative to emergency departments. Safe Spaces open from 5.00 pm –9.00 pm on weekdays and participate in a coordinated calendar of opening hours amongst the 4 spaces, over the weekends.
REFERRAL	GPs can complete a referral to these services through the My Mental Health Services eReferral via the rediCASE GP Integrator. Referrals can also be made by the My Mental Health Services Referral eLink available at phnbnws.redicase.com.au/#!/referral/create. Self-referrals can be made directly with the provider or by contacting Head to Health Service Navigators on 1800 595 212. For further information about referral pathways, please visit www.mymentalhealth.org.au or contact the Head to Health Service Navigators.								No referral required.

your care navigator

Essential information | 24/7 support | Healthy ageing needs | About | Search

Support for healthy ageing

Your home, your health, your way.
Connecting you to the support services you need in the North Brisbane and Moreton Bay region.

With the help of health professionals, carers and older people in the region, we identified the following key needs for healthy ageing.

What if I'm outside of the North Brisbane and Moreton Bay region?

Dementia

Information, services and resources providing support for people living with dementia, carers and health professionals

Find support

Physical health

Information, services and resources to keep you active and healthy

Find support

Mental health

Information, services and resources to support you with general and specific mental health and wellbeing needs

Find support

Social connection

Community programs and resources to keep you socially engaged

Find support

Nutrition

Information, programs and resources to help you prepare and eat healthy, happy foods

Find support

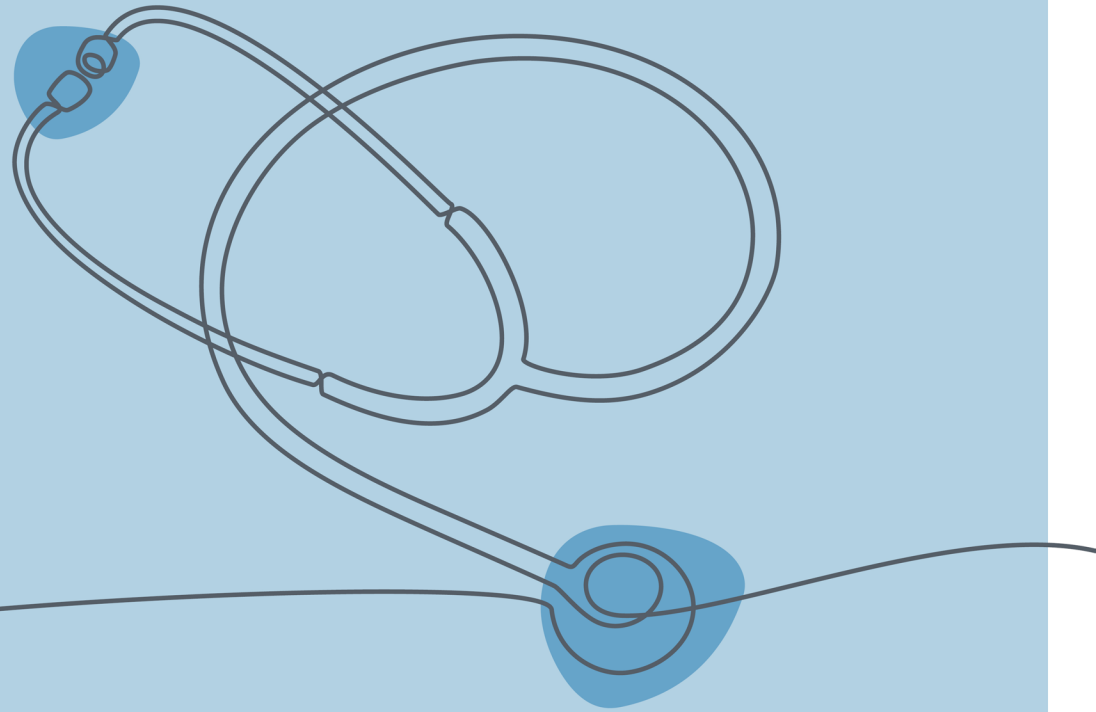
Digital skills

Resources supporting you to stay up to date with the technology that will help you navigate services and stay connected

Find support

General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

Management of the breathless patient

Dr Scott McKenzie | Staff Specialist, Cardiology, TPCH
Dr Philip Masel | Staff Specialist, Thoracic & Sleep Medicine, TPCH
Dr James Martin | GPLO, Metro North Health & Brisbane North PHN

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Management of the Breathless Patient

"The Dyspnoea Conundrum"

PHIL MASEL, SCOTT MCKENZIE, JAMES MARTIN

Overview

- The Chronic Dyspnoea Conundrum
- You've got to have a system
- Importance of accurate phenotypes
- Complex case
- Spirometry in the time of COVID
- What on earth is CPET?
- Questions
- Solutions!

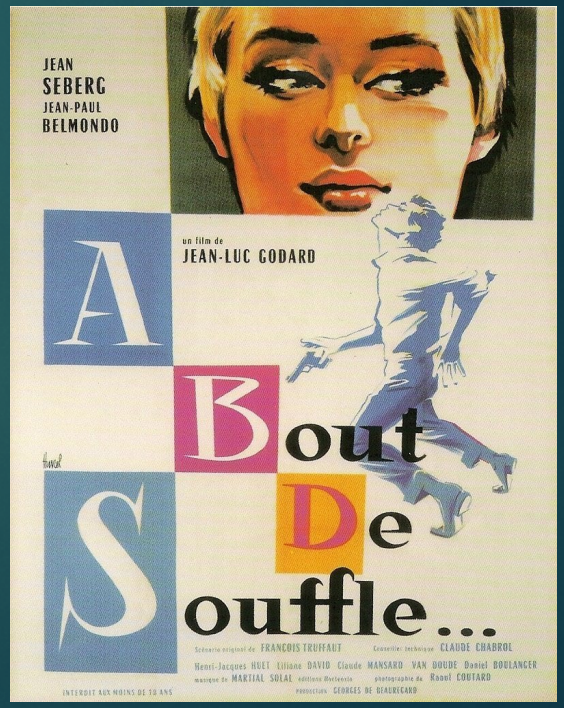
Dyspnoea

"An uncomfortable feeling of not being able to breathe well enough"

- SUBJECTIVE!
- Focus on Chronic Dyspnoea (>1m)
- Prevalence in Aus:[1,2]
  - 7.6% self-reported "breathlessness"
  - 9.5% mMRC Grade 2+
  - >50% undiagnosed
  - Associated with
    - "Fair" or "Poor" health (49%)
    - Mod. depression/anxiety (44%)
  - F>M (?

Causes of Dyspnoea?

- Please suggest some causes of dyspnoea you see in the polling app
- Word Cloud poll



"Conundrum" - A confusing or difficult problem

COMPLEX - 9 systems?:

- Respiratory
- Cardiac
- GI
- Neurological
- Haematological
- Renal
- Psychological
- Endocrine
- Musculoskeletal

- 1 list -> 49 causes![3]
- Often MULTIPLE…
- Social and environmental factors too
- Generalists required!

The “Mixed” case

- Example: Bronchiectasis and Aortic Stenosis (AS)
- For someone with with both pathologies - **will valve surgery help?**
- Figuring out…
  - How much is AS?
  - How much is bronchiectasis?
  - How much is their inevitable deconditioning?
  - Is there anything else (IHD, anxiety…)?

Tips on sorting out dyspnoea (Resp.)

- Look for these features
  - Diurnal
  - Day to day variability
  - Response to Ventolin/Steroids
  - PND/orthopnoea
  - Deconditioned
  - New medications
  - Chronic cough
  - Crackles
  - RFTs
  - Throat closing over – episodic
  - Psychological
  - Occupation
  - Antibiotics
  - Change in environment
  - Triggers
  - Genetic
  - CTD features
  - Trajectory
  - Demographics
  - Systemic features – weight loss/fatigue

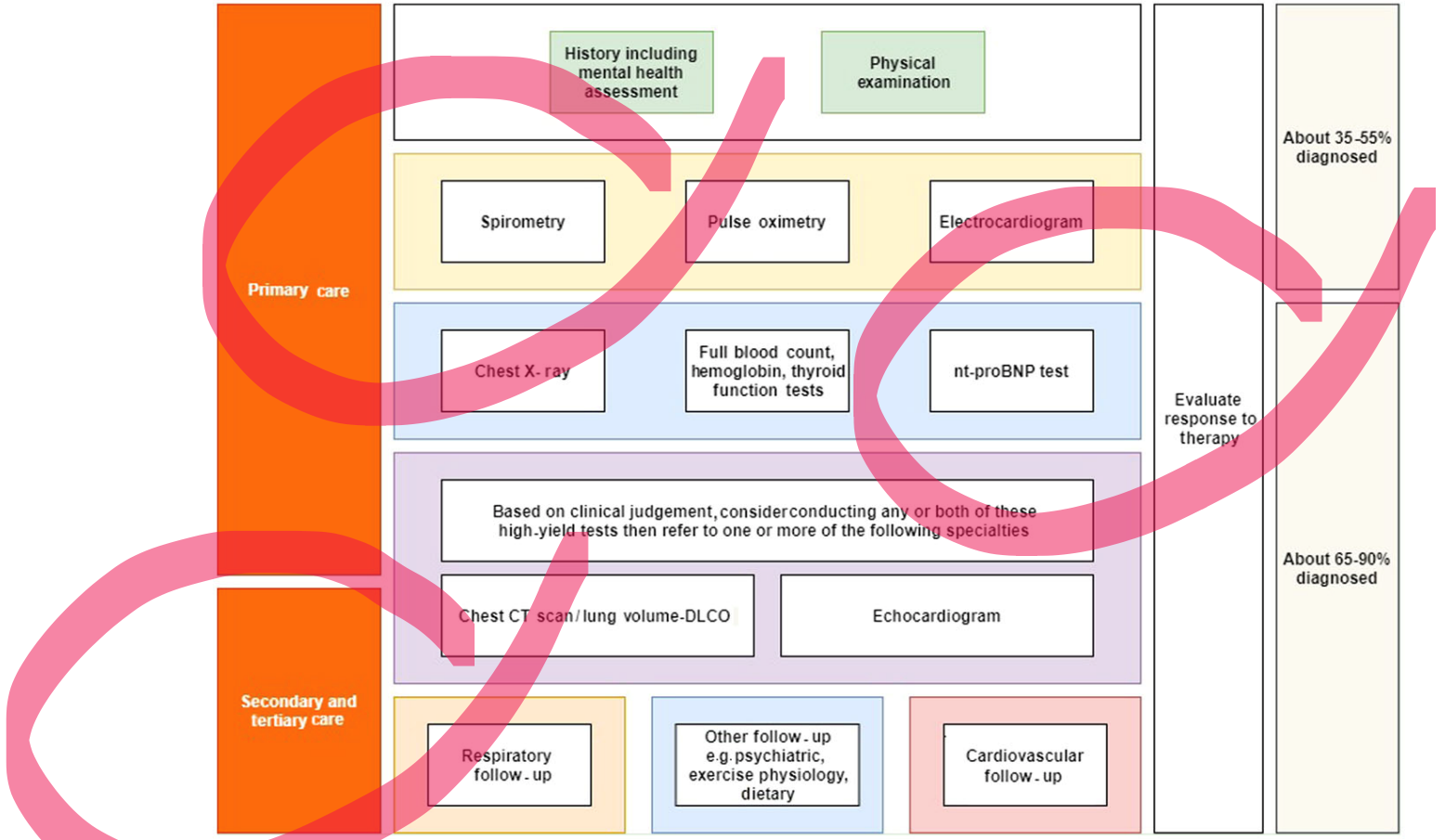
The problems…

- High prevalence – 65+y mMRC ≥ 2 = 36% (27-45%)[4]
- Difficult to diagnose
  - Underdiagnosis/misdiagnosis/overdiagnosis
- Inappropriate medications
- Late presentations
- Delays in access to care
- Impacts healthcare usage
- Lead to loss of QoL/independence, morbidity/mortality & early retirement
- New factors:
  - Environmental changes
  - Post COVID

A systematic approach

Nature: "Assessment and diagnosis of chronic dyspnoea: a literature review"[5]

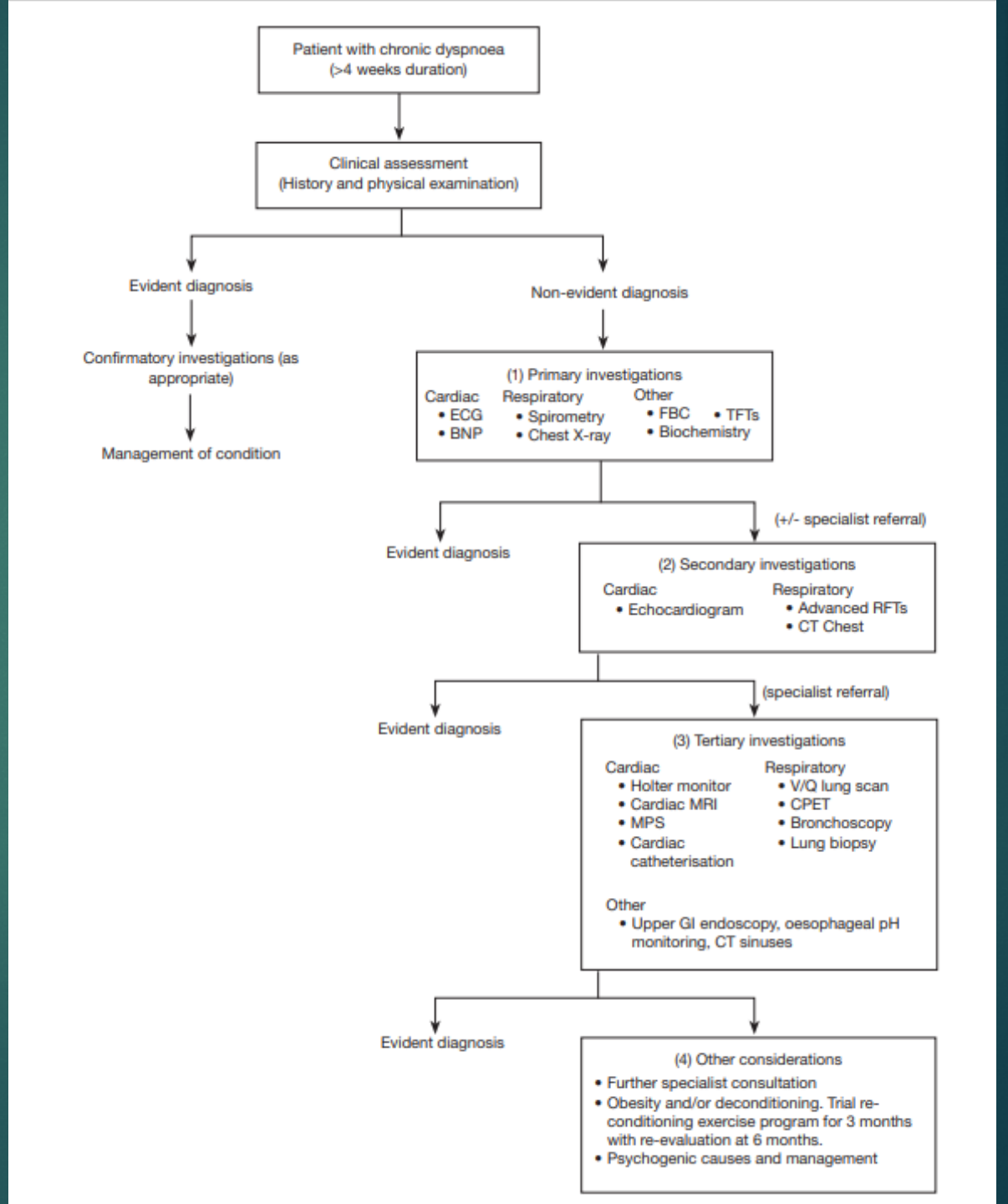
- No surprises!
- Easy to over-investigate
- 35-55% diagnosable in GP practice
- 83% without referral



Local paper on chronic dyspnoea

- Diagnostic approach to chronic dyspnoea in adults Olivia R. Ferry, Yao C. Huang, Philip J. Masel, Michael Hamilton , Kwun M. Fong, Rayleen V. Bowman, Scott C. McKenzie, Ian A. Yang. *J Thorac Dis* 2019;11(Suppl 17):S2117-S2128
  - Review of predictive value of various symptoms and signs
  - Consider broad range of causes
  - 1/3 are multifactorial

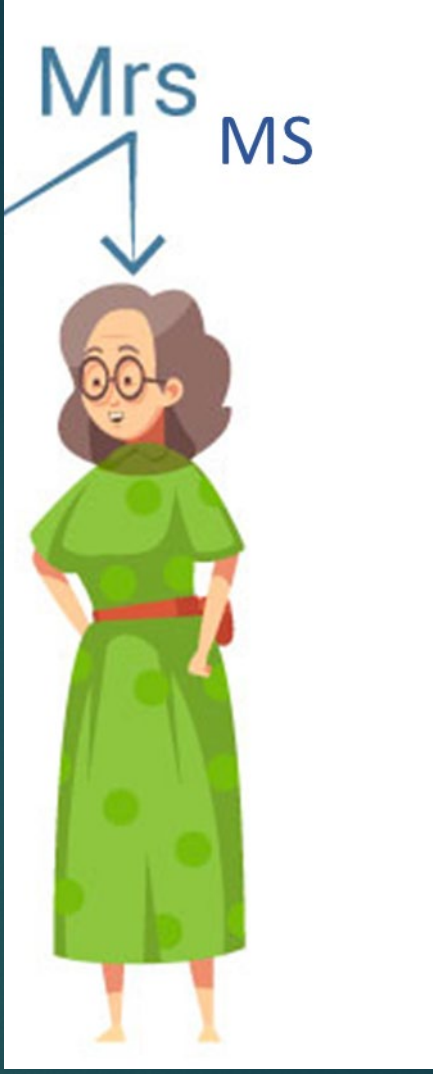
Suggested Algorithm (Ferry et al)



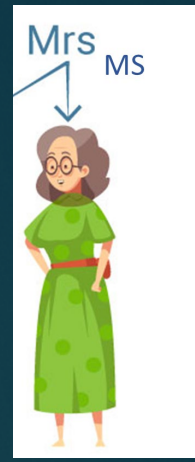
Back to the actual issue:

Mrs MS 74: Background History (2020)

- Sick Sinus Syndrome / Paroxysmal AF
  - Dual Chamber Pacemaker 2015
- Type 2 Diabetes (maybe)
  - HbA1c 5.7% (3 months ago)
- Hypertension
- Hyperlipidaemia
  - Total Cholesterol 4.3, Trig: 1.1, HDL: 1.51, LDL: 2.29 (3 months ago)
- Parkinson's Disease
- Obesity (BMI 36) Obstructive sleep apnoea – on CPAP
- COPD / Asthma
- GORD
- Gout
- Osteoarthritis – bilateral TKR

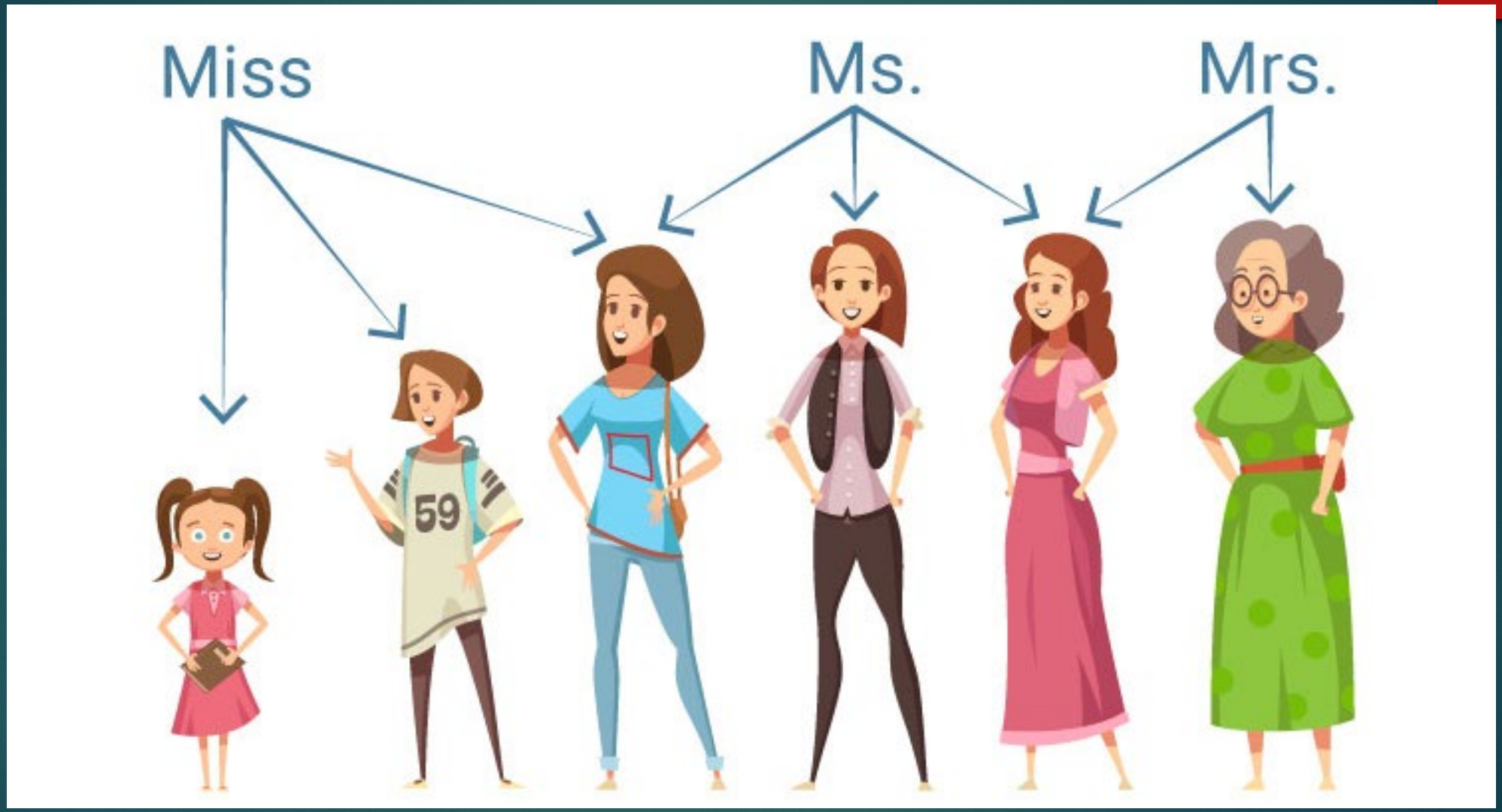


Mrs MS 74: Clinical Findings (2020)

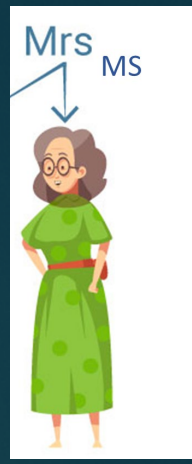


- Notable Examination findings
  - JVP NE
  - Lungs Clear to auscultation
  - A trace of ankle oedema

Mrs MS 76

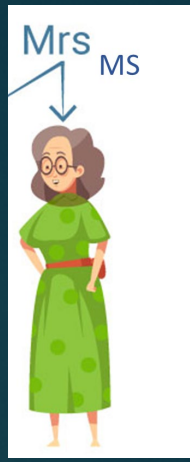


Mrs MS 74: Current Medications (2020)



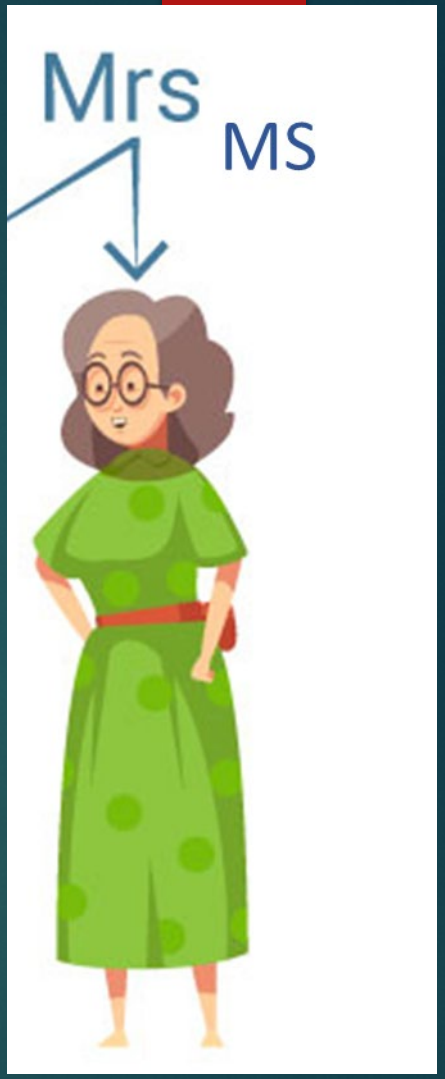
- Rivaroxaban 15mg mane
- Amiodarone 200mg mane
- Atorvastatin 20mg nocte
- Furosemide 80 mg bd
- Levodopa/benserazide (disp.) 50/12.5mg two tds
- Allopurinol 100mg mane
- Budesonide/formoterol inhaler 200/6 two bd
- Ipratropium inhaler two mane
- Salbutamol prn
- Magnesium one bd.

Mrs MS 74: So, is this Heart Failure?

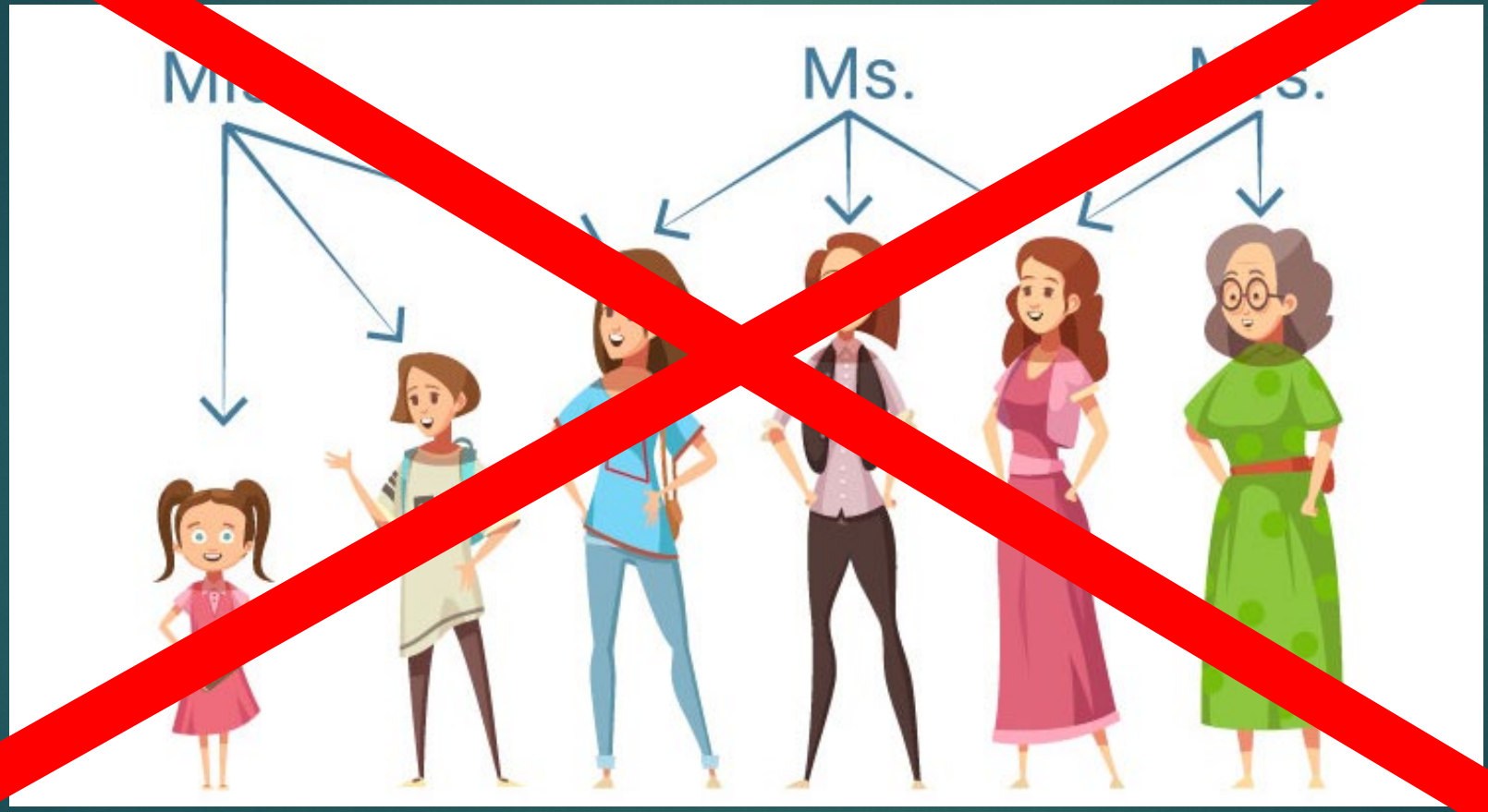


- A) Well duh the cardiologist is talking
- B) Maybe need more testing
- C) Nah, this is actually the respiratory bit in disguise
- D) Probably – she had orthopnoea but needs more testing

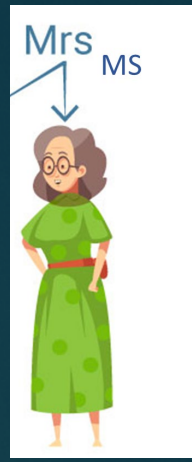
- And in full disclosure:
  - Mrs MS' middle initial is "R"
  - She's actually Mrs MRS!



Mrs MS 76



Mrs MS 74: Clinical Findings (2020)



- Her current exercise tolerance is around 50-100m
  (NYHA class III symptoms)
- She feels uncomfortable sleeping on less than 2 pillows
- She doesn't describe any paroxysmal nocturnal dyspnoea
- She does notice increasing shortness of breath with increased weight

RFTS

THE PRINCE CHARLES HOSPITAL
Department of Thoracic Medicine
Respiratory Investigation Unit
Phone: (07) 3139 4302 || Fax: (07) 3139 4730

Pulmonary Function Test Report

Identification:	1161683	Height:	163.5 cm	Physician:	Bryant
Last Name:	CHANDLER	Weight:	75.7 kg	Ward:	OPD
First Name:	LYNN	BMI:	28.32 kg/m²	Scientist:	Alanna
Date of Birth:	26/11/1[redacted]	moking Status:	Ex-Smoker		
Age:	59 Year	inical Details:	Apica[redacted]		
Gender:	female	esp. Inhalers:	Nil		

Predicted Equations: Global Lung Initiati[redacted]2; Gas Transfer; Stanojevic 2020; Lung[redacted]
Patients with an age above the UL of these equations will have predicted values calculated at the UL: 80 years for Lung Volumes; 85 years for Gas Transfer; 95 years for Spirometry.
Severity grading (reduction): Mild ≥-2.5 to <-1.65, Moderate ≥-4 to <-2.5, Severe <-4 || Severity grading (elevation): Mild >1.65 to ≤2.5, Moderate >2.5 to ≤4, Severe >4

Test Date: 02 05 24

Note: Predicted equations for Gas Transfer and Lung Volumes have changed.
Please only use raw data when comparing these results to those completed before October 26, 2023.

Spirometry

		Pre	LLN	Pred	Z-Score	%Pred	Post	Z-Score	%Chg
Level time		12:02PM					12:16PM		
FEV 1	[L]	1.47	1.83	2.51	-2.31	58 %	1.62	-2.15	6 %
FVC	[L]	2.42	2.45	3.25	-1.70	75 %	2.41	-1.71	-0 %
FEV 1 % FVC	[%]	61	67	78	-2.42	77 %	67	-1.66	8 %
PEF	[L/s]	4.41	4.83	6.11	-1.36	73 %	4.81	-1.37	5 %

Vital Capacity

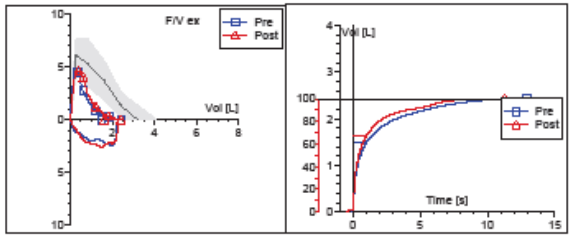
		Pre	LLN	Pred	Z-Score	%Pred
VC MAX	[L]	2.42	2.72	3.47	-2.31	70 %

Lung Volumes (Body Plethysmography)

		Pre	LLN	Pred	ULN	Z-Score	%Pred
TLC	L	4.42	4.49	5.16	5.76	-1.89	85 %
FRCpleth	L	2.73	1.89	2.75	3.75	-0.03	99 %
RV	L	1.91	1.06	1.75	2.61	0.48	114 %
RV % TLC	%	44.86	22.10	32.88	44.55	1.68	136 %

Gas Transfer

		Pre	LLN	Pred	ULN	Z Score	%Pred
DLCO	ml/(min*mmHg)	8.15	15.35	19.89	25.53	-5.18	41 %
KCO	ml/(min*mmHg*L)	2.28	3.26	4.21	5.29	-3.56	57 %
VA	L	3.67	3.85	4.76	5.75	-2.11	76 %
VIN	L	2.38	2.72	3.47	4.20	-2.41	68 %
Hb	g(Hb)/dL	13.50					
DLCOc	ml/(min*mmHg)	8.35	15.35	19.89	25.88	5.05	42 %
KCOc	ml/(min*mmHg*L)	2.32	3.26	4.21	5.29	3.51	55 %



Scientist Comment:
Poor panting technique on lung volumes. 3 x repeatable FRCs with single ERV achieved after max trials. Interpret lung volumes results with caution. One acceptable FEV1 acheived Post-BD due to variable PEF. All other results acceptable and repeatable. Not currently on inhalers. Hb measured via fingerprick test using Hemocue analyser on day of testing. Post bronchodilator spirometry performed 10 minutes after administration of 400mcg Salbutamol via MDI and spacer.

Physician Report:

Moderate airflow obstruction.No significant improvement in spirometry following bronchodilator.Elevated RV%TLC consistent with gas trapping.Severe reduction in diffusion capacity suggestive of parenchymal lung disease/pulmonary vascular disease. Interpret with caution . Dr. Philip Masel MBBS, FRACP, GradCertEd

Role of Orthopnoea

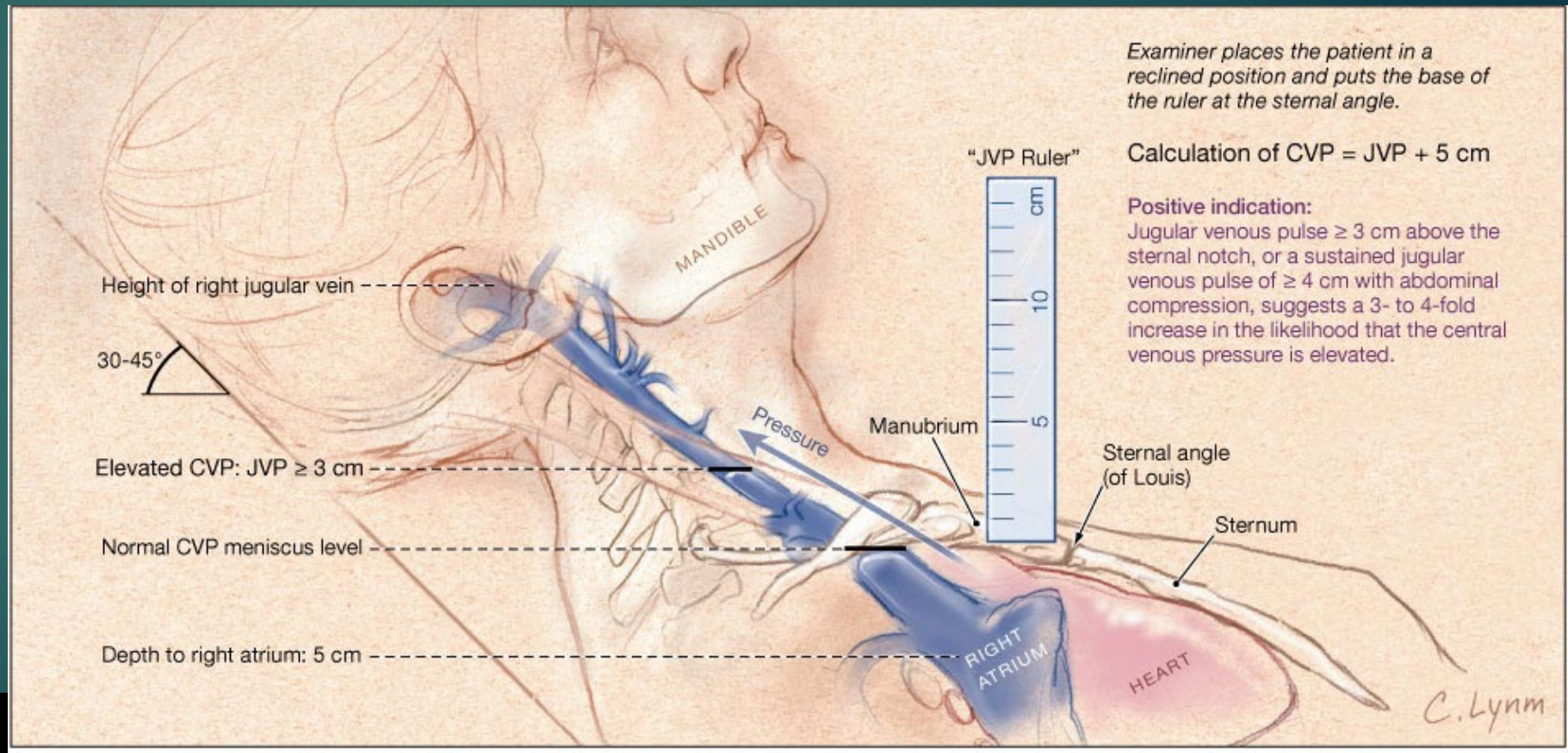
- The only feature on history predictive of elevated PCWP
  - Outperformed all examination features except elevated JVP

- Orthopnoea requiring 2 or more pillows:
  - 86% sensitive (but only 25% specific) for PCWP > 22mmHg
  - 66% positive predictive value for PCWP > 22mmHg

M H Drazner et al: Circ Heart Fail. 2008;1:170-177 (from ESCAPE trial)

Role of measuring JVP

- Consider: is JVP too high to see top?
  - Sit them up to 90°
- Is JVP too low to see?
  - Lie them flatter



Source: Simel DL, Rennie D: *The Rational Clinical Examination: Evidence-Based Clinical Diagnosis:* http://www.jamaevidence.com

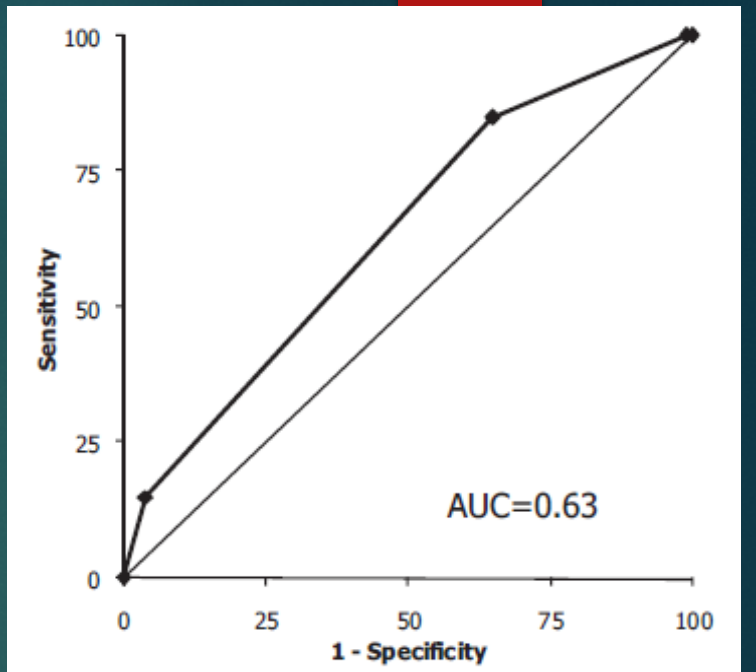
Role of measuring JVP:

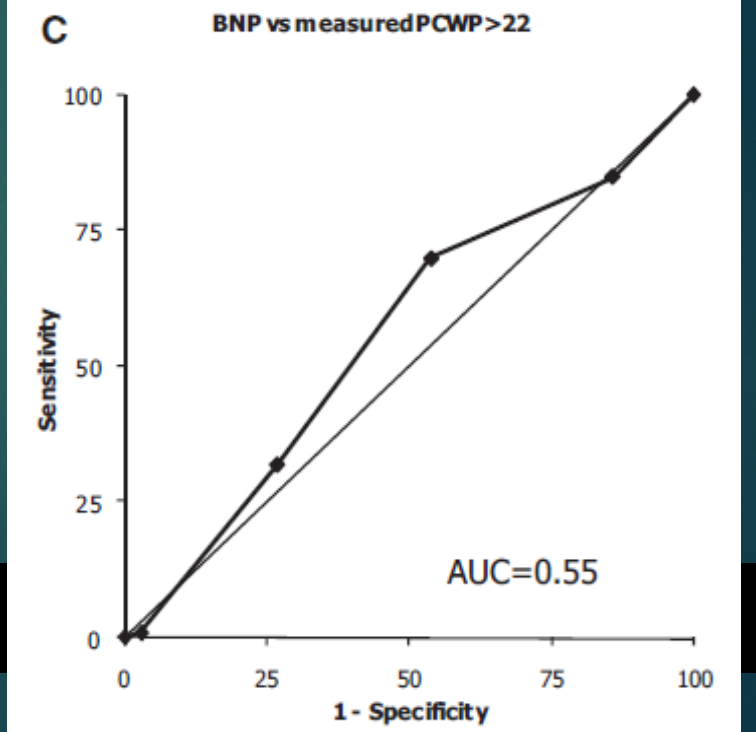
Pulmonary Capillary Wedge Pressure Estimate

- Likelihood of PCWP > 30mmHg:
  - RA > 12mmHg – OR 4.6 ($p < 0.001$)
  - Orthopnoea ≥ 2 pillows - OR 3.6 ($p < 0.05$)

JVP correlates pretty well with right atrial pressure which correlates with intra-thoracic fluid

Orthopnoea correlates pretty well too





M H Drazner et al: Circ Heart Fail. 2008;1:170-177 (from ESCAPE trial)

Importantly these measurements correlate with outcomes:

Table 6. Association of Baseline Estimates of RAP and PCWP With Survival Time (in Days) Outside Hospital 6 Months After Randomization

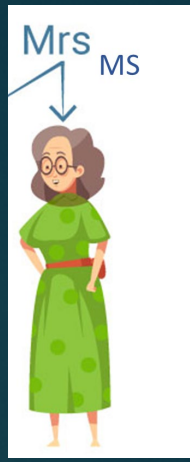
Baseline Estimated Variable	Hazard Ratio* (95% CI)	*P*
RAP, mm Hg		
<13 (referent)	. . .	. . .
13–16	1.2 (0.96, 1.5)	0.1
>16	1.6 (1.2, 2.11)	0.001
PCWP, mm Hg		
<23 (referent)	. . .	. . .
23–30	1.4 (1.1, 1.7)	0.008
>30	1.9 (1.4, 2.7)	0.001

*Cox proportional hazard models are adjusted for randomization, 6-minute walk distance, baseline systolic blood pressure, and baseline blood urea nitrogen.

M H Drazner et al: Circ Heart Fail. 2008;1:170-177 (from ESCAPE trial)

Mrs MS 74: So what test do I do next?

A. Echo
B. Spirometry
C. NT-pro-BNP
D. ECG



Spirometry

- COPD is one of the commonest causes of chronic dyspnoea
- Spirometry is essential for diagnosis (ILD, Asthma, Pulmonary Vascular Disease, Upper airway obstruction, Screening)
- Useful for assessment of severity
- Pitfalls

Spirometry

- Poll
  - 1. Is spirometry performed in your practice? (Y/N)
  - 2. What is the main barrier to doing more spirometry in your practice?
  - Infection control/COVID concerns
  - Lack of nursing time
  - Lack of remuneration
  - Inadequate equipment / training
  - None of the above

Example

THE PRINCE CHARLES HOSPITAL
Department of Thoracic Medicine
Respiratory Investigation Unit
Phone: (07) 3139 4302 || Fax: (07) 3139 4730

Pulmonary Function Test Report

Identification:	[redacted]	Height:	177.5 cm	Physician:	Masel
Last Name:		Weight:	59.2 kg	Ward:	OPD
First Name:		BMI:	18.79 kg/m²	Scientist:	Alanna
Date of Birth:	8/07/1963	Smoking Status:	Current		
Age:	60 Years	Clinical Details:	COPD.		
Gender:	male	Resp. Inhalers:	Trimbow		

Predicted Equations: Global Lung Initiative (Spirometry, Quanjer 2012, Gas Transfer, Stanojevic 2020; Lung Volumes, Hall 2021).
Patients with an age above the UL of these equations will have predicted values calculated at the UL: 80 years for Lung Volumes; 85 years for Gas Transfer; 95 years for Spirometry.
Severity grading (reduction): Mild ≥-2.5 to <-1.65, Moderate ≥-4 to <-2.5, Severe <-4 || Severity grading (elevation): Mild >1.65 to ≤2.5, Moderate >2.5 to ≤4, Severe >4

Test Date: 01.05.24

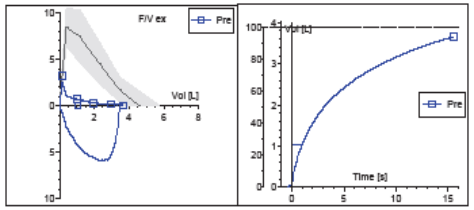
Note: Predicted equations for Gas Transfer and Lung Volumes have changed.
Please only use raw data when comparing these results to those completed before October 26, 2023.

Spirometry

		Pre	LLN	Pred	Z-Score	%Pred	Post	Z-Score	%Chg
Level time		12:47PM							
FEV 1	[L]	1.03	2.87	3.51	-4.34	29 %			
FVC	[L]	3.68	3.50	4.58	1.10	80 %			
FEV 1 % FVC	[%]	28	65	77	-5.24	36 %			
PEF	[L/s]	3.13	6.48	8.47	-4.37	36 %			

Vital Capacity

		Pre	LLN	Pred	Z-Score	%Pred	Post	Z-Score	%Chg
VC MAX	[L]	3.90	4.01	5.03	-1.33	78 %			

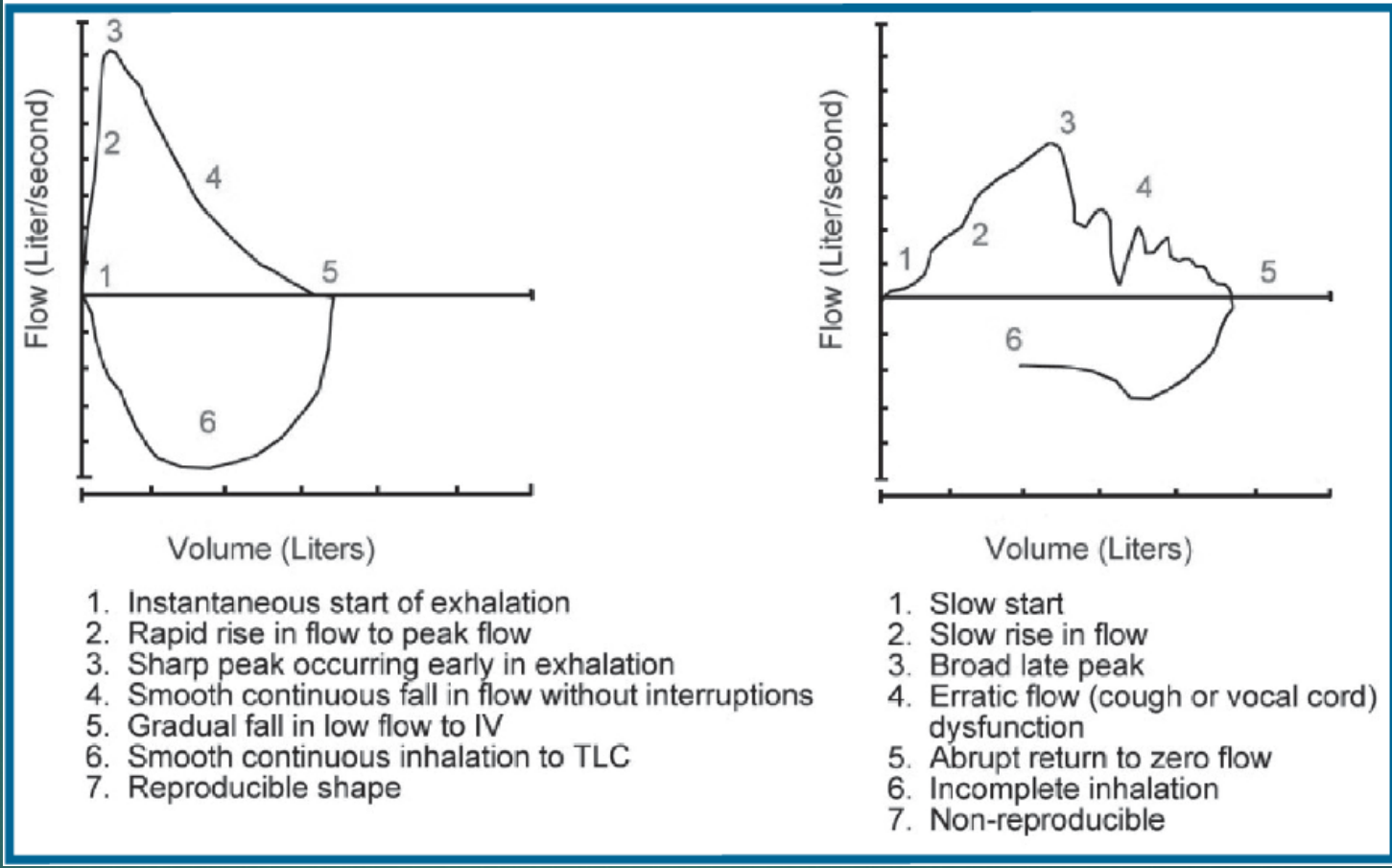


Scientist Comment:
Tests performed 5 hours post last dose of Trimbow. All results acceptable and repeatable. An unreported copy of todays results were provided at the patient's request.

Physician Report:

Pitfalls

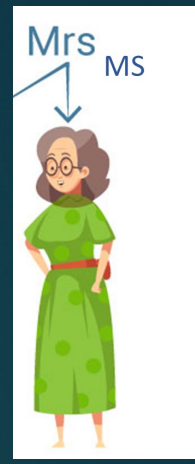
Figure 1 Flow-volume characteristics of acceptable and unacceptable spirometry



Lung function testing tutorial: pitfalls for the unwary when performing spirometry

•K. Armitage 2008 Medicine

Mrs MS 74: Referral Echo



Report:

Normal left ventricular size and systolic function. Normal left ventricular wall thickness. No regional wall motion abnormalities. Ejection fraction is 69% by Simpson's biplane method (in the setting of atrial fibrillation with variable R-R intervals). Indeterminate diastolic function due to atrial fibrillation.

Mildly dilated right ventricle (RV base = 4.7 cm, RV mid = 3.1 cm) with normal right ventricular systolic function. TAPSE is measured at 18.8 mm (normal >= 17 mm), Doppler tissue imaging s' velocity is 11.3 cm/s (normal >= 9.5 cm/s).
Moderate LA enlargement (indexed LA volume is 46 ml/m²). Mild right atrial enlargement (indexed RA volume is 34 ml/m²). The atrial septum appears intact on the 2D and colour Doppler examination.

The mitral valve appears structurally normal. There is calcification of the posterior mitral annulus. There is grade 0-1/4 mitral regurgitation.

The aortic valve appears trileaflet and thickened. Fixed left coronary cusp and partially fixed right coronary cusp. Non-coronary cusp appears to have partially preserved opening. The Doppler examination reveals a peak transaortic velocity of 2.3 m/s, the maximum pressure gradient is 21 mmHg and the mean pressure gradient is 10 mmHg with a calculated valve area of 1.7 cm². The indexed aortic valve area is 0.92 cm²/m². There is grade 0-1/4 aortic regurgitation. The ascending, descending and arch aorta appear normal in size. Aortic root dimensions are within the normal limits for patient size.

Tricuspid leaflets appear thickened. Grade 2/4 tricuspid regurgitation. The estimated RVSP is 38 mmHg (assuming RA pressure is 3 mmHg).

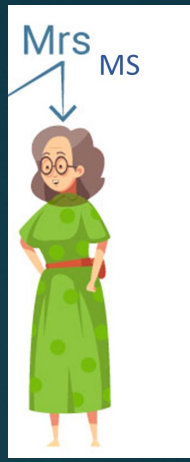
There is no echocardiographic evidence of pericardial effusion.

NEDA Consent: Not available

Conclusions:

1. Normal LV size and systolic function (LVEF = 69%).
2. Mildly dilated RV with normal systolic function.
3. Biatrial dilatation.
4. AV: mild AS (Vmax 2.3 m/sec, AVA = 1.7 cm², mPG 10mmHg). Grade 0-1/4 AR.
5. TV: Grade 2/4 TR.
6. Estimated RVSP = 38 mmHg.

Quick Poll
Now: Is this a non-cardiac problem?



- A) Absolutely her EF is normal – send her to a lung doctor for her COPD
- B) Absolutely – send her to a kidney doctor it's probably kidney failure (recheck her UEC on the way out)
- C) It could be a cardiac problem: LA enlargement & risk factors

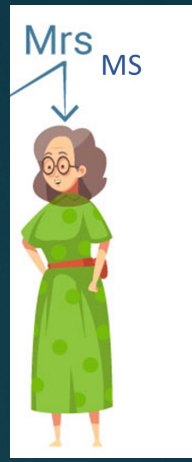
Is this Asymptomatic?

Thank you for seeing Mrs M [redacted] S [redacted] who has been suffering ankle swelling and occasionally feelings short of breath on exertion.

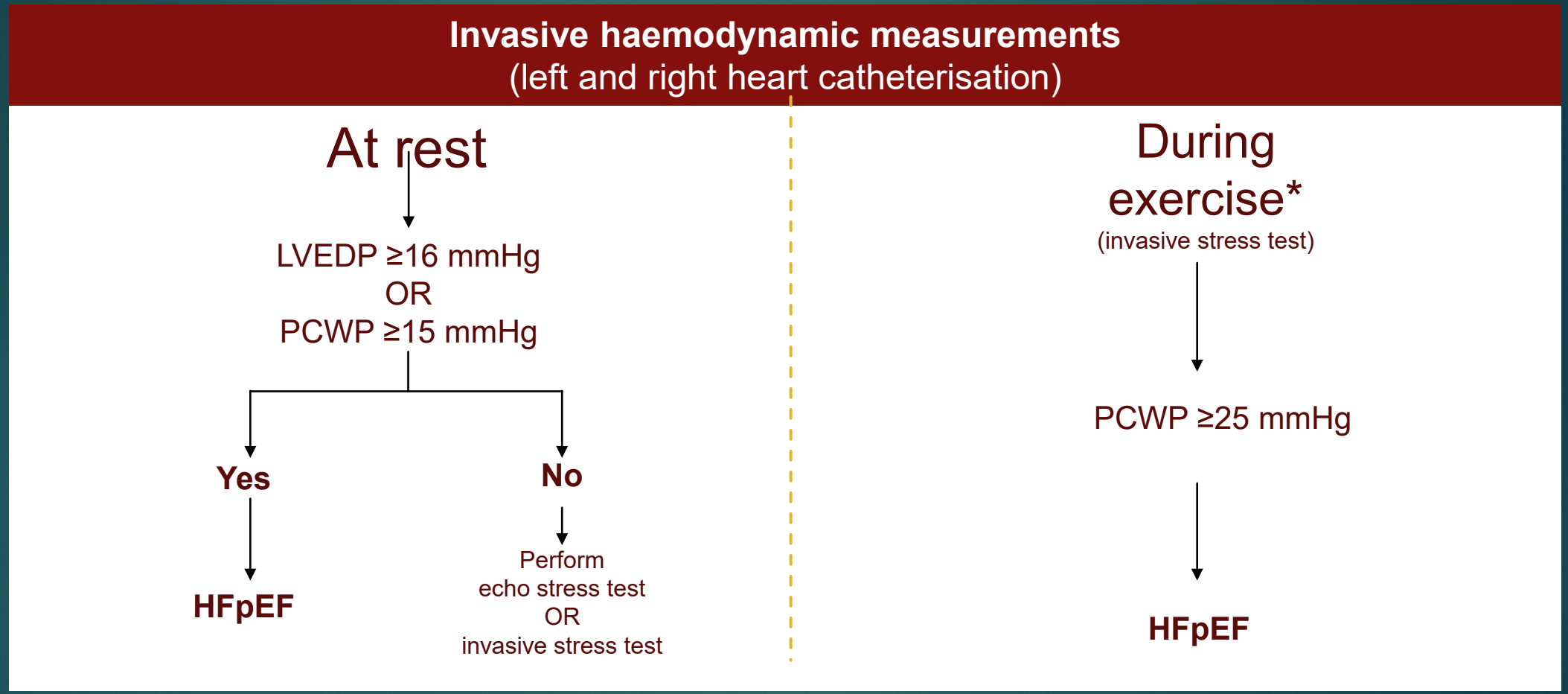
I have commenced her on oral frusemide, and she is currently asymptomatic with an exercise tolerance of 100 m.

I request that you assess her for possible heart failure and enclose her latest echo result.

Yours sincerely



The reference standard to diagnose HFpEF is heart catheterisation



The H_2FPEF score:

The H_2FPEF score combines clinical characteristics (top) with associated probability of HFpEF (bottom):

	Clinical variable	Values	Points
H_2	**H**eavy	Body mass index >30 kg/m^2	2
	Hypertensive	≥2 antihypertensive medicines	1
F	Atrial **F**ibrillation	Paroxysmal or persistent	3
P	**P**ulmonary hype rtension	Doppler echocardiogram estimated pulmonary artery systolic pressure >35 mmHg	1
E	**E**lder	Age >60 years	1
F	**F**illing pressure	Doppler echocardiographic E/e'>9	1
	H_2FPEF score		**Sum (0–9)**
Total points			
Probability of HFpEF			

- By establishing the probability of disease, the H_2FPEF score may be used to:
  - Effectively rule out: **0 or 1**
  - Highly likely: **6–9**
  - Probably need more testing: **2–5**

Pieske B *et al. Eur Heart J* 2019;40:3297

Cardiopulmonary exercise test (CPET)

- Indications
  - Assess for cause of dyspnoea
  - Assess severity of cardiac function
  - Assess disability of chronic lung diseases
  - Assess for exercise-induced asthma

Cardiopulmonary exercise test (CPET)

- Contraindications
  - Myocardial infarction within 1/12.
  - Changes in the resting ECG that suggest acute or recent myocardial event.
  - Unstable angina.
  - Uncontrolled cardiac arrhythmias.
  - Severe aortic stenosis and known or suspected dissecting aortic aneurysm.
  - Active or suspected acute pericarditis or myocarditis.
  - Uncontrolled asthma
  - Acute PE or DVT
  - Respiratory failure

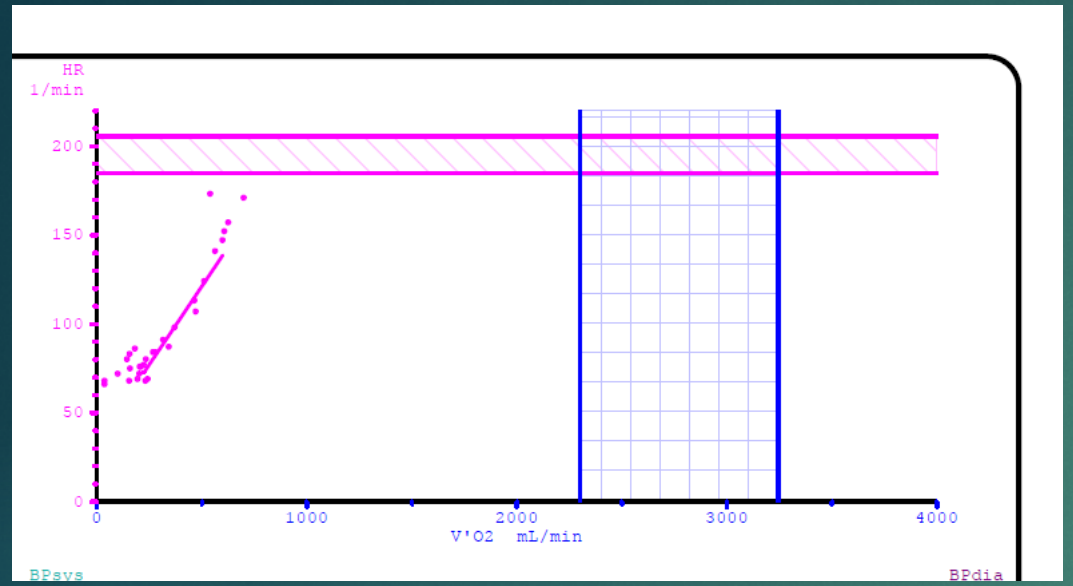
Cardiopulmonary exercise test (CPET)

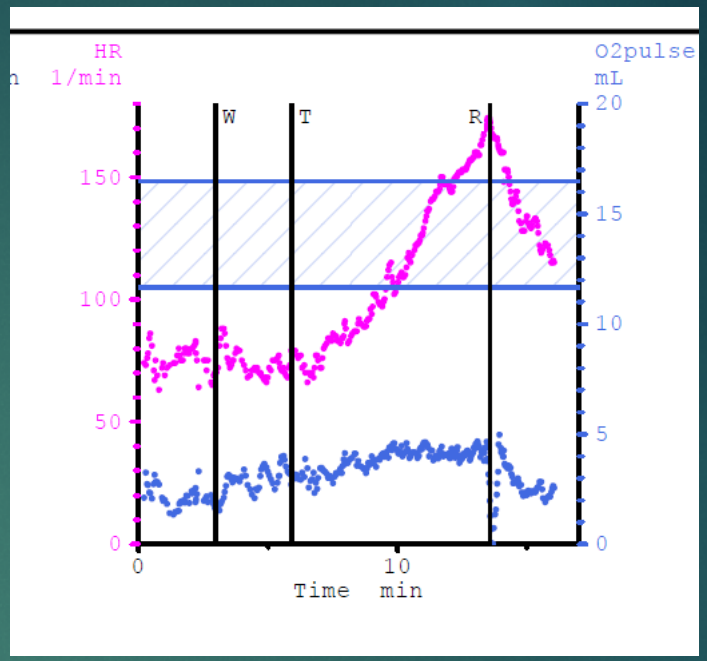
- Other Contraindications
  - HR >120/min at rest Oxygen saturation <85%
  - Severe pulmonary hypertension
  - Mental impairment
  - Uncontrolled diabetes
  - Orthopaedic impairment
  - Major electrolyte abnormalities

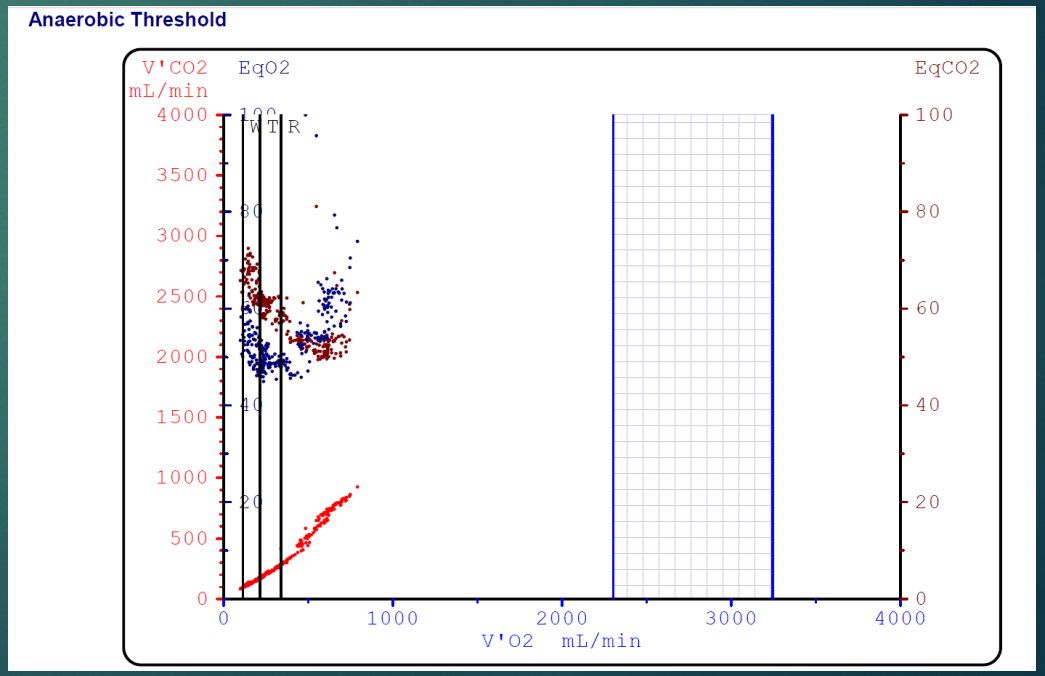
CPET examples

- Normal – reached 85% of maximum heart rate ; no other limitations
- Cardiac Impairment – Excessive HR response, decreased BP rise and plateau in stroke volume ; Low AT (< 40%) EXAMPLE
- Respiratory Impairment – Ventilation > 85% at peak exercise, desaturated, BP and HR response normal ; Low AT ?

CPET Example







CPET Example

Exercise Test Summary

Predicted equations: Hansen & Wasserman 2005 (VO2), Jones 1989 (Workload & HR)
Peak values obtained from maximum workload sustained for at least 30seconds.

Metabolic Parameters		Pred	Resting	Peak	Peak %Pred
Load	[W]	287	0	128	45
V'O2/kg	[(mL/min)/kg]	55.9	3.2	13.6	24
V'O2	[mL/min]	2774	160	673	24
V'CO2	[mL/min]		128	789	
RER			0.80	1.17	
Pulmonary Parameters					
V'E	[L/min]	104*	10	50	48*
BF	[1/min]	42	15	35	84
VTex	[L]		0.681	1.432	
SpO2	[%]		100	97	
Cardiac Parameters					
HR	[1/min]	195	75	173	89
O2pulse	[mL]	14.1	2.1	3.9	28

Blood Pressure

Time [min]	Load [W]	BPsys [mmHg]	BPdia [mmHg]
03:26	0	115	70
06:16	16	120	80
08:26	48	120	80
10:21	80	130	80
12:18	112	140	85

Use of CPET

- 64% no diagnosis after first tier of Ix's
- Found a diagnosis in all after CPET!
- PHT, HFpEF, Dysautonomia, Mitochondrial myopathy, Primary Hyperventilation (27 days vs 511 days to get a diagnosis!)
- CPET can help differentiate pulmonary or cardiac cause

- CPET is especially helpful if psychogenic or deconditioning causes

Rehab poll

- 1. Have you referred anyone to pulmonary or cardiac rehab this year? (Y/N)
- 2. What is the biggest barrier to referral?
  - Patient motivation
  - Patient transport
  - Referral process
  - Too many other things to do
  - Other

Pulmonary/Cardiac Rehabilitation

- **Pulmonary rehab** is one of the most important interventions in COPD and can benefit other chronic respiratory conditions for 12-18m
  - Increases: QoL, fitness, mood, motivation, knowledge, ADL participation
  - Decreases: Dyspnoea, hospital admissions/LoS[6]

- Participation in exercise-based **cardiac rehabilitation**:
  - Heart failure
    - Likely reduces all-cause hospital admissions & improves health-related QoL[7]
  - Coronary heart disease
    - Reduces MI, hospitalization, healthcare costs and
    - Improves HRQoL[8]

Discussion

Questions

- Should I do spirometry in my practice ?
- When should I order BNP/NT–proBNP in GP?($)
- What is the ‘’bronchial challenge”?
- Why can I only refer to Respiratory for “Dyspnoea”?
- What is Chronic Refractory Dyspnoea
- I think I’ve diagnosed HFpEF – can I treat it?
- What is Chronic Thrombo-Embolic Disease / CTEPH?
  - Should I worry about it?

The solutions!

- Hasten path to accurate diagnosis and management
  - Systematically evaluate patients with chronic breathlessness
  - Use the team - nurses, allied, private Ix, non-GP specialists
  - "Treat" causes found then re-evaluate
  - Access available resources:
    - HealthPathways (Dyspnoea not yet localised for MN)
    - Referral guidelines/CPC
    - DMMR (compliance/inhaler technique)
    - Pulmonary/Cardiac Rehab (incl. virtual)
    - CAL (HF - TPCH/Redcliffe known patients, phone advice and can -> RAHFTS)
    - RFAs (?coming for TPCH Respiratory)
    - Referral – SOPD + UROC/HOPE for ATSI patients
  - Greater use of CPET in assessment

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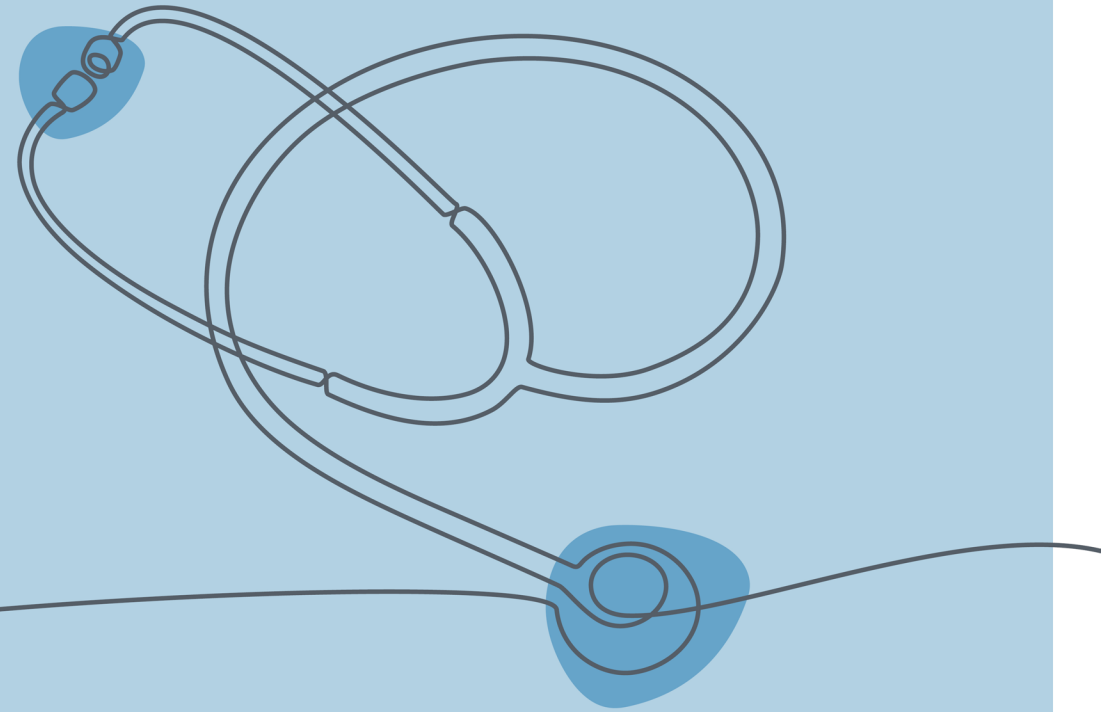
- 8. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD001800.pub4/full

General Practice Liaison Officer Program presents

Championing Generalism Workshop

A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care



Trauma informed care

Dr Jane McLeod | GPwSI, Gender Service, RBWH

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Using trauma informed care in General Practice

Dr Jane MacLeod
GP
RBWH Gender Service

Learning outcomes

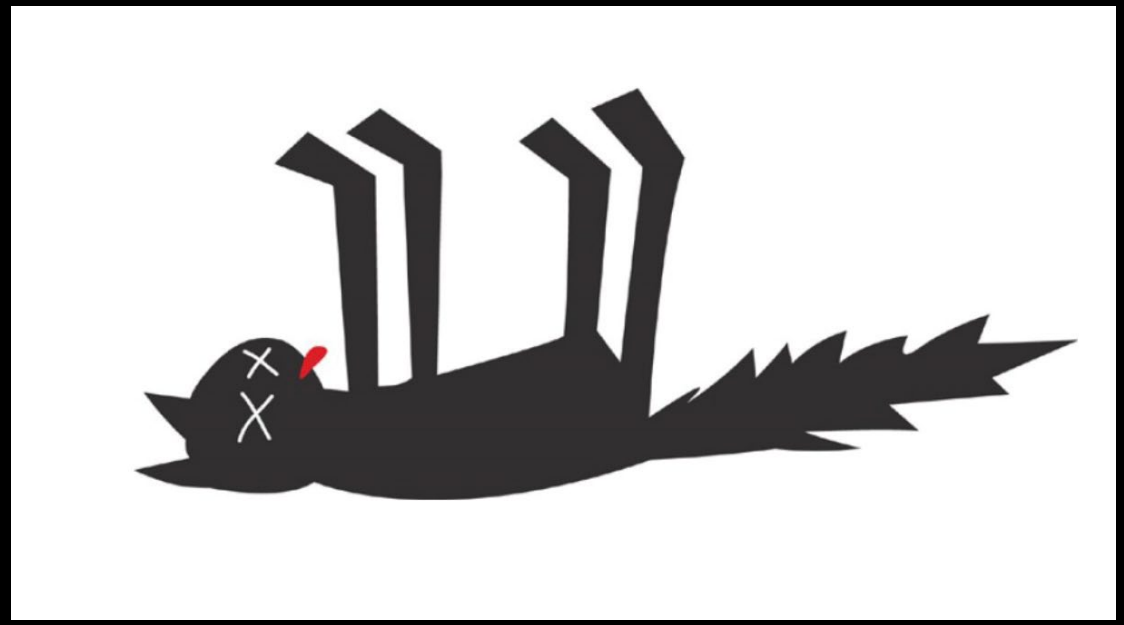
Participants will be able to-

1. Formulate a patient-centred management plan incorporating the principles of trauma informed care.

Safety

Our consultation with a patient who has been through trauma could re-traumatise them.

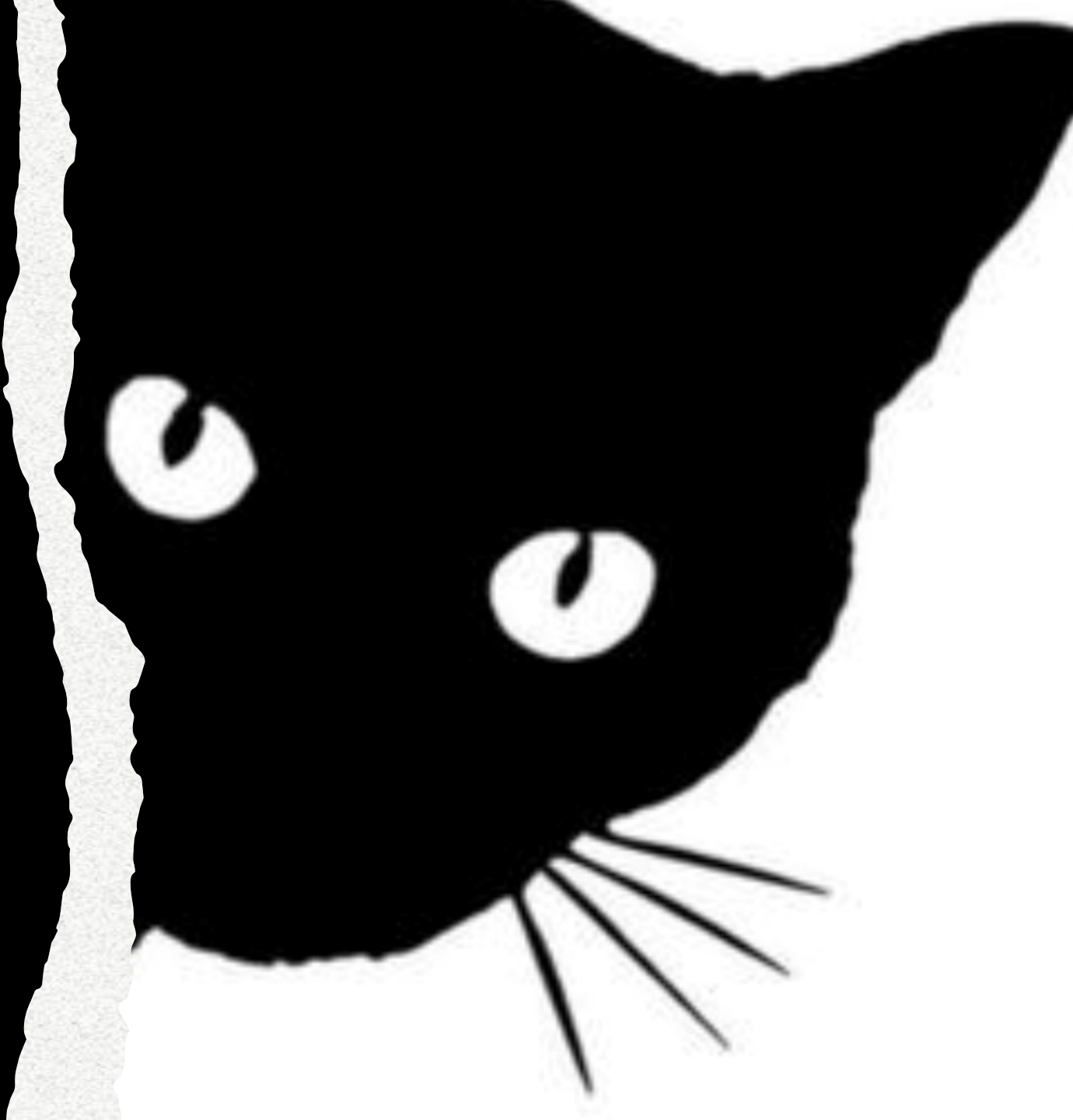
It could also traumatise us.



Principles of trauma-informed care

1. Be trauma-aware
2. Promote safety
3. Rebuild control- empower
4. Strengths focussed
5. Promote connection
6. Recovery is goal

1. Become trauma aware



Trauma is common.

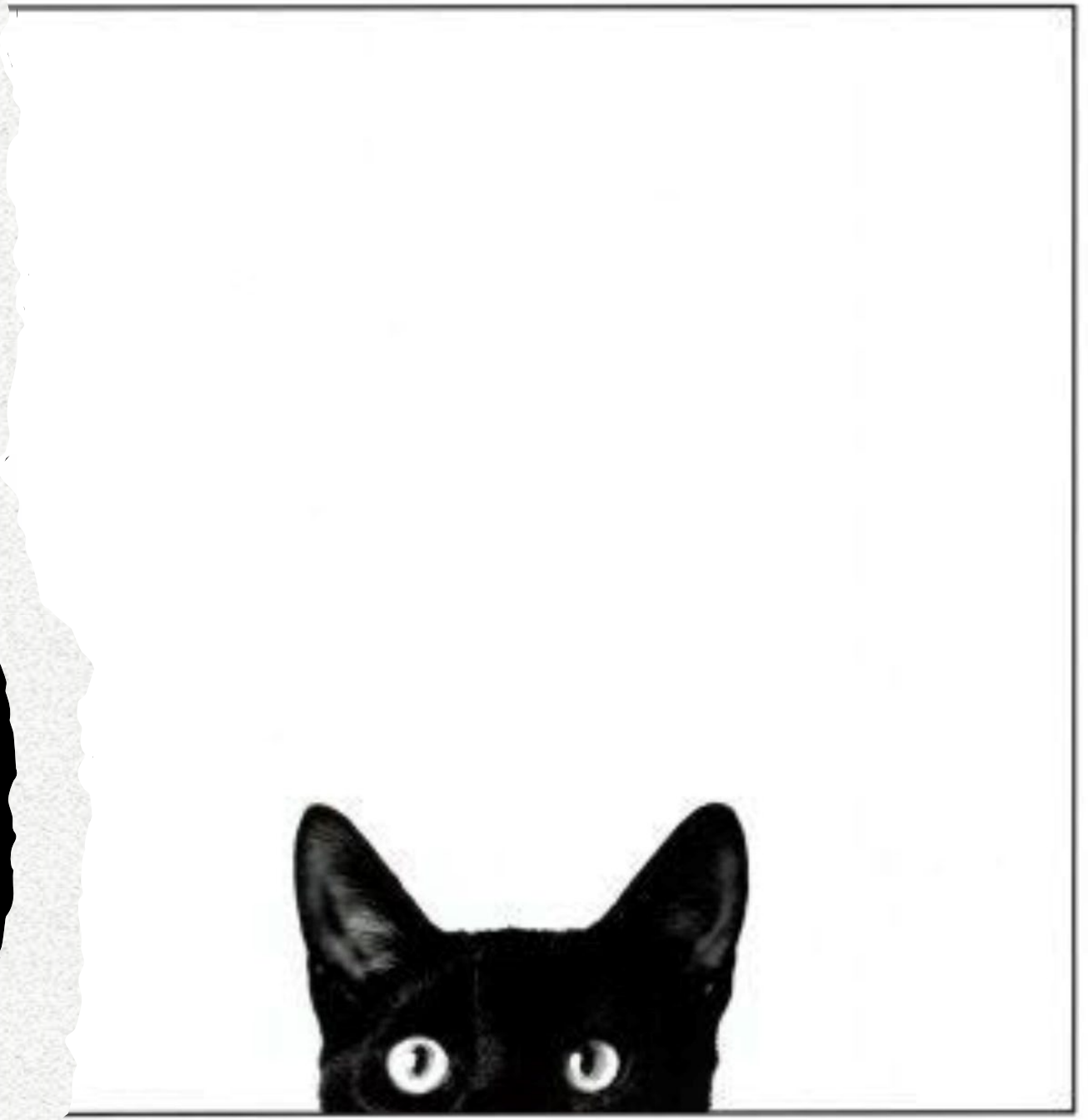
Trauma can be transgenerational.

The impact of trauma is significant

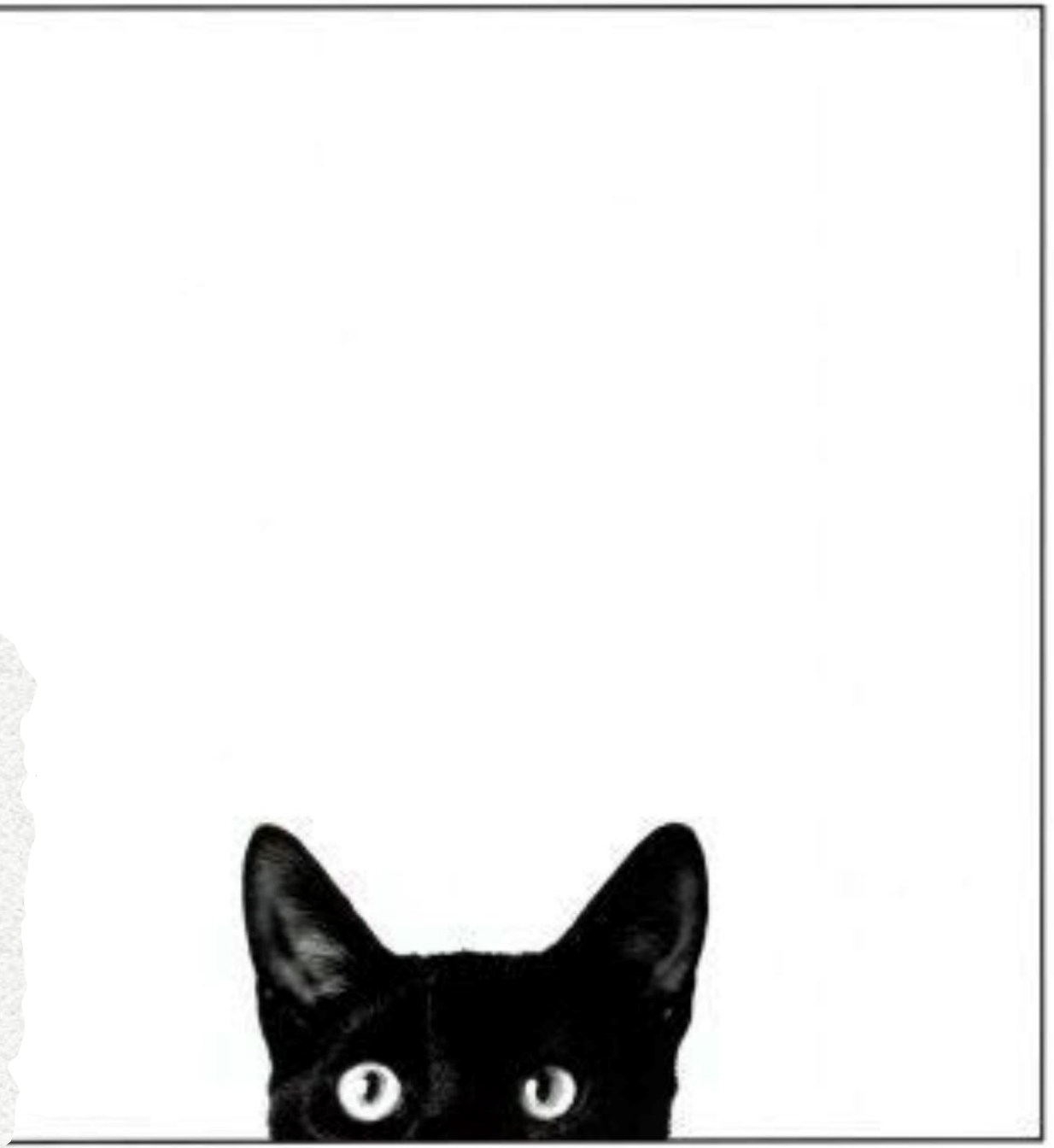
The impact of trauma is significant

- Physical health issues
- Mental illness
- Sleep issues
- Substance use
- Social stressors
- Homelessness
- Impact on functioning
- Impact on children

Be curious.



.....but don't cause harm.



Could the following presentations be due to trauma?

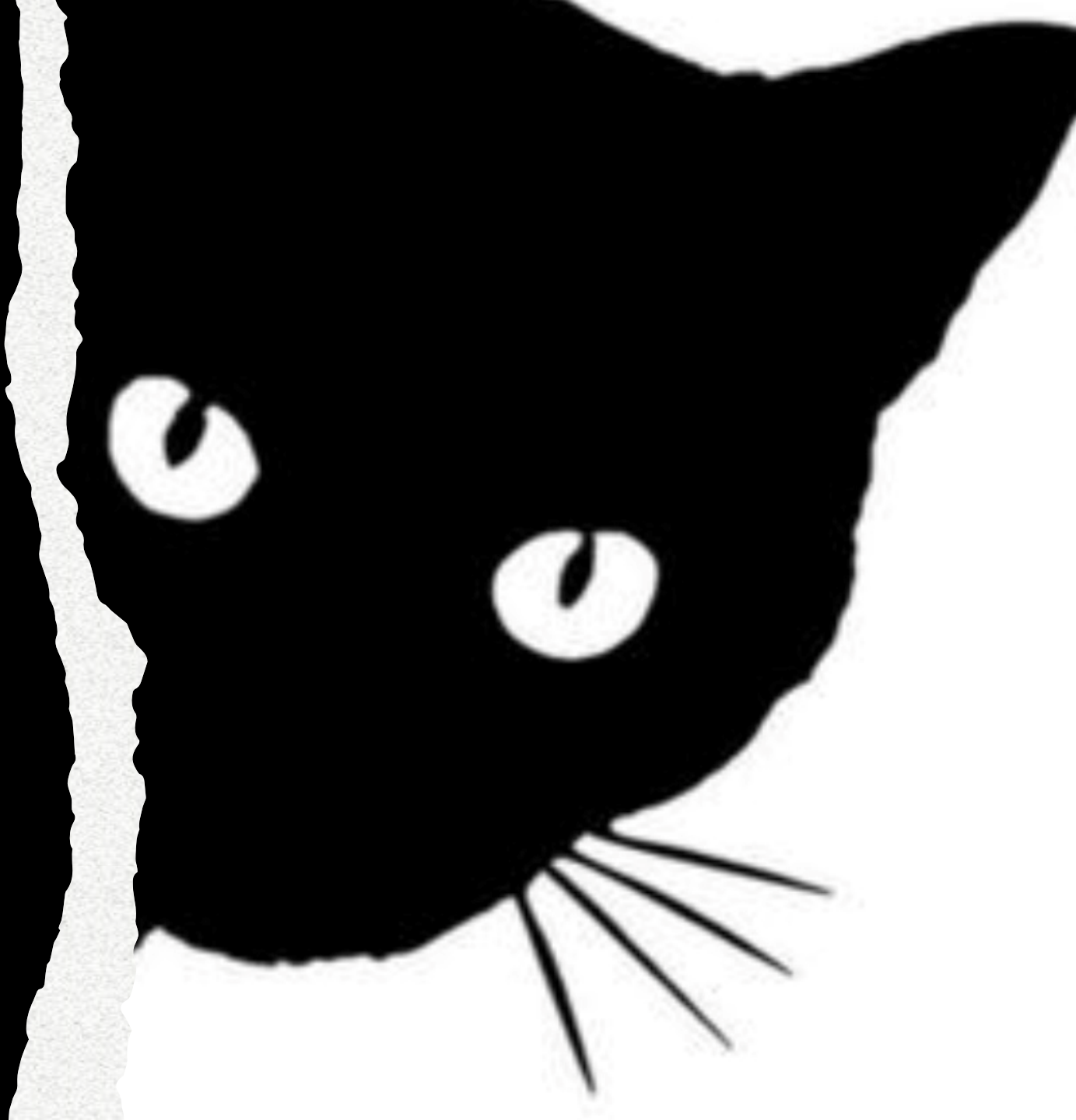
Jo presents with poor sleep.

Sam has behavioural issues at school.

Mo presents for a script for asthma medication.

You motive they are overdue for cervical cancer screening.

2. Promote safety



Establish a safe connection

1. People who have been through trauma may feel “unsafe”.
2. Consider the risk of re-traumatising the patient and take steps to minimise this.
3. Respond to patient’s overwhelm and distress with compassion.
4. Respond to patient’s challenging behaviours with understanding, compassion and predictable boundaries.
5. There may be an ongoing trauma or risk of further exposure to trauma.

Jo shuts down and looks at the floor and won’t answer questions when you ask about things at home.

Sam won’t sit still in the room.

They hit their parent as they discuss behavioural concerns.

They take your ophthalmoscope when their parent starts crying.

Mo becomes distressed when you discuss cervical cancer screening.

Setting boundaries

Boundary= the physical, psychological or emotional space between two individuals eg the patient and the GP

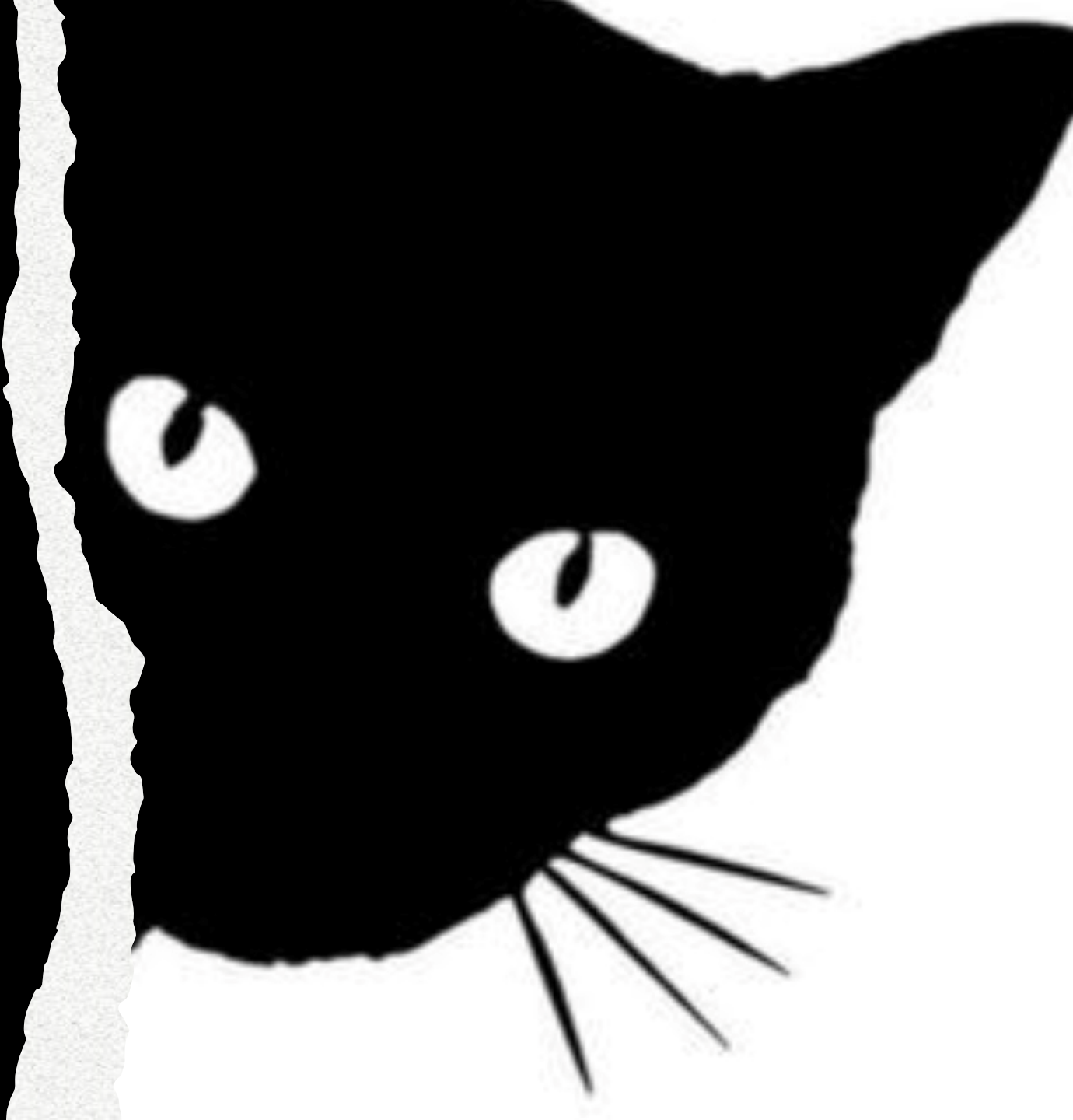
Setting boundaries

1. Establish clear boundaries.
2. Setting clear boundaries in the interactions between trauma-impacted people and those who work with them, can help them feel a greater sense of predictability and safety.

Setting boundaries

1. GPs may have their own trauma history and can be re-traumatised.
2. Consider risk of vicarious trauma for GP.
3. Make boundary setting a routine part of practice.
4. Prioritise own safety and emotional well-being.
5. You may not be the right GP for a particular patient.

2. Rebuild control and power



Rebuild control and empower

1. Establish:
   - Clear boundaries, expectations and consequences
   - Clear roles and responsibilities
2. Emphasise:
   - Choice and control
3. Help patients draw the link between their current health and their trauma experience.

Jo shuts down and looks at the floor and won’t answer questions when you ask about things at home.

Sam won’t sit still in the room.

They hit their parent as they discuss behavioural concerns.

They take your ophthalmoscope when their parent starts crying.

Mo becomes distressed when you discuss cervical cancer screening.

Acutely distressed patient

1. Listen – don’t rush, don’t interrupt, don’t reassure.
2. Let people cry.
3. Let patient know that :
   - they are in control of how much they share and if they need to stop.
   - you only need to know the basics to be able to provide them with support.

Patient who is acutely distressed

1. Acknowledge- “That sounds very stressful.”
2. Validate- “You have been through a lot.”
3. Do not seek details or in depth descriptions – This will increase the patient’s distress.
4. Seek understanding of patient’s current coping and social and emotional well-being

Patient who discloses trauma

1. Be sensitive to patient's immediate needs
2. Listen
3. Acknowledge
4. Validate
5. Contain disclosure vs support disclosure vs allow for detailed disclosure
6. Help regulate

Contain disclosure if..

1. Patient has previously had at-risk behaviours when distressed.
2. Patient has been struggling emotionally recently.
3. Patient has limited social and professional supports.
4. Patient has limited emotional regulation skills.
5. You don’t have experience or skills to help them if they become extremely distressed.
6. There is not enough time to help them regulate should they become very distressed.

It’s ok to use scripts.

“That sounds incredibly difficult.”

“That sounds stressful.”

“That sounds like a very tough situation.”

“It makes sense that things seem very hard right now.”

“You don’t have to provide all the details for me to be able to help.”

“You are in control of what we talk about now.”

“Would it help to concentrate on the “here and now”?”

“Talking about traumatic events can be distressing.”

“This sounds really difficult. I’m going to help you feel a little better just now and arrange a follow up appointment and refer you to a psychologist with trauma-informed expertise.”

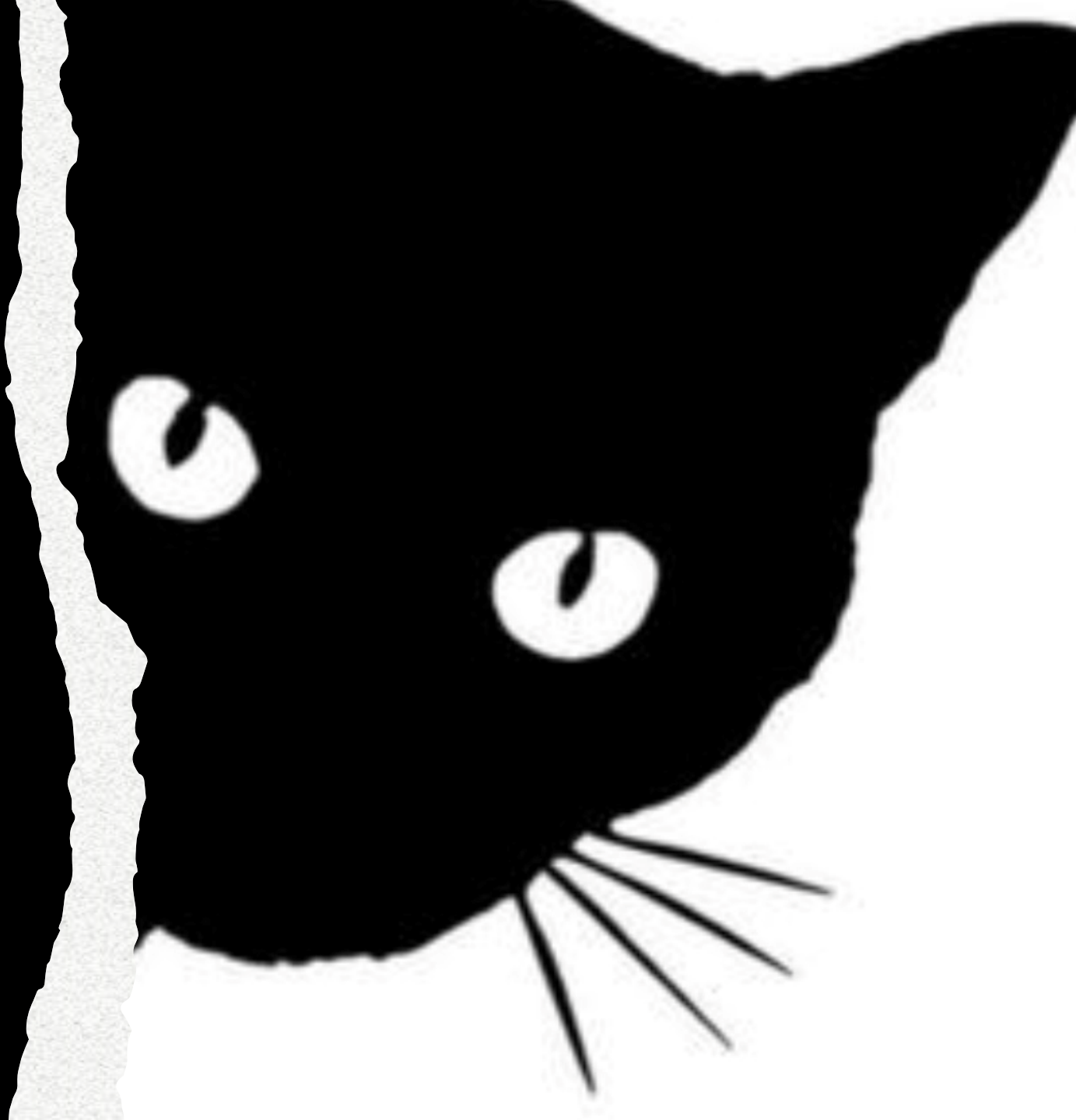
“Can we make a set time to discuss this further?”

“It might be useful to talk about what has helped you cope so far.”

“I want to be sure you feel ok when you leave today.”

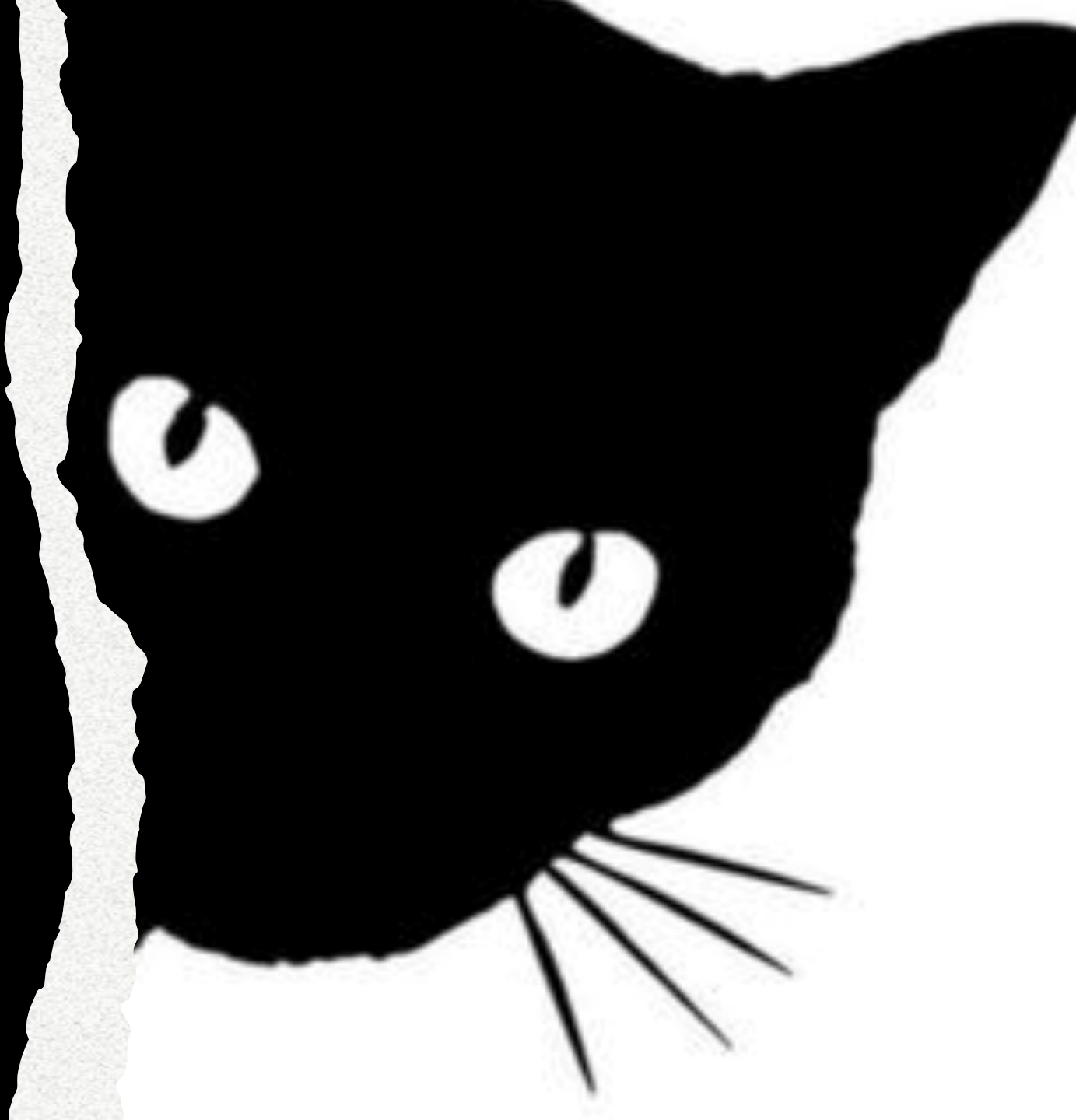
“Would it help to concentrate on the “here and now”?”

4. Focus on strengths



1. Help patient identify their own strengths.
2. Re-enforce appropriate help-seeking behaviour.
3. Help them enhance and add to their skills.
4. They may benefit from-
    - Support with problem solving and decision making
    - Support with goal setting
    - Appropriate information, social supports and services

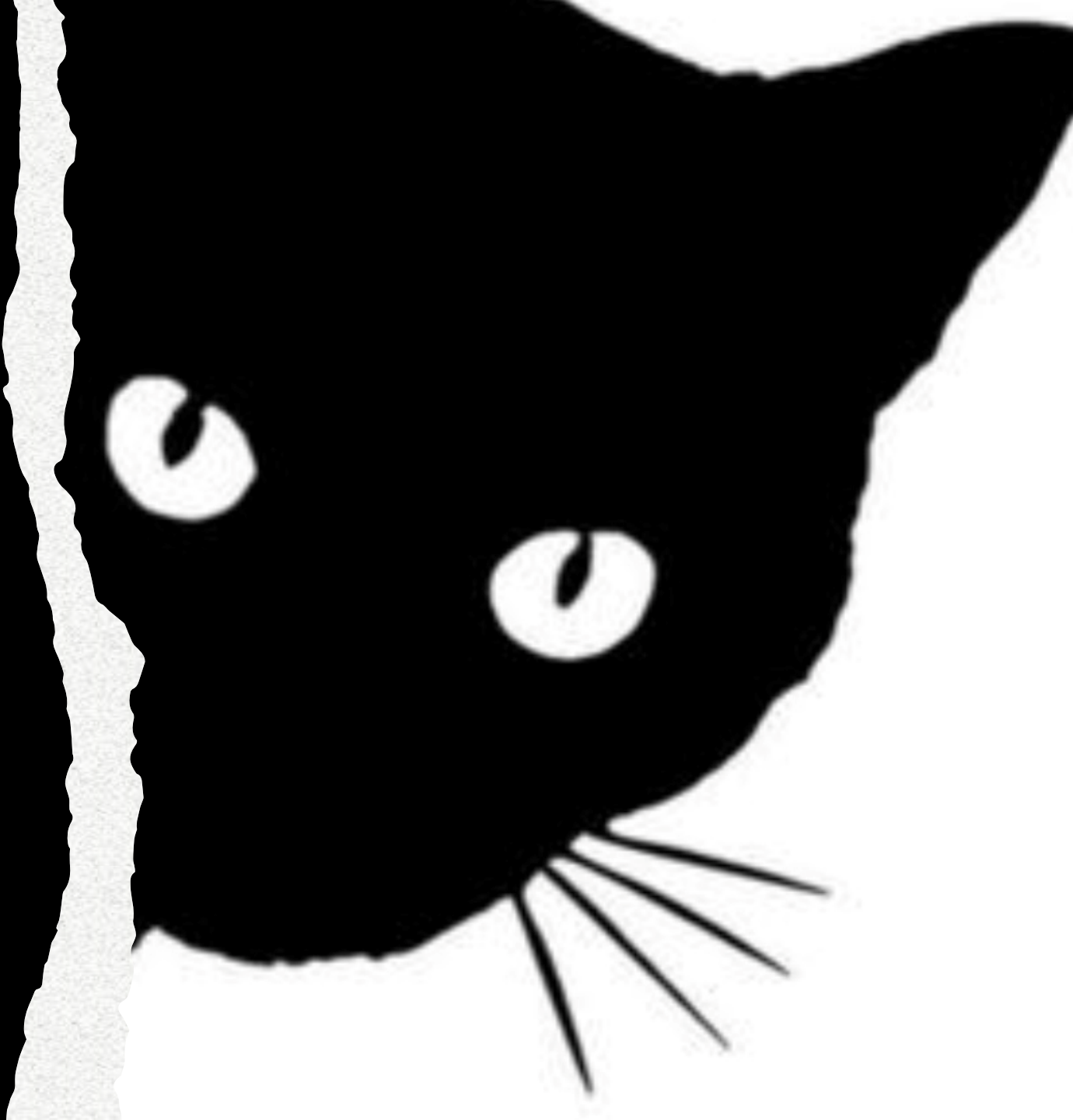
5. Promote connection



Helping with connection:

1. Support in rebuilding relationships
2. Ongoing therapeutic relationship with GP
3. Resources
4. Appropriate services
5. Support group

6. Promote belief in recovery



Development of Stabilising skills and resilience

1. Teach strategies that help with emotional regulation
2. Encourage patient to draw on social connections and support
3. Encourage appropriate help-seeking behaviour

Relapse prevention

1. Encourage awareness of wellbeing and functioning
2. Help patient develop a repertoire of self-soothing, grounding and regulating strategies
3. Encourage self care
4. Encourage ongoing care-
   - Regular GP
   - Appropriate supports and services

Remember…….

- You may have their own trauma history and can be re-traumatised.
- Consider risk of vicarious trauma for you.
- Make boundary setting a routine part of practice.
- Prioritise own safety and emotional well-being.
- You may not be the right GP for a particular patient (and that is ok).
- It’s ok to say “no”.

Remember…….

- Practice self-care.
- Take breaks.
- Take time off if you need.
- Have your own GP (+/- psychologist).
- It’s ok to not be ok.
- Seek help if you need.

DOCTORS' HEALTH in QUEENSLAND

24/7 HELPLINE
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For doctors and medical students only

blue knot foundation

empowering recovery from childhood trauma

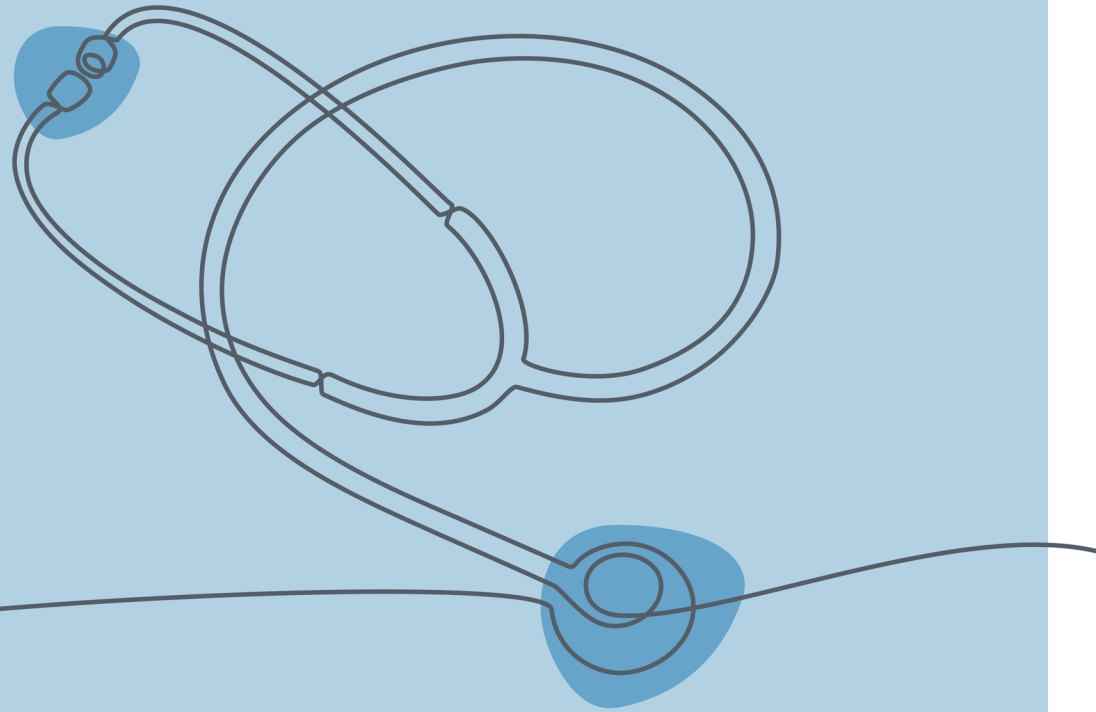
If you have experienced childhood trauma, you can speak with a Blue Knot Helpline trauma counsellor including for support and applications around national redress

1300 657 380
Monday - Sunday
between 9am - 5pm AEST
or via email helpline@blueknot.org.au

Morning Tea

General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

Adult ADHD

Dr Ravi Sohal | Psychiatrist

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Managing Adult ADHD in Primary Care– A Guide for GPs

Dr Ravi Sohal

Adult Psychiatrist

Learning Objectives

- Describe the role of GPs in identifying and co-management of Adult ADHD
- Outline prescribing considerations for GPs for patients with Adult ADHD

What is ADHD?

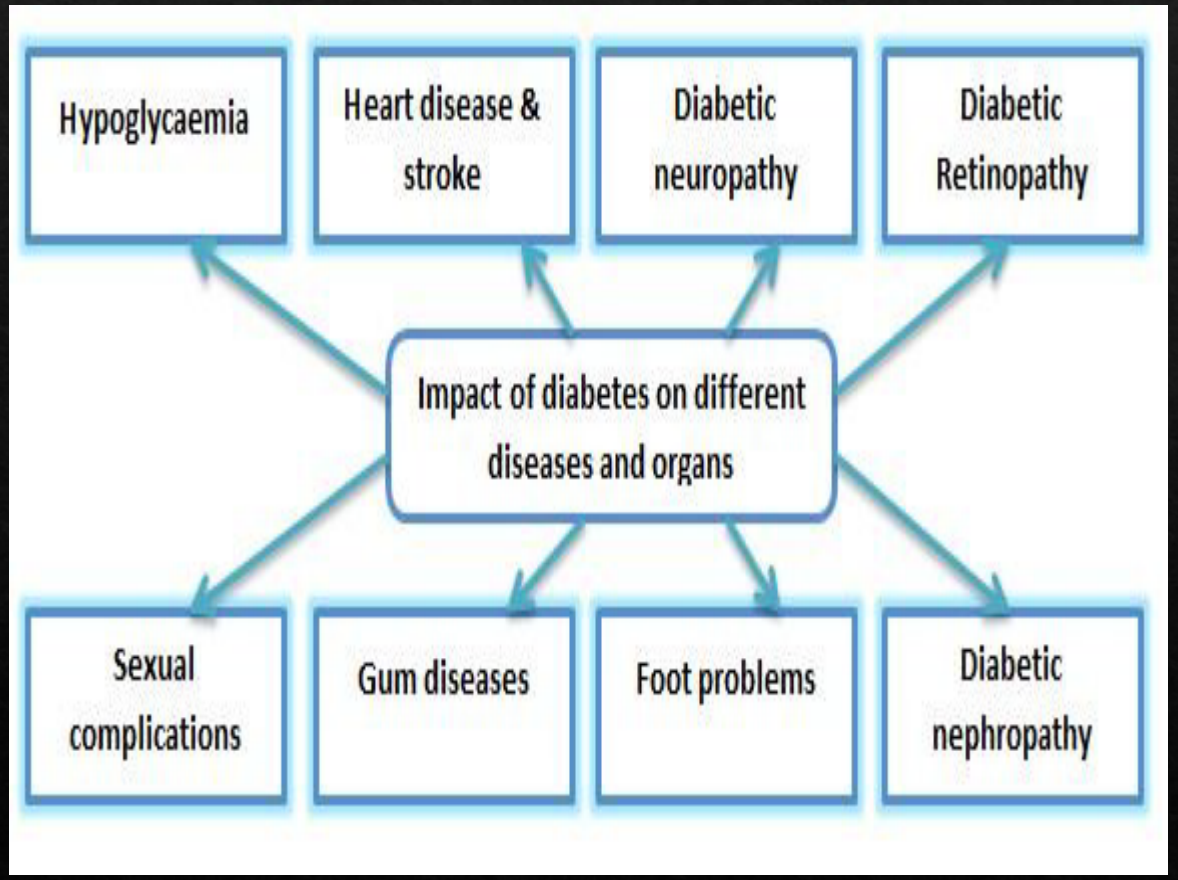
- Clinical neurodevelopmental syndrome
- Early onset (6-10%)
- Persistence into adolescence and adulthood (2-6%)
- Functional impairments (academic, occupational, relational, forensic)
- Co-occurring disorders are common

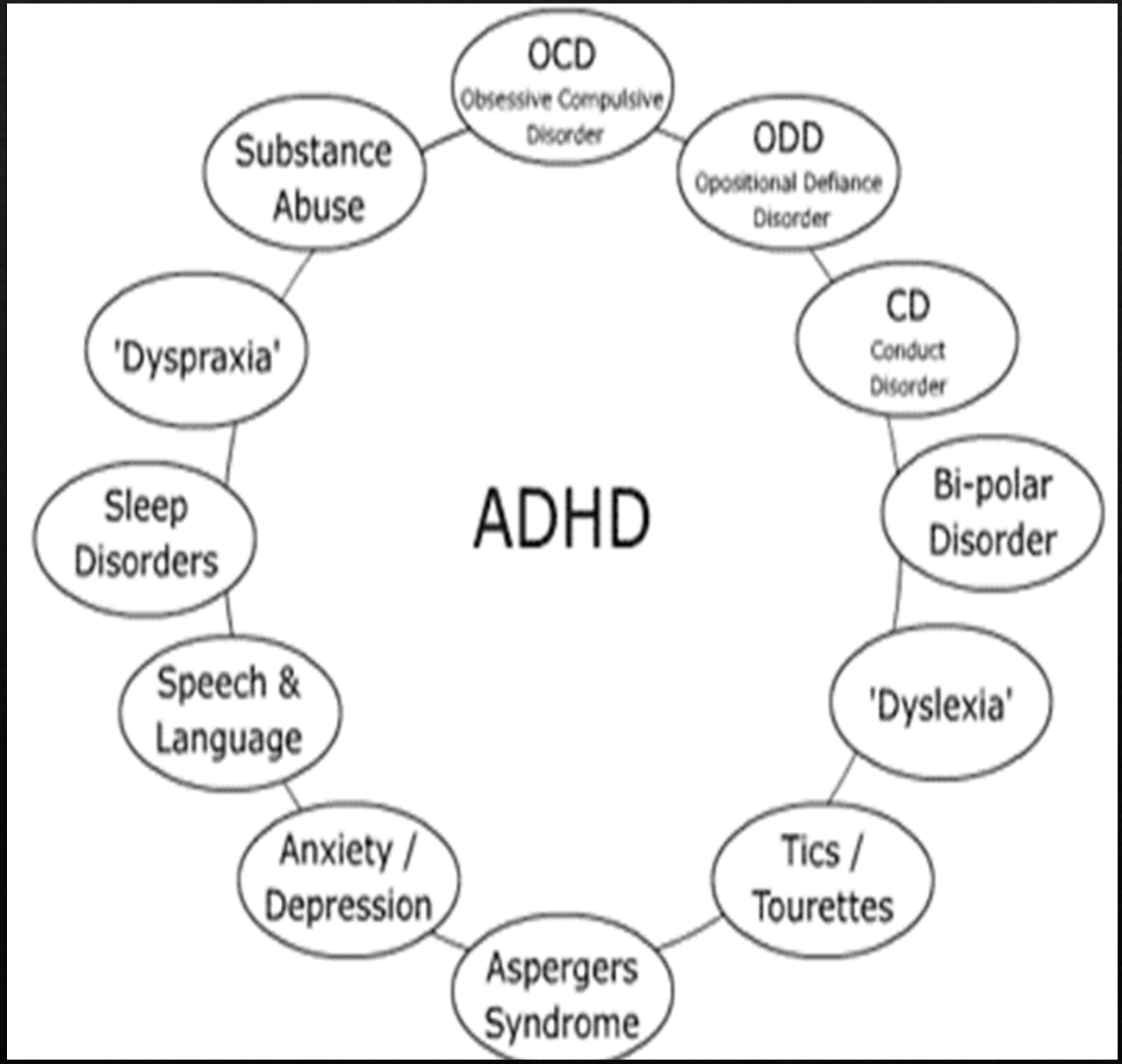
Potential traps in identification of Adult ADHD

- ADHD symptoms may not be apparent in the clinical setting (sensitivity to novelty and stimulation)
- Differentiating ADHD from other mental disorders (symptoms are trait-like emotional instability/dysregulation is extremely common)
- Age of onset (clear history of impairment may not be marked until mid-late childhood or teen years)
- Stigma

Key principles at First Contact

- Many have either recognised traits in themselves after talking with family or friends with ADHD
- Others have been recommended seek referral by psychologist or pediatrician
- In adults, it is commonly misdiagnosed for other mental disorders; take note of early onset and trait-like course of symptoms and impairment


Hypoglycaemia
Heart disease & stroke
Diabetic neuropathy
Diabetic Retinopathy
Impact of diabetes on different diseases and organs
Sexual complications
Gum diseases
Foot problems
Diabetic nephropathy


OCD
Obsessive Compulsive Disorder
Substance Abuse
ODD
Opositional Defiance Disorder
'Dyspraxia'
CD
Conduct Disorder
Sleep Disorders
ADHD
Bi-polar Disorder
Speech & Language
'Dyslexia'
Anxiety / Depression
Tics / Tourettes
Aspergers Syndrome

Clinical Presentation of Adult ADHD

- **Hyperactivity** changes to **inner restlessness**

- Ceaseless unfocused mental activity
- Talks excessively
- Initial Insomnia
- Avoids situations of low activity

- **Impulsivity** often carries **more serious consequences**

- Low frustration tolerance (lose temper, driving, work and relationship problems)
- Impatience
- Interrupt others
- **Emotional** lability/dysregulation

- **Inattention can overwhelm adults**

- Difficulty sustaining attention
  -Meetings, reading, paperwork
- Paralysing procrastination
- Avoidance behaviours
- Slow, Inefficient
- Poor time management
- Disorganized – completing tasks, multi task

The Symptom Checklist is an instrument consisting of the eighteen DSM-IV-TR criteria. **Six of the eighteen questions were found to be the most predictive of symptoms consistent with ADHD**. These six questions are the basis for the ASRS v1.1 Screener and are also Part A of the Symptom Checklist.

Score Part A. If four or more marks appear in the darkly shaded boxes within Part A then the patient has symptoms highly consistent with ADHD in adults and further investigation is warranted.

(Adler et al., 2006; Kessler et al., 2007)

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name _____ **Today's Date** _____

Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an **X** in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.

	Never	Rarely	Sometimes	Often	Very Often
Part A					
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?					
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?					
3. How often do you have problems remembering appointments or obligations?					
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?					
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?					
Part B					
7. How often do you make careless mistakes when you have to work on a boring or difficult project?					
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?					
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?					
10. How often do you misplace or have difficulty finding things at home or at work?					
11. How often are you distracted by activity or noise around you?					
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?					
13. How often do you feel restless or fidgety?					
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?					
15. How often do you find yourself talking too much when you are in social situations?					
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?					
17. How often do you have difficulty waiting your turn in situations when turn taking is required?					
18. How often do you interrupt others when they are busy?					

Covers various domains including attention, impulsivity, mood and organisation.

Range 0 - 120

Positive score >70

Jasper / Goldberg Adult ADD Screening Examination - Version 5.0

The items below refer to how you have behaved and felt DURING MOST OF YOUR ADULT LIFE.
If you have usually been one way and recently have changed, your responses should reflect HOW YOU HAVE USUALLY BEEN.
Circle one of the numbers that follows each item using the following scale:
0 = Not at all 1 = Just a little 2 = Somewhat 3 = Moderately
4 = Quite a lot 5 = Very much

1. At home, work, or school, I find my mind wandering from tasks that are uninteresting or difficult.	0 1 2 3 4 5
2. I find it difficult to read written material unless it is very interesting or very easy.	0 1 2 3 4 5
3. Especially in groups, I find it hard to stay focused on what is being said in conversations.	0 1 2 3 4 5
4. I have a quick temper...a short fuse.	0 1 2 3 4 5
5. I am irritable, and get upset by minor annoyances.	0 1 2 3 4 5
6. I say things without thinking, and later regret having said them.	0 1 2 3 4 5
7. I make quick decisions without thinking enough about their possible bad results.	0 1 2 3 4 5
8. My relationships with people are made difficult by my tendency to talk first and think later.	0 1 2 3 4 5
9. My moods have highs and lows.	0 1 2 3 4 5
10. I have trouble planning in what order to do a series of tasks or activities.	0 1 2 3 4 5
11. I easily become upset.	0 1 2 3 4 5
12. I seem to be thin skinned and many things upset me.	0 1 2 3 4 5
13. I almost always am on the go.	0 1 2 3 4 5
14. I am more comfortable when moving than when sitting still.	0 1 2 3 4 5
15. In conversations, I start to answer questions before the questions have been fully asked.	0 1 2 3 4 5
16. I usually work on more than one project at a time, and fail to finish many of them.	0 1 2 3 4 5
17. There is a lot of "static" or "chatter" in my head.	0 1 2 3 4 5
18. Even when sitting quietly, I am usually moving my hands or feet.	0 1 2 3 4 5
19. In group activities it is hard for me to wait my turn.	0 1 2 3 4 5
20. My mind gets so cluttered that it is hard for it to function.	0 1 2 3 4 5
21. My thoughts bounce around as if my mind is a pinball machine.	0 1 2 3 4 5
22. My brain feels as if it is a television set with all the channels going at once.	0 1 2 3 4 5
23. I am unable to stop daydreaming.	0 1 2 3 4 5
24. I am distressed by disorganization.	0 1 2 3 4 5

Positive results may result from anxiety, depression or mania. These conditions must be ruled out before a diagnosis of Adult ADD can be made.

Initial work-up for Adult ADHD

- Comorbidities – physical, substance use and psychiatric
- Mood disorders/Anxiety disorders – start or optimise treatments
- Blood pathology – FBC, CHEM20, TFT, VIT B12, D3, FOLATE
- ECG if indicated
- Wt, BP, PR
- Identify and treat any cautions/contraindications for psychostimulants

Referral for Diagnostic Assessment

- Barriers – exclusively in private sector
- Financial costs
- Availability – Not all psychiatrists; many closed books or long wait lists;
- Telehealth psychiatry services have improved access

- RANZCP website – Find a Psychiatrist link
- AADPA – ADHD Professionals Directory (early stages)

Additional Referral Information

- If past diagnosis, any reports or correspondence
- ASRS
- Pathology results
- ECG
- Wt, BP, PR

Role of GPs following Diagnosis

- Treatment initiation – monitoring of physical parameters (Wt, BP, PR) and then 3-6 monthly once on stable dose.
- Once clinically stable and on a stable maintenance regime, GP could be approached to continue prescribing treatment
- **Form for Application for a prescribing approval for (Schedule 8) psychostimulants (Medicines and Poisons Act 2019) that is available on the Queensland Health website. This approval permits GPs to prescribe for a period of up to two years with specialist approval.**

- QScript
- Add ‘specified condition’ or words to indicate condition being treated
- PBS authority for Lisdexamfetamine and Methylphenidate LA only for Adult ADHD
- Psychiatrist should outline if patient meets all PBS conditions in discharge letter

References

- AADPA Australian Guidelines https://adhdguideline.aadpa.com.au/
- Factsheet: Prescribing Psychostimulants https://www.health.qld.gov.au/__data/assets/pdf_file/0021/1160391/fs-prescribing-psychostimulants.pdf
- Application for Prescribing Approval https://www.health.qld.gov.au/__data/assets/pdf_file/0016/1112704/form-prescribing-s8-psychostimulants.pdf

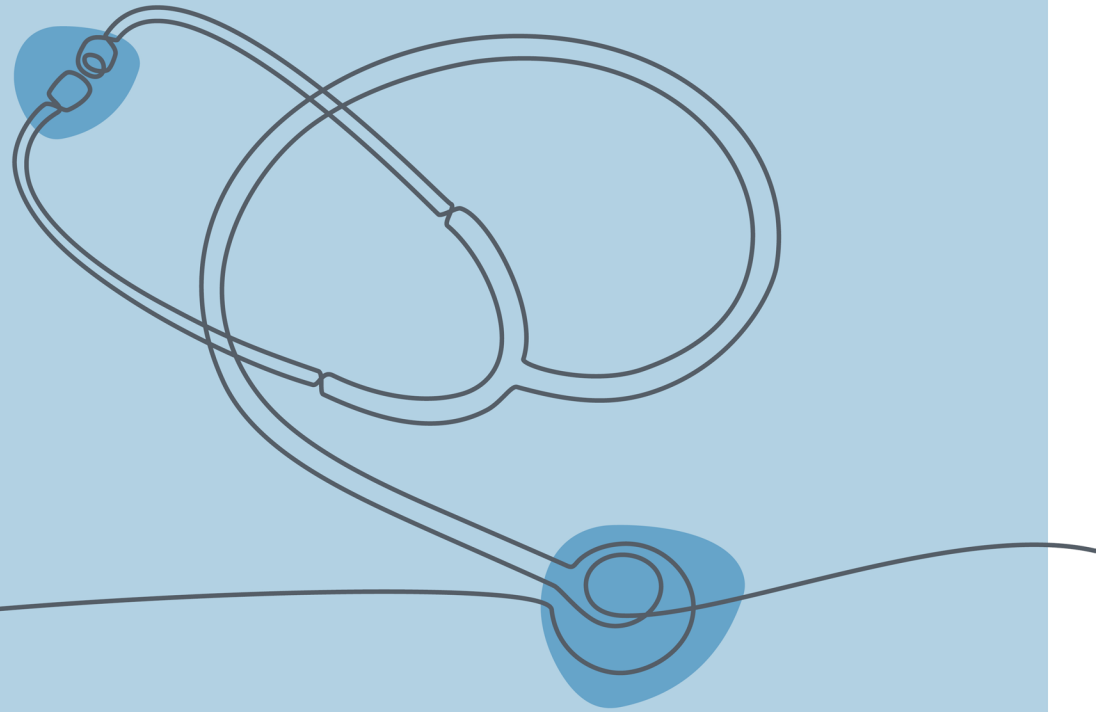
Summary

- Clinical issues to consider at time of identification & referral to a psychiatrist (& barriers)
- Role of GP during treatment initiation and prescribing after discharge from the psychiatrist

Questions?

General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

Addiction Medicine & AOD

Peter Cochrane | Assistant Nursing Director, Alcohol & Drug Services, MNHHS
Dr Jim Finn | Staff Specialist, Alcohol & Drug Services, Melaleuca Clinic, TPCH

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

METRO NORTH ADDICTION SERVICES

PRESENTATION FOR JUNE 8TH – 1110 BRISBANE NORTH PHN-RBWH CSDS

LEVEL 5, BLOCK 6,RBWH JAMES FINN

RACGP LEARNING OUTCOME

- Identify the Metro North addiction and AOD services available to support patient care.

- Additional agreed learning objective- develop techniques to titrate down (potentially to zero) dosages of benzodiazepines and (if time permits) opioids.

WHAT THE ALCOHOL & DRUG SERVICE DOES

- **Dr James Finn FRACGP, FACRRM, FAChAM (RACP) AMA(M)**
- **Acting Clinical Director MNHS-ADS/ Senior Staff Specialist**

LIST OF SERVICES

- ADIS
- ADCAS
- HADS UNIT
- Hospital Emergency Departments
- Hospital CL services
- Alcohol and drug outpatient services

ANTICIPATORY SET

- Learning Objectives
- Ability to recognize the support available : ADIS, ADCAS and ADS clinics and the HADS unit.
- Discuss the ongoing screening instruments which can be used to assist in identifying early signs of aberrant and or dependent behavior in patient on regular opioids and/ or benzodiazepines .

- Tapering strategies to reduce down and to taper off benzodiazepines or opioids.

ADCAS SERVICE

- The Alcohol and Drug Clinical Advisory Service (ADCAS) is a specialist telephone support service for health professionals in Queensland, providing clinical advice regarding the management of patients with alcohol and other drug concerns. This free service is available from 8.00am-11.00pm, 7 days a week.
- Initial enquiries are taken by alcohol and drug counsellors, who can provide alcohol and drug information, relevant local agency information, and referral options. Calls will be transferred to an on-call medical addiction specialist where the enquiry specifically relates to medical management.
- Ref-https://www.adis.health.qld.gov.au/health-professionals/adcas

- This may include advice relating to:
- Opioid pharmacotherapy and other prescribing enquiries
- Management of withdrawal syndromes, intoxication and toxicity
- Management of medical and psychiatric complications associated with alcohol and drug use
- Drug interaction information

- When contacting the service, you will be asked your name, profession, and for basic details of the enquiry. While we will endeavour to provide immediate contact with a Medical Addiction Specialist, as an on-call service if this is not possible, we will take your details and respond to your enquiry as soon as possible.

- Please note that this service is for **health professionals only**. Patient's seeking information should be directed to ADIS24/7 Alcohol and Drug Support on 1800 177 833 for counselling, information and referral to treatment services.

- **Call 1800 290 928 for support and clinical advice. ADCAS.**
- To access a range of Alcohol and Other Drug Clinical Practice Guidelines on topics such as Dual Diagnosis, Opioid Treatment or AOD Withdrawal, please go to Insight: Centre for alcohol and other drug training and workforce development.

WHAT THE TPCH ADS SERVICE DOES

- Treats patients in the opioid maintenance program.
- Provides a CNC –CL service to general TPCH hospital but not MH inpatients. Though we are happy to advise and do attend on occasion.

- Performs out patient withdrawal services .

- Undertakes the DABIT service
- Provides clinical advice not only for TPCH but on a roster through THE ADCAS service to the state of Queensland. In conjunction with addiction specialists from other districts.
- Provides S8 and S4 opinion services for patient review on medical referral to the Melaleuca Clinic/ RSC

DABIT

- If someone is inebriated in emergency that might encourage DABIT involvement for a brief intervention *but is too acute for same day addiction specialist intervention.*

BENZODIAZEPINE DEPENDENCE AND WITHDRAWAL.

- Anticipatory Set:
- Screening for substance dependence (including BDZ dependence) using best evidence based instruments.
- **Respond to benzodiazepine dependence within the inpatient and clinic setting, using evidence based methods and processes.**
- **Withdrawal regimens-Risks of benzodiazepine maintenance-discussion of the withdrawal guidelines.**

WHY DO PEOPLE EXPERIMENT WITH DRUGS:

WHAT ARE BENZODIAZEPINES

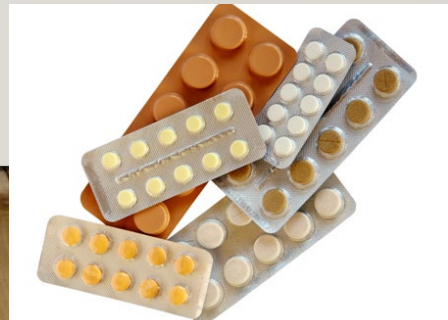
- A class of depressant drugs whose core chemical structure is the fusion of a benzene ring and a diazepine ring.
-
- They are prescribed to treat conditions such as anxiety, insomnia and seizures.
- They induce feelings of calm (anxiolysis) drowsiness and sleep.

- They are hypnotic .

- They act by facilitating the binding of the inhibitory neurotransmitter GABA at various GABA receptors throughout the CNS.

BENZODIAZEPINE PATTERNS OF USE

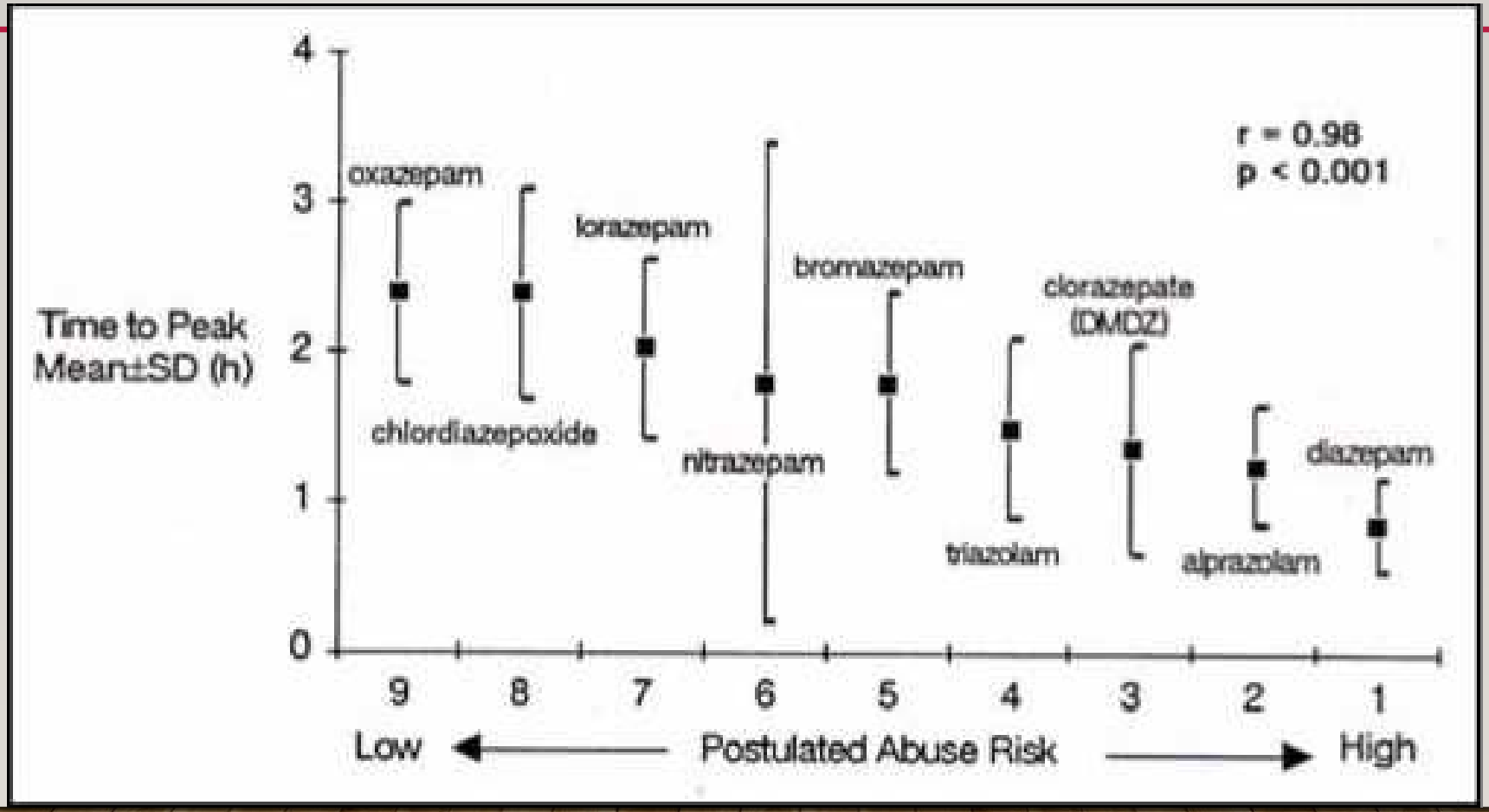
- Therapeutic dependence without escalation
- High dose use from escalation (may prescription shop)
- In context of poly drug use
- Tolerance of sedative effects significant by 2-3 weeks of regular use
- Risks of stabilising on long-acting benzos
  - Overdose
  - Prolonging problem
  - Adding to pool of black market benzos



BENZODIAZEPINE HALF LIVES

Drug	peak blood level(hr)	Elimination half-life(hr)	Comment
Alprazolam	1-2	12-15	rapid oral absorbtion
Chlordiazpoxide	2-4	15-40	active metabolites;erratic bioavailibility from IM injection
Clorazepate	1-2	50-100	prodrug;hydrolyzed to active from in stomach
Diazepam	1-2	20-80	active metabolites;erratic bioavailibility from IM injection
Eszopiclone	1	6	minor active metabolites
Flurazepam	1-2	40-100	active metabolites with long half-life
Lorazepam	1-6	10-20	no active metabolites
Oxazepam	2-4	10-20	no active metabolites
Temazepam	2-3	10-20	slow oral absorbtion
Triazolam	1	2-3	rapid onset;short duration of actoin
Zaleplon	<1	1-2	metabolized via aldehyde dehydrogenase
Zolpidem	1-3	1.5-3.5	no active metabolites

RELATIONSHIP BETWEEN TIME TO PEAK PLASMA CONCENTRATION & MISUSE RISK



POORER LIFE EXPECTANCY IN THE USA:

- Case and Deaton(2015) showed a cessation and reversal of the decline in midlife mortality for US white non-Hispanics after 1998. From 1978 to 1998, the mortality rate for US whites aged 45–54 fell by 2% per year on average, which matched the average rate of decline in six other OECD countries , and the average over all other industrialized countries. -----After 1998, other rich countries' mortality rates continued to decline by 2% a year. In contrast, US white non-Hispanic mortality rose by half a percent a year.
- They later(2017) demonstrated that this was due to drug overdoses, suicides and ETOH liver disease.

IN THE USA

- Bachaumber et al (2016) found that between 1996-2013 the rate of overdose deaths in which benzodiazepines were involved had increased five fold.
- The number of American adults filling a benzodiazepine prescription increased and the quantities filled increased

WHY CAN'T WE HAVE PATIENTS ON BDZ MAINTENANCE?

- Kripke (2012) in a matched cohort study correlated BDZ use with q a 360%-400% increased risk of all cause mortality.
- A Weich (2014) showed that the increased risk of death returns to base line within 6 months of ceasing BDZ.
- A NSW watch-house study showed that BDZ were correlated with less likelihood of employment.

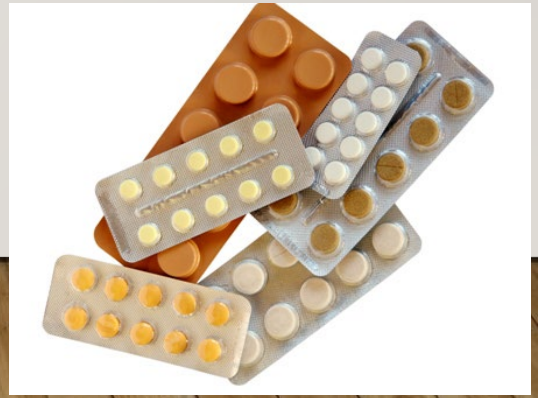
BENZODIAZEPINE PATTERNS OF USE

- Therapeutic dependence without escalation

- High dose use from escalation (may Dr shop)
- In context of poly drug use
- Tolerance of sedative effects significant by 2-3 weeks of regular use

RISKS OF STABILISING ON LONG-ACTING BENZOS

- Overdose
- Prolonging problem
- Adding to pool of black market benzos

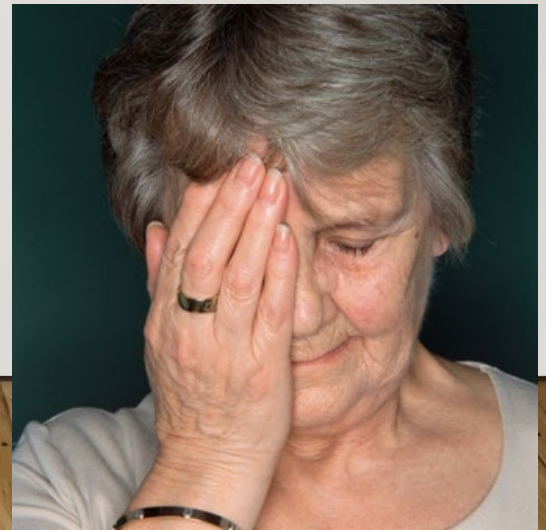


BENZODIAZEPINE WITHDRAWAL SYMPTOMS

- Mainly anxiety, agitation, insomnia
- Less common: Tremor, panic attacks, GI upset, headaches, nightmares
- Uncommon: Seizures, confusion, paranoia, delusions

WITHDRAWAL MANAGEMENT: BENZODIAZEPINES

- Progressive reduction on long-acting benzo
- Abrupt = rebound anxiety & insomnia
- Single prescriber (specialist if poly drug)
- Check (MO=prescribers)with Prescription Shopping Info Service



MEDICAL MANAGEMENT OF BENZODIAZEPINE WITHDRAWAL

WHAT THE GUIDELINES SAY

4.5 TREATMENT

- Generally, therapeutic dependence should be managed by the patient's general practitioner.

- However, it is not recommended that general practitioners attempt to manage benzodiazepine withdrawal in polydrug users or prescribe benzodiazepines for these patients- even as a temporary measure.

THE GENERAL PRINCIPLES GOVERNING BENZODIAZEPINE PRESCRIBING IN PRIMARY CARE SETTINGS ARE:

- • Do not prescribe for patients not known to you.
- • Do not prescribe benzodiazepines for polydrug users (if concerned, these patients can be referred for specialist assessment).
- • Do not prescribe benzodiazepines for patients on methadone or buprenorphine-(refer to their prescriber).

IF PRESCRIBERS ARE IN ANY DOUBT ABOUT A PATIENT

- Think they may have therapeutic dependence,

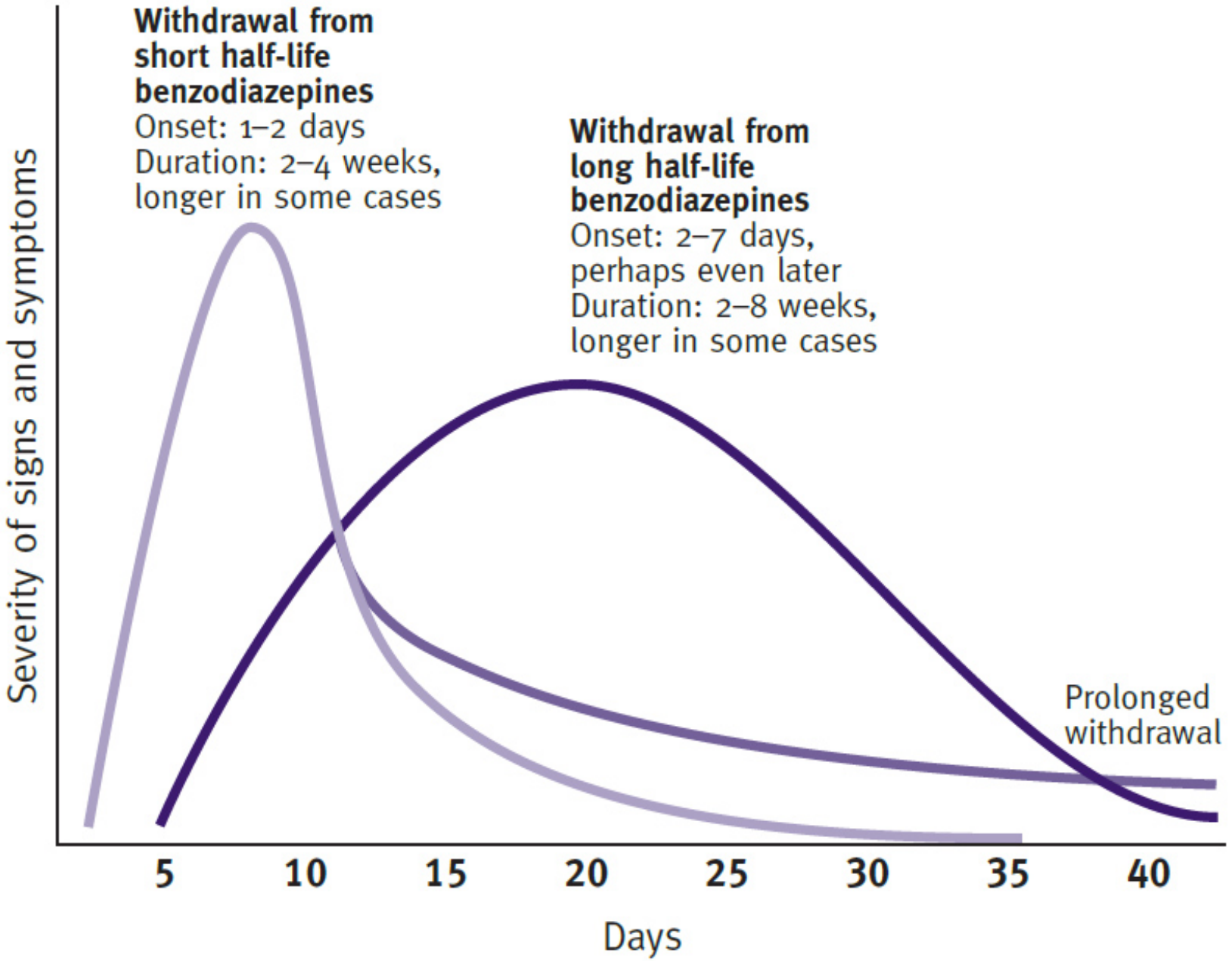
- Then register with the Prescription Shopping Information Service and check whether they are obtaining prescriptions from other doctors. www.medicareaustralia.gov.au/providers/programs_services/pbs/

4. BENZODIAZEPINES

- It is not a matter of urgency to prescribe benzodiazepines to manage withdrawal, as-
- the onset of withdrawal symptoms tends to be delayed.

- The onset of benzodiazepine withdrawal is earlier, and symptoms are more severe, in people taking short half-life benzodiazepines.

Course of benzodiazepine withdrawal



4.5.1 TREATMENT SETTING FOR BENZODIAZEPINE WITHDRAWAL

- An ambulatory setting is preferred except when:
- the safety of the patient would be at risk
- (e.g. documented history of seizures, alcohol dependence or significant mental illness) or
- the patient reports very high doses of benzodiazepine use (›50 mg diazepam equivalent)

AN AMBULATORY SETTING IS PREFERRED EXCEPT WHEN:

- • the likelihood of a successful outcome is poor in an ambulatory setting (such as a repeated inability to complete outpatient reductions, other drug use or an unstable social environment)

- • the patient will not consider withdrawal in an ambulatory setting.

- Ambulatory withdrawal is most suitable for low-dose users, except when repeated attempts at withdrawal have failed.

- Ambulatory withdrawal is also suitable for high-dose users who have been stabilised on a reduction regimen (e.g. as an inpatient).

- Specialist inpatient withdrawal should be considered for stabilising high-dose users on a reduction regimen, and patients who use benzodiazepines in combination with alcohol and also:
- older people, and patients with other illnesses

-(especially psychiatric disorders).

- Withdrawal can then be completed as an outpatient over a period of months.

- Generally hospital withdrawal is rarely necessary unless specialist withdrawal facilities are unavailable (e.g. in a rural setting).

4.5.2 WITHDRAWAL MANAGEMENT

WITHDRAWAL IS BEST MANAGED BY:

- establishing a good therapeutic relationship

with the patient

- • initial stabilisation of dose (preferably with

a long-acting benzodiazepine)

- • gradual dose reduction.

- Flexibility is essential.

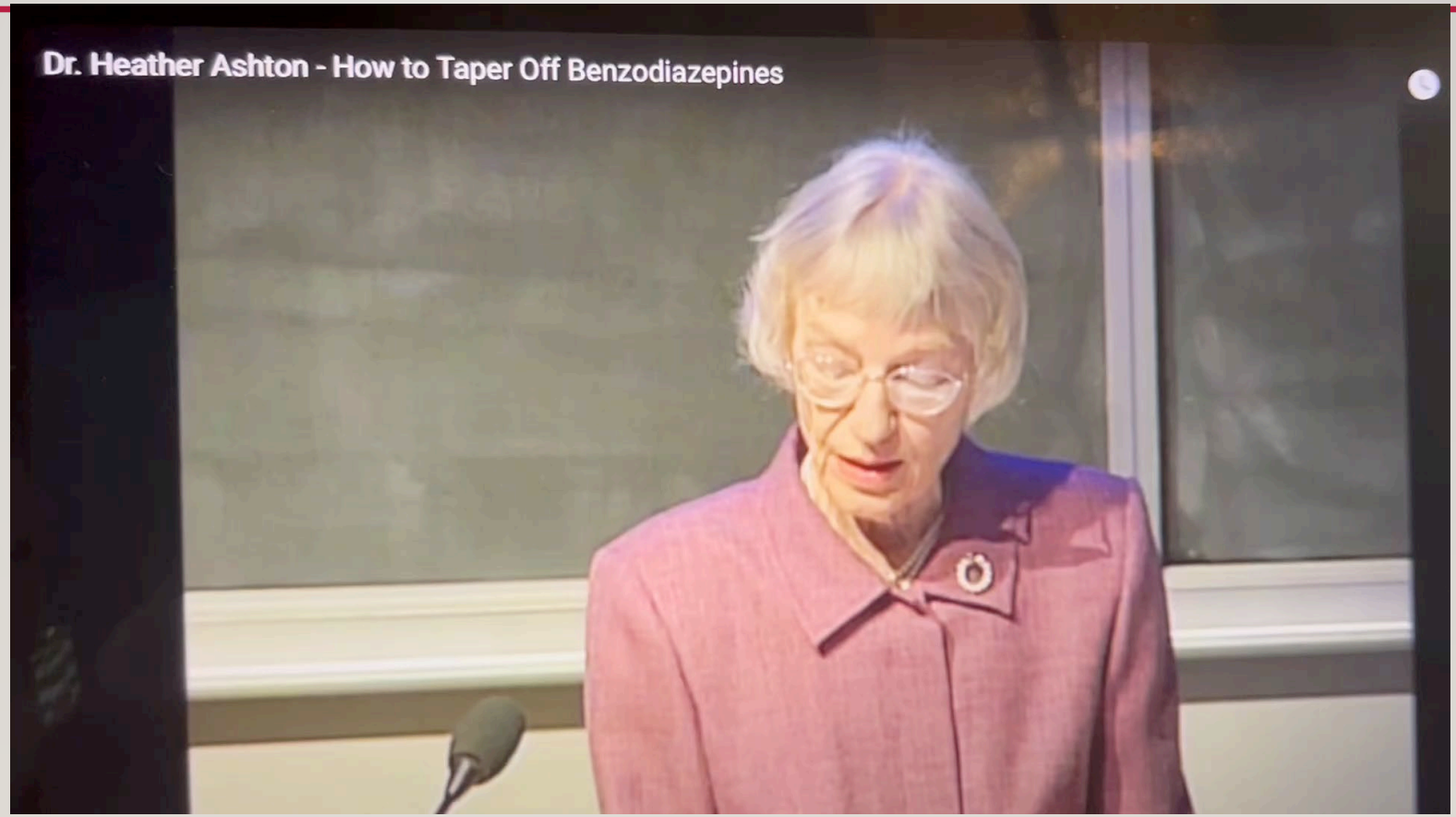
- The risks associated with trying various approaches and being adaptable
- to the patient's withdrawal needs are low, and
- the advantages of developing an individualised- treatment regimen are great.

- Withdrawal symptom reduction is usually achieved by the careful, flexible, tapered withdrawal of the drug.

- Generally, there is a trade-off between rapid

withdrawal – with intense, relatively short duration symptoms – and slower withdrawal, which has protracted, less intense symptoms.

HOW TO TAPER OFF BENZODIAZEPINES



4.5.3 UNPLANNED WITHDRAWAL

- Patients in hospital for other reasons may undergo benzodiazepine withdrawal from even low doses of regular, long-term benzodiazepine use.

This can be a particular problem in older patients, who may develop delirium due to benzodiazepine withdrawal.

For hospitalised patients:

- Take a history of benzodiazepine use.
- Do not abruptly discontinue benzodiazepines, even at low doses, - because of the risk precipitating withdrawal in unwell patients and older people.

Generally, maintain benzodiazepine use at preadmission levels for therapeutic dependence. Hospitalisation and sickness- make a very poor context for initiating elective withdrawal.

- Patients taking high doses or polydrug users should be stabilised on a long-acting benzodiazepine (preferably diazepam).

- At a dose about 40 per cent of their regular intake before admission (or 80 mg/day, whichever is lower).

- Reduction and withdrawal should follow once their other medical condition has been dealt with.

4.5.4 MANAGING BENZODIAZEPINE WITHDRAWAL IN POLYDRUG-DEPENDENT PATIENTS

- At assessment, it is important to obtain a detailed history of benzodiazepine use, accepting that it may not be accurate.

Overestimation is common.

In assessing tolerance, many users will-

- report levels of use associated with intoxication and sedation.
- This is far in excess of what is required to avoid withdrawal.

- Endeavour to find corroborative evidence
- (e.g. hospital admissions with seizures) rather-
- than accepting the history,-
- and maintain
- awareness that in managing benzodiazepine dependence in the setting of polydrug use, safety (not symptoms) is the key.

For every polydrug-using patient requesting benzodiazepines, the clinician must judge:

- Whether it is safer to prescribe or not prescribe.
- The important issue is not to add to the pool of benzodiazepine use.

- It is important to provide clear information that the aim of treatment is to produce safe stabilisation and progressive dose reduction.

- This does not mean patients will feel comfortable or asymptomatic.
- Switching to a long-acting benzodiazepine (usually diazepam) and using only one benzodiazepine are important steps to minimise risks during withdrawal.

- Patients may be adamant that shorter-acting preparations are the only ones acceptable or efficacious.

- Clinicians should not support the ongoing prescription of these drugs, which contribute to more severe withdrawal and are more likely to be misused and diverted.

HOW DO WE CONVERT OTHER BENZODIAZEPINES TO DIAZEPAM EQUIVALENT DOSE? (ASHTON MANUAL)

Benzodiazepines[1]	Half-life (hrs)[2] [active metabolite]	Approximately Equivalent Oral dosages (mg)[3]	Market Aim[4]
Alprazolam (Xanax, Xanor, Tafil)	6-12	0.5	a
Bromazepam (Lexotan, Lexomil)	10-20	5-6	a
Chlordiazepoxide (Librium)	5-30 [36-200]	25	a
Clobazam (Frisium)[5]	12-60	20	a,e
Clonazepam (Klonopin, Rivotril)[5]	18-50	0.5	a,e
Clorazepate (Tranxene)	[36-200]	15	a
Diazepam (Valium)	20-100 [36-200]	10	a
Estazolam (ProSom, Nuctalon)	10-24	1-2	h
Flunitrazepam (Rohypnol)	18-26 [36-200]	1	h
Flurazepam (Dalmane)	[40-250]	15-30	h
Halazepam (Paxipam)	[30-100]	20	a

Ketazolam (Anxon)	30-100 [36-200]	15-30	a
Loprazolam (Dormonoct)	6-12	1-2	h
Lorazepam (Ativan, Temesta, Tavor)	10-20	1	a
Lormetazepam (Noctamid)	10-12	1-2	h
Medazepam (Nobrium)	36-200	10	a
Nitrazepam (Mogadon)	15-38	10	h
Nordazepam (Nordaz, Calmday)	36-200	10	a
Oxazepam (Serax, Serenid, Serepax, Seresta)	4-15	20	a
Prazepam (Centrax, Lysanxia)	[36-200]	10-20	a
Quazepam (Doral)	25-100	20	h
Temazepam (Restoril, Normison, Euhypnos)	8-22	20	h
Triazolam (Halcion)	2	0.5	h

Non-benzodiazepines with similar effects[1, 6]			
Zaleplon (Sonata)	2	20	h
Zolpidem (Ambien, Stilnoct, Stilnox)	2	20	h
Zopiclone (Zimovane, Imovane)	5-6	15	h
Eszopiclone (Lunesta)	6 (9 in elderly)	3	h

- The medication should be supplied as tablets to- take away
- Under daily supply. *

If patients stabilise on a dose in the range of

40–80 mg of diazepam daily, withdrawal should be at the rate of at least 5 mg per week until the dose reaches 40 mg, then 2.5 mg/week.

- At this rate, reducing from 80 mg diazepam will take nearly six months.
- A maximal rate of withdrawal would be to reduce the dose by 10 mg at weekly intervals until 40 mg, then by 5 mg at weekly intervals.
- This will take 12 weeks.

- During withdrawal, patients should be monitored with clinical reviews and by checking the Prescription Shopping Information Service.

CASE STUDIES - WITHDRAWAL MANAGEMENT
GETTING THE APPROACH RIGHT: CATHY AND DAVID

BRAD

- Takes diazepam 20mg a day supplied by his LMO
- He accessed a stable street supply of clonazepam 2mg tds po- He has been on this street supply for 6 months.

- His clonazepam supplier is moving interstate and he can't get a further supply.
- What do we do?

BILL

- Is a former elite athlete
- Pt is 38 and is on DSP for MS in remission
- Pt is on the QOTP for past codeine dependence.
- He lapsed 5 times over 5 years to zolpidem dependence on average 14 by ten mg daily.
- Pt typically uses for 6-8 months before informing clinic staff

DEIDRE

- 58
- Former journalist
- On DSP for GAD and depression
- On alprazplam 2mg bd po and diazepam **20mg daily**
- Came into hospital with a clonazepam overdose 100mg and a diazepam overdose- 200mg- phoned QAS herself

- Admitted to hospital and taken off all BDZ
- On day 5 had a BDZ withdrawal seizure (risk flagged by ADS – CL on day 3).

- What to do?

REFERENCES

- Alcohol and drug withdrawal guidelines :freely available from:
- Alcohol and Drug Withdrawal Clinical Practice Guidelines (health.qld.gov.au)

REFERENCES

- Bachumber et al (2017): Increasing Benzodiazep**ine** prescriptions and Overdose Mortality in the United States,1996-2013 AMJPH
- Alcohol and Drug Withdrawal Clinical Practice Guidelines (health.qld.gov.au)
- MIMS current

REFERENCES:

- Case, Anne, and Angus Deaton. "Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century." *Proceedings of the National Academy of Sciences* 112.49 (2015): 15078-15083. Web. 10 Feb. 2018.
- Ballyntyne J and Sullivan MNovember 26, 2015
  N Engl J Med 2015; 373:2098-2099
  DOI: 10.1056/NEJMp1507136

REFERENCES

- Bachumber et al (2017): Increasing Benzodiazep**ine** prescriptions and Overdose Mortality in the United States,1996-2013 AMJPH
- Alcohol and Drug Withdrawal Clinical Practice Guidelines (health.qld.gov.au)
- MIMS current

TREATING CHRONIC PAIN

- Chronic pain is common yet:

- Not all patients with chronic pain seek medical treatment for their pain.
- The factors that lead patients to seek help for their chronic pain are many but in some cases , may place the patients at particular risk of substance dependence.

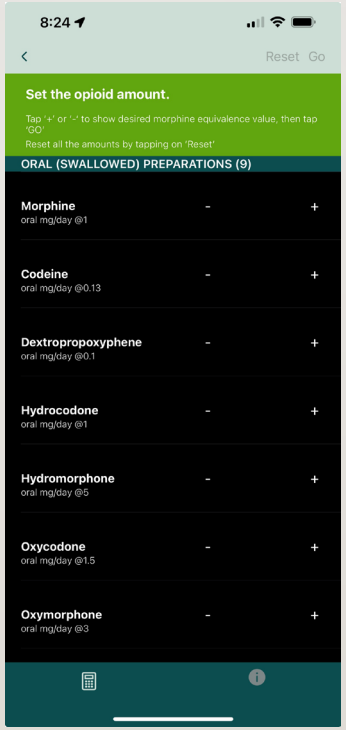
CHRONIC PAIN + RISK OF SUBSTANCE DEPENDENCE-COMMON PATIENT PROFILE

- Personality Disorder
- Anxiety Depression
- Somatisation
- History of Childhood abuse.


MRS. WINSLOW'S
SOOTHING
SYRUP
MRS. WINSLOW'S
Soothing
Syrup
FOR
CHILDREN
TEETHING.
FOR CHILDREN TEETHING

BEWARE CLAIMS THAT A MEDICATION IS NON ADDICTIVE

HOW TO TAPER OPIOIDS



STATEMENT REGARDING THE USE OF OPIOID ANALGESICS IN PATIENTS WITH CHRONIC NON-CANCER PAIN

- **Preamble**
- The Faculty of Pain Medicine (FPM) recognises the lack of definitive evidence supporting the long-term effectiveness of opioid analgesics in people experiencing chronic non-cancer pain (CNCP) and the substantial evidence for potential harm.
- The FPM recognises that opioids are widely and often inappropriately prescribed for CNCP despite the lack of clear evidence of efficacy.
- The FPM also recognises the changed regulatory environment introduced in Australia by the TGA[1] in 2020, specifically[2]:
- "[Modified-release opioid product] is indicated for the management of severe pain where
  - other treatment options have failed, are contraindicated, not tolerated or are
  - otherwise inappropriate to provide sufficient management of pain, and
  - the pain is opioid-responsive, and
  - requires daily, continuous, long term treatment.
  - "[Modified-release opioid product] is not indicated for use in chronic non-cancer pain other than in exceptional circumstances."
  - https://www.anzca.edu.au/getattachment/7d7d2619-6736-4d8e-876e-6f9b2b45c435/PS01(PM)-Statement-regarding-the-use-of-opioid-analgesics-in-patients-with-chronic-non-cancer

- The FPM interprets "exceptional circumstances" in this context to denote:
- • Severe pain,
- for which other treatment options have failed, are contraindicated, not tolerated or are otherwise inappropriate to provide sufficient management, *and*
- which has been shown to be opioid-responsive
- https://www.anzca.edu.au/getattachment/7d7d2619-6736-4d8e-876e-6f9b2b45c435/PS01(PM)-Statement-regarding-the-use-of-opioid-analgesics-in-patients-with-chronic-non-cancer

- The criteria for "opioid-responsiveness" may include but are not limited to:
  - increase in function, as determined by an agreed activity or set of activities, assisted by instruments such as BPI[8] or PEG[9]
  - absence of limiting side-effects, especially those that might interfere with sleep, learning and active self-management
  - reduction in pain, quantified by instruments such as BPI, PEG, VAS[10], NRS[11]
  - sustained response over time, not requiring dose escalation
  - https://www.anzca.edu.au/getattachment/7d7d2619-6736-4d8e-876e-6f9b2b45c435/PS01(PM)-Statement-regarding-the-use-of-opioid-analgesics-in-patients-with-chronic-non-cancer

- 2.1.6 If goals are met during a trial, then it is important to determine the lowest dose of opioid that is associated with sustained benefit. This dose may not be zero.
- 2.1.7 If the opioid trial goals are not met, then a process of weaning should be commenced. Specific weaning strategies in the context of transition to self-management include:
  - 2.1.7.1 In situations where opioid therapy has been maintained for a long time without meaningful improvement in function, the desired outcome is weaning to cessation if possible. One practical strategy is to reduce the daily opioid dose each month by 10-25%.
  - 2.1.7.2 If weaning is required after a shorter period of opioid therapy, such as after failure to achieve the goals of an opioid trial, or after a negotiated treatment phase for acute pain, then a faster rate of weaning is generally appropriate. One option is a step-wise reduction of the daily opioid dose each week by 10- 25%.
  - https://www.anzca.edu.au/getattachment/7d7d2619-6736-4d8e-876e-6f9b2b45c435/PS01(PM)-Statement-regarding-the-use-of-opioid-analgesics-in-patients-with-chronic-non-cancer

- 2.1.7.3 If weaning is required in response to significant adverse effects or opioid misuse, then daily step-wise reduction may be more appropriate. Alternatively, immediate opioid cessation and pharmacological treatment of withdrawal symptoms can be considered.
- 2.1.7.4 If an attempt at opioid weaning has proven unsuccessful, then the rate can be slowed. This can be achieved by reducing the size of the dose reduction and/or by increasing the time spent at each dose level (e.g. 2 or 3 months between reductions).
- 2.1.7.5 In cases where it becomes apparent during weaning that the primary problem is opioid dependence rather than pain, involvement of an Addiction Medicine service is recommended.

- 2.1.7.6 Use of complex pharmacological treatments to assist weaning should be undertaken only by practitioners accredited in such treatment modalities.

- https://www.anzca.edu.au/getattachment/7d7d2619-6736-4d8e-876e-6f9b2b45c435/PS01(PM)-Statement-regarding-the-use-of-opioid-analgesics-in-patients-with-chronic-non-cancer

MAINTENANCE VERSUS PAIN TREATMENT

- What to do if substance dependence, or addictive behavior, is seen to be active during opioid treatment of chronic pain.

- In this situation the question arises should opioid treatment be discontinued or modified.

IF PAIN RELIEF IS QUESTIONABLE

- The best course may be to persuade the patient to discontinue opioid pain treatment.
- This can be a useful approach when the addiction is relatively new.
- In most cases however an addiction relapse is indicative of a serious addiction problem.

- This serious addiction problem could be best treated with opioid maintenance at least in the case of prescription opioid or heroin dependence particularly in the case of injectors.

- Adequate pain relief could be maintained using maintenance opioids.

- The best choices for maintenance treatment of addiction are methadone or buprenorphine.
- These are both useful analgesics but for pain treatment they may be given more frequently.
- Buprenorphine has a ceiling effect but methadone does not

- Methadone lack of a ceiling dose therefore makes it more useful in severe pain.

- Case management is essential in opioid maintenance. Initially daily presentations to pharmacy are necessary.

IN CONCLUSION

- Opioid dependence complicates pain treatment in several ways, particularly when opioids are needed.
- In the case of acute pain and pain at the end of life, possible drug interactions, and opioid tolerance rather than addictive behaviors are the concerns.

FOR PATIENTS WITH CHRONIC PAIN

- Important considerations are the risk of addiction re immerging;
- The risk of new onset opioid addiction(iatrogenic addiction)

- And the risk of drug diversion(Methadone and Morphine sell for $1 a milligram.)

THE OPIOID REPLACEMENT PROGRAMME

Methadone for opioid replacement was first used in Australia in 1969

Methadone was the first Opioid used in Australia for opioid maintenance.

It has more than a twenty four hour half life.
Patients supervise dose daily.
A typical imitation dose for an opioid dependant person is between 20 and 30mg.

A Typical maintenance dose is between 60mg and 100mg

The 50% lethal dose for an opioid naïve person is 70mg.

SUBUTEX

- Buprenorphine is a partial mu agonist.
- It does not activate opioid receptors to the same extent as other opioids and hence causes less respiratory depression.
- It has a higher affinity for opioid receptors than other opioids and will displace them from receptors.
- It may thus cause a precipitate withdrawal if given to an opioid dependant person who has their receptors saturated with another opioid

SUBOXONE

- Is the most commonly prescribed form of buprenorphine.
- It has naloxone added which is only active if it is injected not if the film is absorbed sublingually.
- The naloxone component is not absorbed sublingually but is swallowed and broken down in first pass metabolism by the liver.

- Both buprenorphine mono and buprenorphine/naloxone cause an identical withdrawal syndrome if given to opioid dependant people who have another opioid saturating their receptors.

- Methadone, buprenorphine mono and buprenorphine/naloxone are section 100 drugs and can only be prescribed by authorised doctors/nurse practitioners.

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- Gourlay D, Heit H & Almarhezi a(2005) Universal precautions in Pain Medicine: A rational approach to the management of chronic pain. Pain Medicine, 6(2), 107-112

- Webster LR. Predicting aberrant behaviours in opioid-treated patients: Preliminary validation of the opioid risk tool.
- *Pain Medicine.* 2005;6(6):432-442.

- The Oxford pain management Library : Jansen -Cilag

MS X

- 42 year old female married 3 teenage children. On 24mg of buprenorphine/naloxone and is admitted to a surgical hospital for abdominal pain. On day three she undergoes an operation for a bowel obstruction. On the opioid replacement program for iatrogenic oxycodone dependence forchronic back pain. Remote IV methamphetamine use in her early twenties.
- No other medications,. No Allergies and No other
- Diagnosis of personality vulnerabilities: How will we treat?

- Mr Y 52, diagnosed with throat cancer (treatable) and due to start radiation therapy for same. He is on MMT 80mg and has a past history of IV heroin use. It is anticipated that his cycles of radiation therapy will continue on and off for four months.

- Mr Z, 32 has been diagnosed with metastatic melanoma 3 weeks ago which is inoperable and he has become a palliative patient. He has been on the opioid treatment program for five years and is on MMT 130mg. He uses LSD a couple of days a month and currently is bed ridden and cannot walk. He is complaining of increasing pain in his lower back.

- What pain relief will we give him?

MR A

- Is 56 years old and has been on the programme for 18 years. He is on MMT 60mg and was on the program for heroin use. He has not used heroin for many years, complains of general osteo-arthritic aches and pains and wishes to transfer from methadone liquid to methadone tablets?
- How should we proceed?


GOODBYE,
OLD FRIEND

Shared Care for Opioid Treatment - SCOT

Peter Cochrane

Assistant Nursing Director, State-wide Opioid Dependence Treatment (ODT) Project

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M| 0418 199 411

Metro North Health | Queensland Government

Shared Care

A model of opioid dependence treatment where:

- patients stable in treatment are managed in general practice with ongoing ADS support.

- complex patients are managed by specialised alcohol and drugs services (ADS).

Shared Care Essentials

Patient stays registered with Alcohol and Drug Service

Patient retains Case Manager

Approved prescribers monitor & provide ongoing QOTP prescriptions

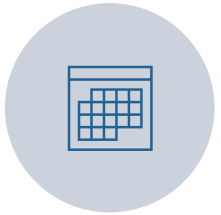
Fully supported by Alcohol and Drug Service

Role of the Approved Prescriber

Provide ongoing QOTP prescriptions to the patient's nominated pharmacy

Monitor and review patient in line with Guidelines

Consult with ADS for dose changes



Manage take away dose (TAD) arrangements

Provide relevant pathology and review notes to the ADS as necessary

Brisbane North PHN Health Pathway

Clinical Nurse Consultant

Shared Care for Opioid Treatment

Metro North Mental Health – Alcohol and Drug Service

(07) 3837 5654

(scott.dempster@health.qld.gov.au)

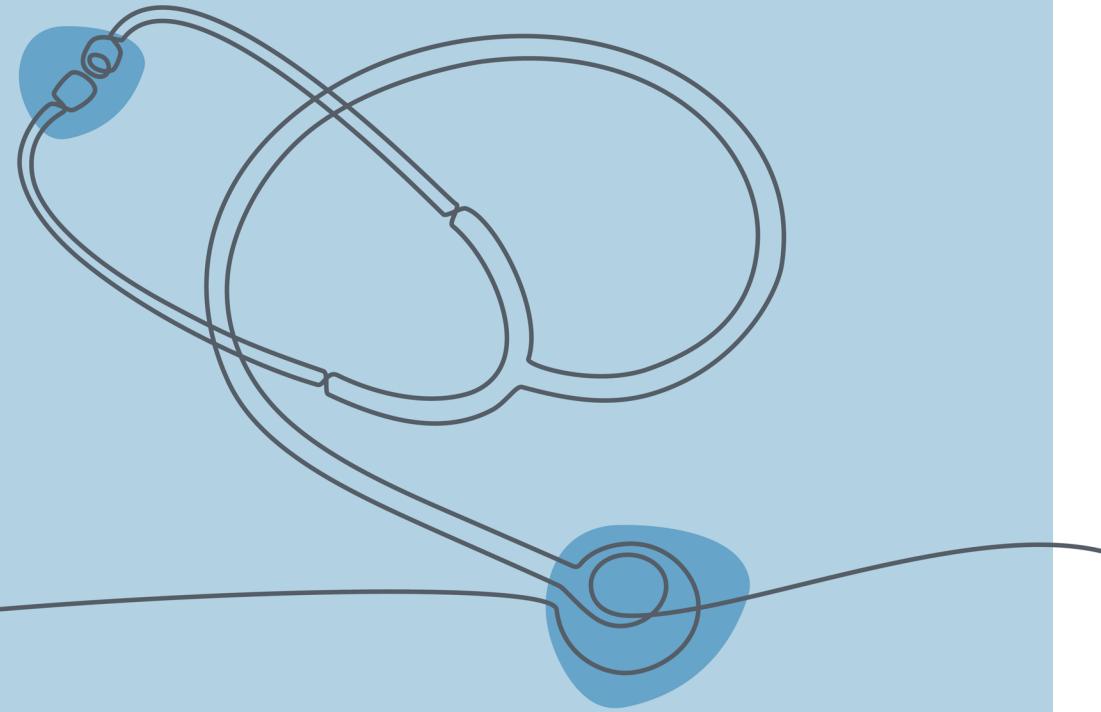
‘Biala’ City Community Health Centre

270 Roma Street, Brisbane QLD 4000

General Practice Liaison Officer Program presents

Championing Generalism Workshop

A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care



Head injuries, concussion & post concussion symptoms

Professor Michael O'Sullivan | Staff Specialist, Neurology, RBWH

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Concussion

Professor Michael O'Sullivan

Dept of Neurology

Royal Brisbane and Women's Hospital

What is concussion?

- *Commotio cerebri* – Ambrose Pare 16th century

- *"A series of events resulting from a blow to the head severe enough to cause disruption of intracranial equilibrium"* – Strauss and Savitsky, 1934

HEAD INJURIES : A NEW TREATMENT FOR THE POST-CONCUSSIVE SYNDROME.

By HELEN S. E. MURRAY, M.D.,
Psychiatric Specialist, E.M.S.,
AND
H. HALSTEAD, M.A.,
Psychologist to Sutton Emergency Hospital.

[Received 15 January, 1947.]

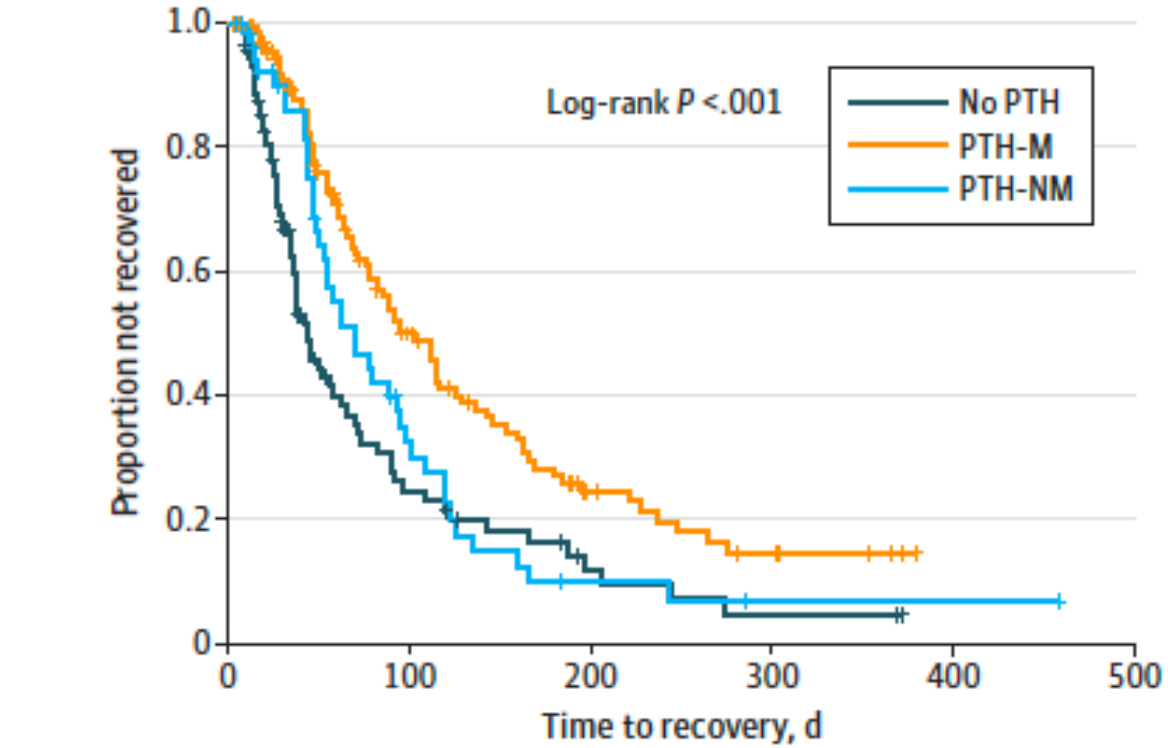
REVIEW

OPEN ACCESS

Concussion is confusing us all

David J Sharp, Peter O Jenkins

Concussion: The Recovery Curve



No. at risk						
No PTH	96	16	5	2	0	
PTH-M	133	47	16	8	0	
PTH-NM	57	13	3	1	1	0

Kamins et al. JAMA Network Open 2021

Headache History 1

- 35yr old man. Driver of a scooter in collision with a pedestrian. Wearing a helmet. Taken to ED, CT scan normal.
- Woke following day with severe left-sided headache. Throbbing. Nausea. Vomited.
- Whiplash symptoms and neck pain
- Headache has persisted for 5 days, worse if anything
- No previous history of migraine

Headache History 2

- 38-year old man. Former high level AFL player
- Multiple previous concussions. Stopped playing last year.
- Persistent unilateral headache: present most days but sometimes can be much worse.
- Sharp pain with brief exacerbations “like a knife going through my head”
- No history of migraine
- Little relief from propranolol or amitriptyline

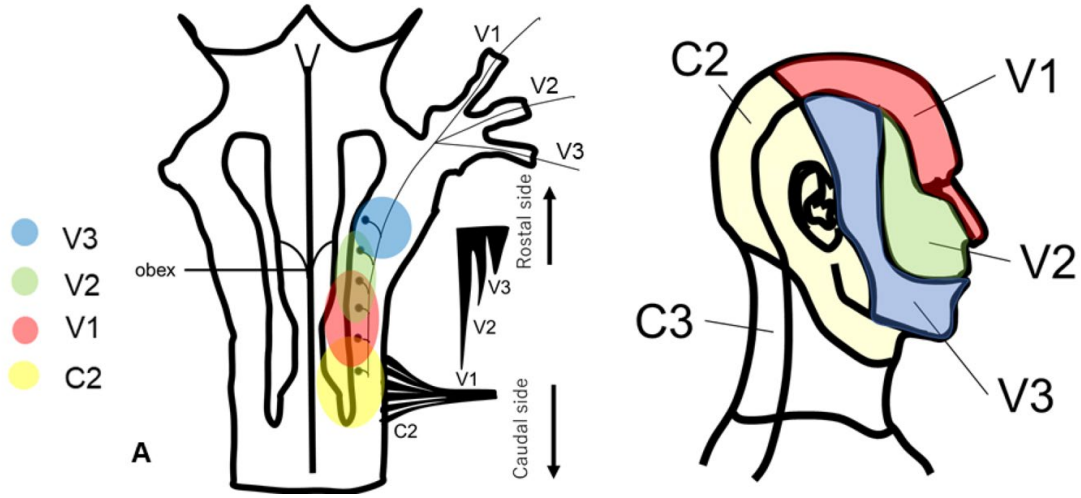
Headache History 3

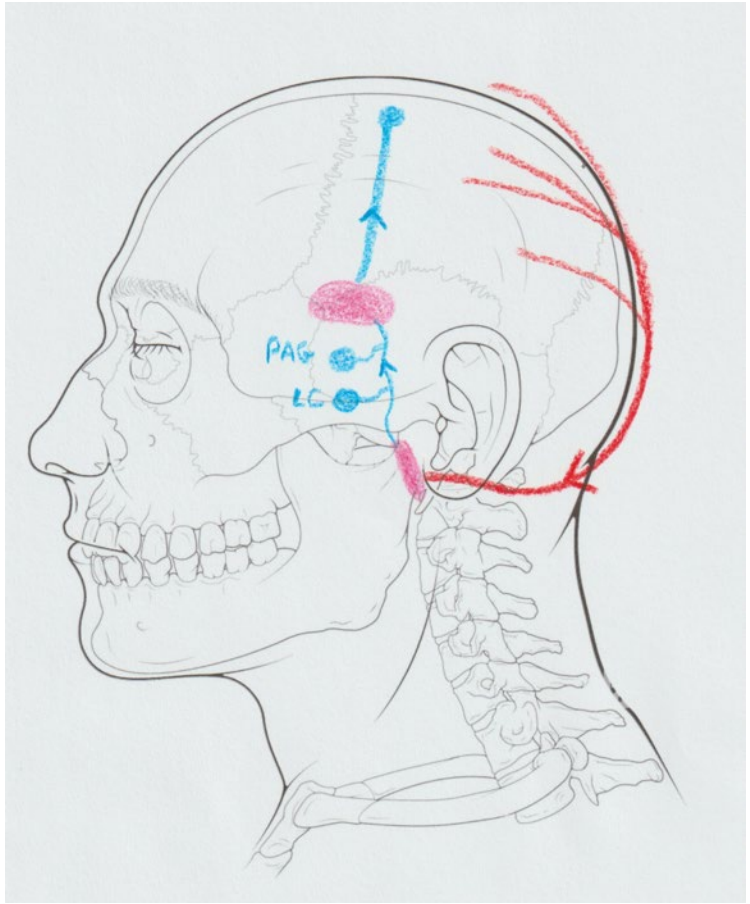
- 55-year old woman
- Hit head on cupboard at work.
- Headache the following day, took Panadol and ibuprofen which helped, off work for 5 days.
- Poor sleep in first week after injury
- Headache no better after a week, worse if anything, went to ED, given Endone
- Now 4 weeks after injury: headache is persistent – whole head, constant, worse if active or concentrating, no relief from Panadol or small doses of Endone

Headache History 4

- 33 year old woman. MVA with whiplash
- Recurrent headache in first 2 weeks – throbbing pain associated with nausea, photophobia
- Poor sleep since injury.
- Unable to work, headache is better if sleeps
- Usually only gets headache around menses or with a “hangover”
- Panadol: no longer helping so has stopped
- Sleep better but headaches recurring every week, now 12 weeks, ”brain fog” after headaches. GP diagnosed “post concussion syndrome”!

Clinical overlaps: cervical spine and pain





Case 1

- Professional jockey in early 20s
- Fall 2 months ago
- Poor memory for the week after the fall
- Admitted to hospital – was more prone to angry outbursts during admission
- No headache

- No symptoms now
- Wants to return to work (as jockey)

- “Large” concussion in 2020. Significant fall with fractures. 8 months off sport
- 1 other diagnosed concussion

- Next steps?

Case 1

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- Fall 2 months ago
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- No headache

- No symptoms now
- Wants to return to work (as jockey)

- “Large” concussion in 2020. Significant fall with fractures. 8 months off sport
- 1 other diagnosed concussion

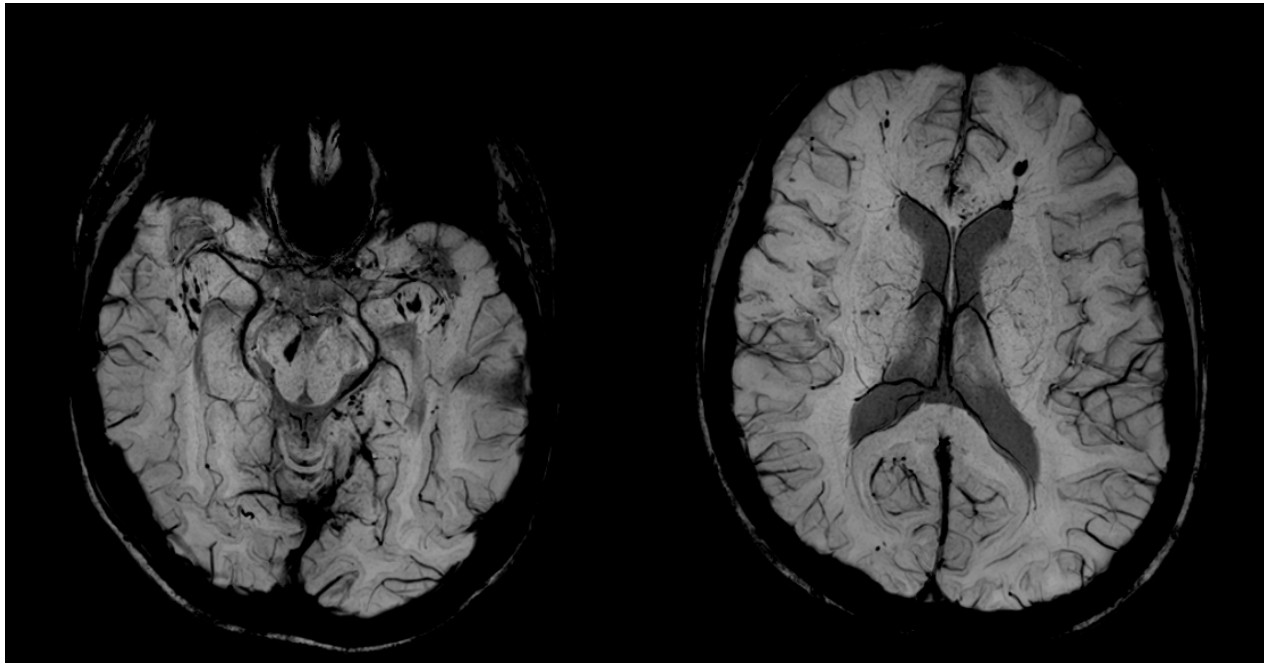
- Next steps?

MRI:

Multiple punctate foci of signal void through the subcortical and deep white matter of both cerebral hemispheres with minor brain stem involvement.

- Next steps?

Case 1: MRI Scan



Key Points

- Diffuse vascular injury
- Detection depends on doing appropriate MRI sequences
- “Hidden injury” from previous fall (not shown by CT)
- Consider referral if history – recent or past – of hospitalization or significant traumatic injury

Case 2

- 22 year old male student
- Fall from vehicle 3 months ago
- CT performed – normal – not admitted to hospital
- Headache for 1 week
- Returned to studies in February

- Now has persistent “brain fog”, behind with studies

- Attended ED, not admitted, diagnosis “post concussion syndrome”

PMH

ADHD diagnosed late 2023

Next steps?

Case 2

Review of ED notes

- Presented with headache and worry that ”something is wrong with my brain”
- Anxious, sweaty
- Chest pain, SOB
- ECG – sinus tachycardia
- Requested diazepam repeatedly

- Diagnosis: “post concussion syndrome with neuropsychiatric features”

Thoughts?

Case 2

Review of ED notes

- Presented with headache and worry that ”something is wrong with my brain”
- Anxious, sweaty
- Chest pain, SOB
- ECG – sinus tachycardia
- Requested diazepam repeatedly

- Diagnosis: “post concussion syndrome with neuropsychiatric features”

Thoughts?

MRI:

Susceptibility weighted images show a 3mm signal void in the right thalamus. This is likely to reflect a cavernoma but a neurology opinion is advised.

Case 2: Assessment in mTBI MDT Clinic

Neurology

- Symptoms of first head injury improved after 1 week
- ADHD was diagnosed by private psychiatrist consulted by Zoom
- Ritalin improved mental sharpness but made him anxious
- Day before ED attendance – binge alcohol consumption. Day of attendance – Vyvanse, caffeine ++, sports drinks

Neuropsychology

- History of anxiety symptoms in childhood
- Significant anxiety about studies and upcoming exams
- Normal cognitive performance on tests
- Poor literacy around ADHD and no psychology input

Case 2

Key Points

- Remember the “recovery curve” – symptom persistence is common but delayed emergence is rare
- Mental health co-morbidities are common in persistence or recurrence

Key Points

- Assess comorbidity carefully
- Good (neuro)psychological input is invaluable
- Avoid diagnostic cul-de-sacs – get expert input about unexpected findings

Summary

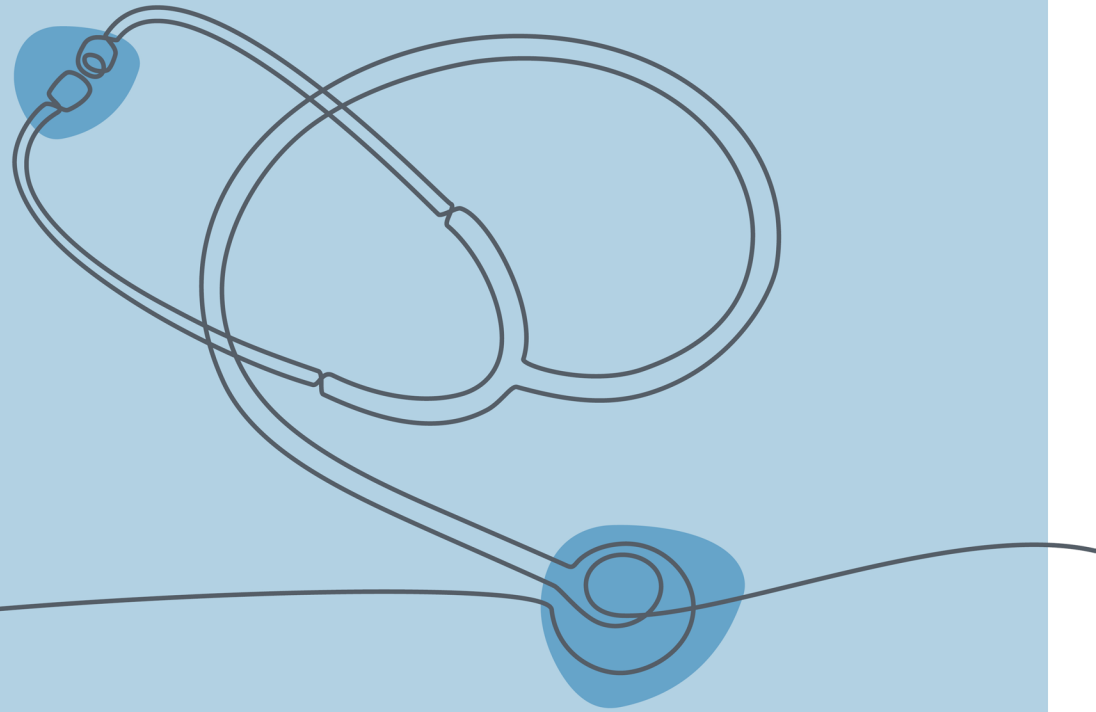
- **Post-traumatic headache**
  - Headache phenotypes – association with migraine – risk of analgesic overuse – “red flag” headaches
- **Concussion Clinic Case 1:** Scans after head injury
  - poor pickup rate from CT – interpretation of reports – collateral injuries
- **Concussion Clinic Case 2:** Co-morbidity
  - Pre-morbid psychiatric traits - “post concussion syndrome” – specialist assessment – neuropsychology

Referral Criteria

Lunch

General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

CASE STUDIES

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Championing Generalism Workshop

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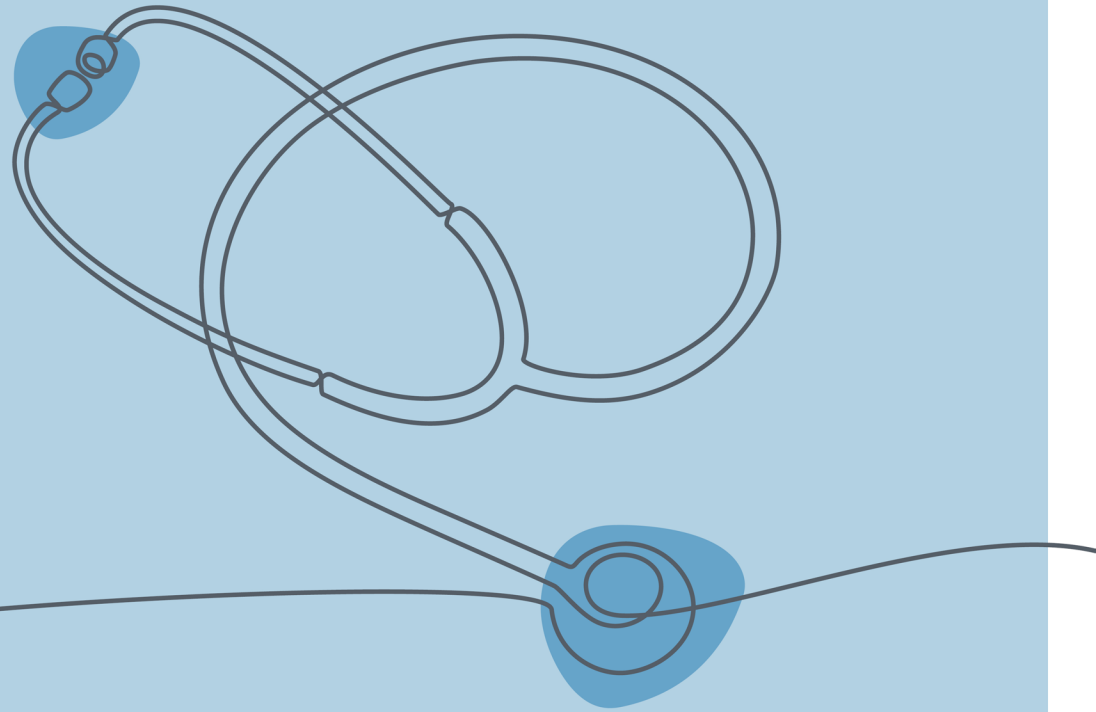


Managing hypertension in CKD

Dr Dharmenaan Palamuthusingam | Staff Specialist, Nephrology, RBWH
Dr Emma Scott | GPwSI, Kidney Health Services, MNHHS

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Treatment of Hypertension in Chronic Kidney Disease

Primary Care Education Workshop

This module was conceived and developed by PEAK*

Presented by:

Dr Emma Scott, GPwSI CKD Metro North

Dr Dharmenaan Palamuthusingam,

Consultant Nephrologist RBWH

Kidney Health® Australia

Recognition

Thanks to the ‘Primary Care Education Advisory Committee for Kidney Health Australia’ (PEAK) who has developed and reviewed this education.

Thank you to Dr Dharmenaan Palamuthusingham for contributing to the presentation and to

the Renal Department At RBWH for supporting the GPwSI Programme.

Thanks to the organisers of today’s event.

Learning aim

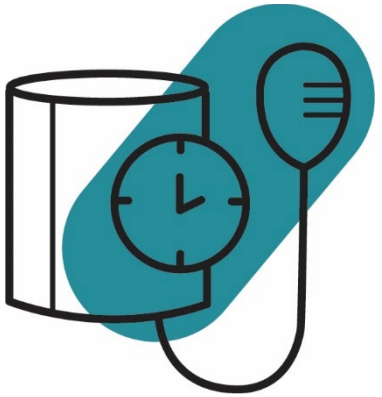
Provide the tools to drive the early detection and management of hypertension and chronic kidney disease (CKD) in primary care.

Learning outcomes

At the end of this activity participants will be able to:

- Explain the difference between resistant and refractory hypertension and the relationship with CKD
- Use an Ambulatory Blood Pressure Monitor to guide antihypertensive management
- Implement best practice for the treatment of resistant hypertension for people living with chronic kidney disease

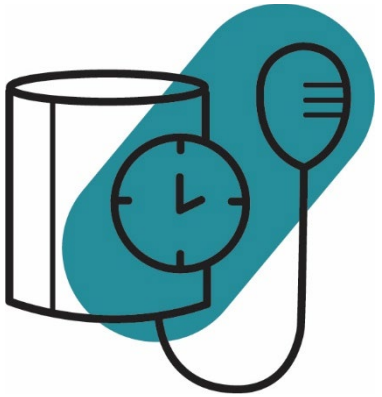
Of the 34% of Australian adults 18 and over with hypertension, what % have uncontrolled hypertension (≥ 140/90 mmHg)?



a) 3%
b) 13%
c) 23%
d) 33%

Question

Of the 34% of Australian adults 18 and over, with hypertension what % have uncontrolled hypertension (≥ 140/90 mmHg)?



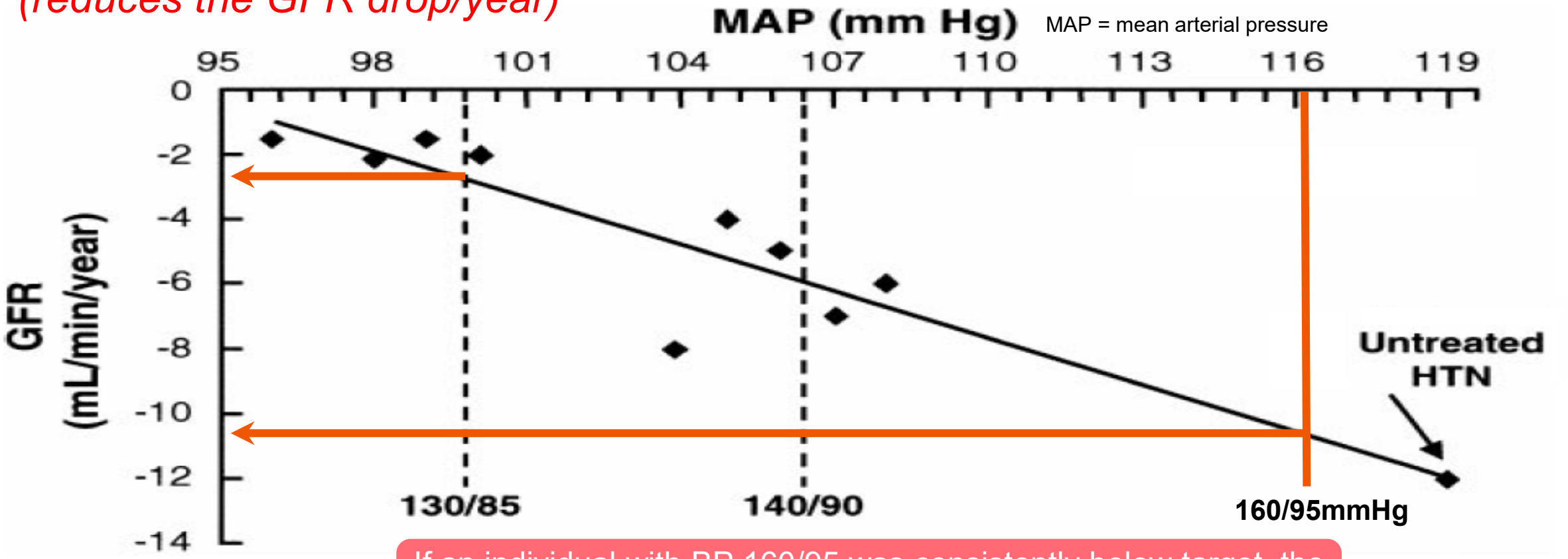
a) 3%
b) 13%
c) 23%
d) 33%

Answer

Australian Institute of Health and Welfare. High blood pressure. Jul 2019. AIHW. Canberra

Why do we care about BP and kidneys?

Adequate BP management delays the progression of CKD (reduces the GFR drop/year)



If an individual with BP 160/95 was consistently below target, the GFR loss per year would be reduced by 80%

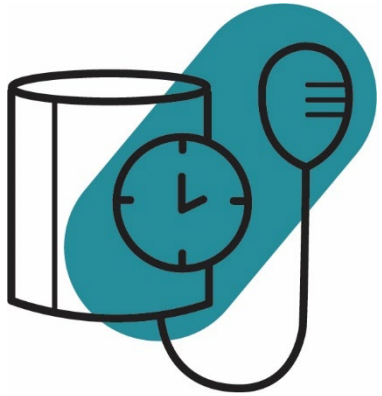
Bakris et al., Am J Kid Disease, 2000

Resistant hypertension

Defined as:

BP above goal despite treatment with combination of ≥ 3 anti-hypertensive agents (ie. RAAS blocker, long-acting CCB & diuretic) at maximal tolerated doses with exclusion of pseudo-resistance.

- Resistant hypertension present in ~5% of hypertensive people in primary care
- Higher numbers in referred or trial cohorts 21-74%



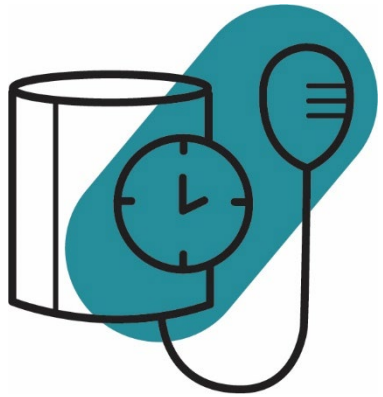
Acelajado MC et al. Treatment of resistant and refractory hypertension. *Circulation Research*. 2019;124(7):1061-1070.

Pseudo-resistant hypertension

Defined as:

Factors that can cause a falsely elevated BP in a patient on ≥ 3 anti-hypertensives such as:

- Incorrect BP measuring technique
- Poor medication adherence
- Wrong medication or dose
- Conflicting medications
- White coat effect

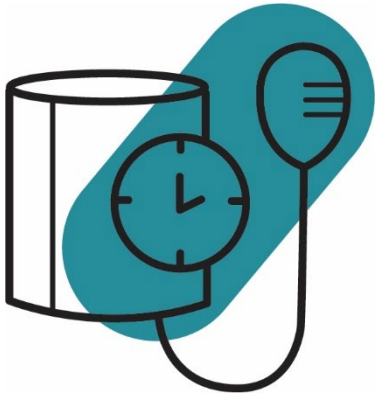


Acelajado MC et al. Treatment of resistant and refractory hypertension. *Circulation Research*. 2019;124(7):1061-1070.

Refractory hypertension

Refractory hypertension defined as:

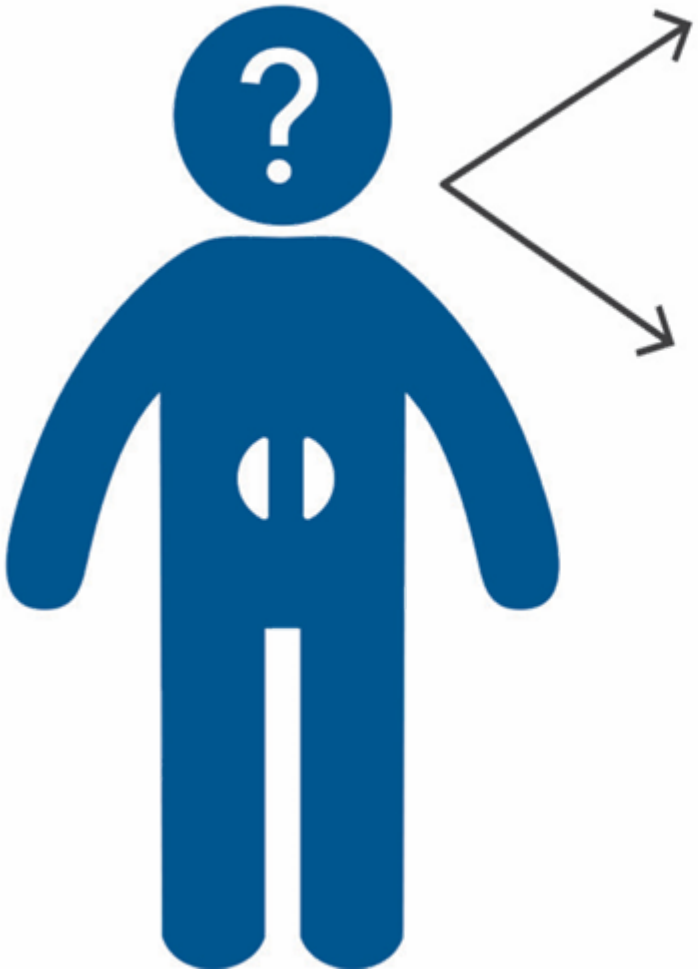
BP that remains uncontrolled on maximal or near maximal therapy, which is the use of ≥ 5 anti-hypertensives of different classes, including a long-acting thiazide-like diuretic (such as chlorthalidone) spironolactone.



Acelajado MC et al. Treatment of resistant and refractory hypertension. *Circulation Research*. 2019;124(7):1061-1070.

What is CKD?

CKD is defined as…



An estimated or measured glomerular filtration rate (GFR) <60 mL/min/1.73m² that is present for ≥3 months with or without evidence of kidney damage.

Or

Evidence of kidney damage with or without decreased GFR that is present for ≥3 months as evidenced by the following, irrespective of the underlying cause:

- Albuminuria
- Haematuria after exclusion of urological causes
- Structural abnormalities (e.g. on kidney imaging tests)
- Pathological abnormalities (e.g. renal biopsy)

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

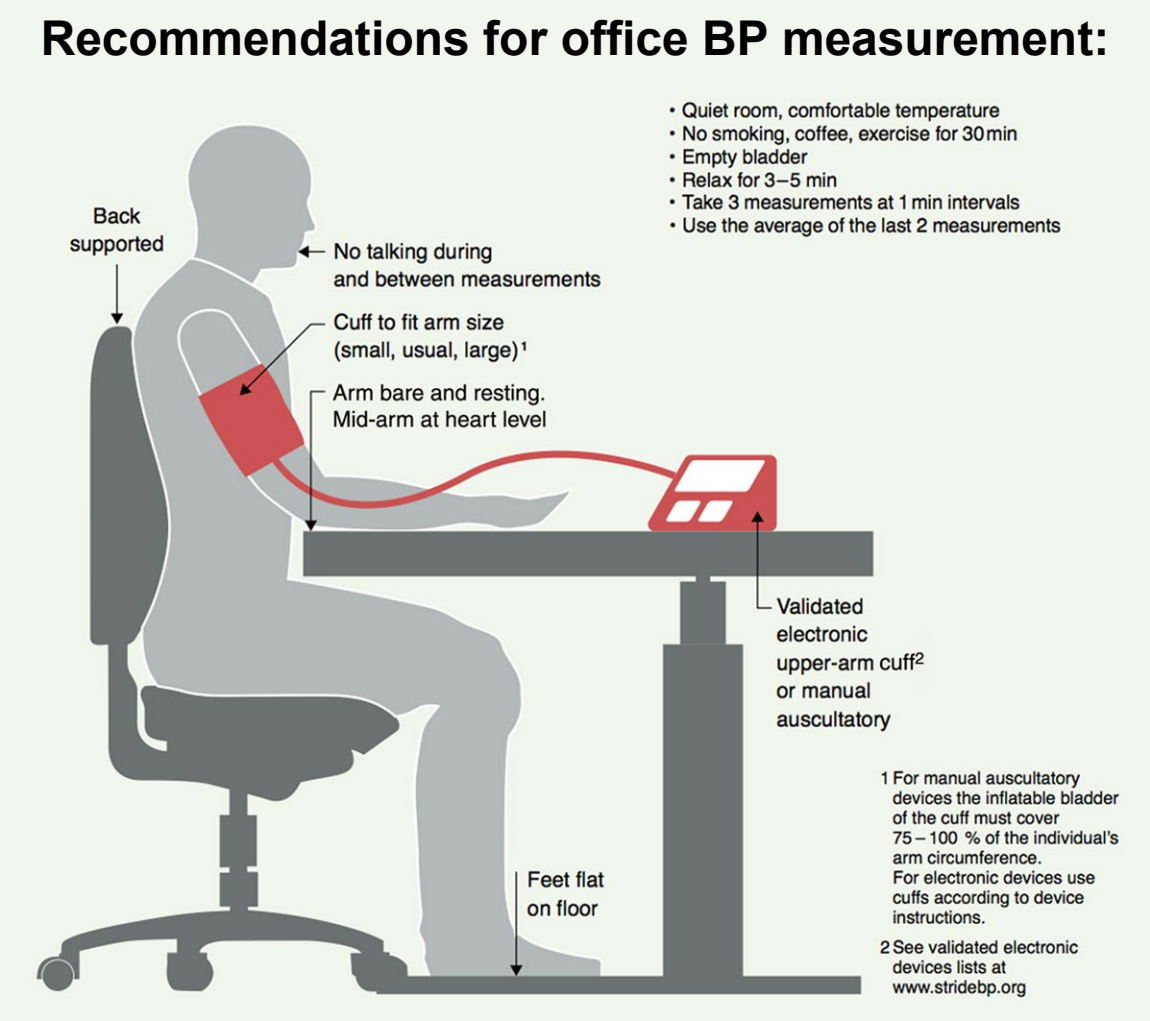
Hypertension targets

For all people with CKD…
maintain BP below
130/80 mmHg

- Treatment should always be individualised and in some patients, it may be appropriate to aim for a lower BP target
- Treatment targets should take into account the risk / benefit scenario along with clinical practicalities

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

How to evaluate blood pressure effectively



Diagnosis: 2-3 office visits at 1-4 week intervals. If possible and available the diagnosis of hypertension should be confirmed by out-of-office BP measurement.

Initial evaluation: measure BP in both arms. Use the arm with the higher BP. Standing BP: measure at 1 minute and again after 3 minutes when there are symptoms of postural hypotension.

Out-of-office BP measurements are more reproducible than office measurements, more closely associated with hypertension-induced end organ damage and risk of CV events and identify the white coat and masked hypertension phenomena.

Unger T et al. 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension*. 2020; 75(6): 1334-1357

A specific cause can be identified in 5-10% of adult patients with hypertension

Consider screening for secondary hypertension:

- Early onset hypertension (< 30 yo in absence of hypertension risk factors i.e. obesity, metabolic syndrome, family history).
- Those with RHTN. Affects ~10%; increases risk of coronary artery disease, heart failure, stroke, kidney failure, all-cause mortality.
- Individuals with sudden deterioration in BP control.
- Hypertension emergency
- Presenting with strong clinical cues.

Lifestyle factors

- Obesity
- Alcohol
- Dietary sodium
- Cocaine/amphetamine

Drug related

- NSAIDS
- OCP
- Adrenal steroid agents
- Sympathomimetic agents
- EPO, Taxotere Adriamycin Cyclophosphamide, CyA
- Liquorice
- Herbal supplements

Volume overload

- Progressive kidney dysfunction
- High salt intake
- Inadequate diuretic therapy

Unger T et al. 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension*. 2020; 75(6): 1334-1357

Causes of secondary hypertension

Cause	Prevalence	Screening test	Confirmatory test
Renal parenchymal disease	1-2%	Proteinuria, haematuria, eGFR, U/S	
Renovascular disease	5-34%	Doppler U/S; MRA	DSA/CT angiogram
Primary hyper-aldosteronism	8-20%[1] (5-10% hypertensive patients in primary care)[2]	ARR (standardised conditions)	Saline suppression test; imaging; adrenal v sampling
Obstructive sleep apnoea	25-50%	Sleepiness scale	Sleep study
Drug/alcohol induced	2-4%	Urinary drug screen	Response to withdrawal

1. Unger T et al. 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension*. 2020; 75(6): 1334-1357
2. Gurgenci T et al. Screening for primary aldosteronism. *AJGP*, 2020; 49(3): 127-131

Case study - Pam

Background

- 56 years old
- Warehouse Logistics Manager
- 2 children (age 24 & 22 years) – toxaemia (pre-eclampsia) in 1st pregnancy, mild hypertension in 2nd that settled post partum

Today

Pam comes to you with concerns about her blood pressure which has been high for a while.

Case study - Pam

History

Hypertension first treated at age 44 years (12 years ago)

BP easy to control with one drug until 3 years ago

Hypertension not investigated to date

Current treatment

- Perindopril + indapamide 5mg/1.25mg tablet daily (am)
- Felodipine 10 mg tablet daily AM (max dose)

Confirms adherence to medications

Recent office blood pressure (OBP) readings average 165/90 mmHg

Case study - Pam

Further history

- Mother had difficult BP and died age 58 of stroke
- Gets hot flushes periodically and thinks BP is high at those times
- Menopause age 51; not on HRT, no NSAIDs
- Keeps fit with brisk walking 30 min daily
- Drinks two glasses of wine every night (14 glasses per week)
- No history of smoking or vaping
- Eats out regularly and seldom cooks for self

On examination	
BMI	26 kg/m^2
Waist circumference	81 cm
Blood pressure	165/95 mmHg after 2 mins sitting (both arms)

Does Pam have uncontrolled resistant hypertension?

a) Yes
b) No
c) Unsure

Question

Does Pam have uncontrolled resistant hypertension?

a) Yes

b) No

c) Unsure

- To exclude pseudo-resistant hypertension, you order 24-hour ambulatory BP monitoring (ABPM) as well as …

You could choose home BP monitoring instead.

Answer

What investigations would you order to determine the underlying cause of Pam's RHTN?
(select multiple options)

a) Additional blood tests

b) Urine screen for blood / protein

c) Renal imaging

d) Kidney biopsy

e) Cardiovascular assessment

f) Referral to an optometrist

g) Screen for primary hyper-aldosteronism

Question

What investigations would you order to determine the underlying cause of Pam's RHTN?

a) Additional blood tests

b) Urine screen for blood / protein

c) Renal imaging

d) Kidney biopsy

e) Cardiovascular assessment

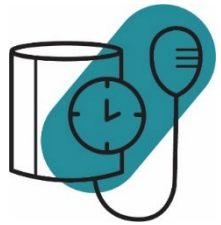
f) Referral to an optometrist

g) Screen for primary hyper-aldosteronism

Answer

Investigations to order: causes and complications

- Bloods
  - FBC, electrolytes, urea, creatinine and eGFR,
- Urine
  - Microscopy
  - Albumin/Creatinine Ratio (uACR)
- Imaging
  - Ultrasound renal tract +/- renal artery dopplers
- ECG – LVH? +/- Echocardiograph
- Referral to an optometrist for signs of hypertensive retinopathy
- Screen for primary aldosteronism: aldosterone to renin ratio (ARR)



Screening for primary hyper-aldosteronism

Gold standard is to stop all anti-hypertensives before screening but rarely practical
Prioritise medication changes before screening, as follows:

Group	Medications
Group 1: Must be replaced for accurate screening	All loop diuretics (eg frusemide, bumetadine) All thiazide diuretics (eg hydrochlorothiazide, indapamide, chlortalidone) All mineralocorticoid receptor antagonists (eg spironolactone, eplerenone)
Group 2: Replace wherever possible	All angiotensin-converting enzyme inhibitors (eg perindopril) All angiotensin receptor blockers (eg olmesartan) All dihydropyridine calcium channel blockers (eg amlodipine)
Group 3: Replace only after addressing medications in Groups 1 and 2	Selective and non-selective beta blockers (eg atenolol)

ARR ≥70 should be repeated
If second result positive investigate further for primary aldosteronism

Gurgenci T. Screening for primary aldosteronism. *AJGP*. 49(3); 2020: 127-131

What changes would you make to her management at 1st visit?

a) Change perindopril + indapamide combination to an alternative
b) Increase perindopril + indapamide from 5mg/1.25mg daily to 10mg daily
c) Switch felodipine 10mg daily to amlodipine 10mg daily (max dose)
d) Advise lose weight and exercise more
e) No change to treatment pending test results and repeat BP measurement at 2nd visit in one week's time?

Question

What changes would you make to her management at 1st visit?

a) Change perindopril + indapamide combination to an alternative
b) Increase perindopril + indapamide from 5mg/1.25mg daily to 10mg daily
c) Switch felodipine 10mg daily to amlodipine 10mg daily (max dose)
d) Advise lose weight and exercise more
e) No change to treatment pending test results and repeat BP measurement at 2nd visit in one week's time?

Answer

Case study - Pam

2nd visit one week later

Test	Results – 3 months ago	Results – 2nd visit (today)	Target range
Serum creatinine µmol/L	125	130	< 115
eGFR mL/min/1.73m^2	41	39	≥ 90
Serum potassium mmol/L	4.6 *	4.6 *	3.6-5.4
uACR mg/mmol 1st void specimen	25	45	< 3.0
U/S	-	Two kidneys (no scars or obstruction) L= 9.8cm; R=9.3cm	-
ECG by voltage criteria	-	Left ventricular hypertrophy (LVH)	-
Blood pressure	165/95 mmHg OBP	159/93 mmHg ABPM	130/80 mmHg
microscopy		No evidence of haematuria or infection	

* initial ACEi or ARB treatment can ↓ eGFR and ↑ potassium level ~0.5mmol/L

Echocardiogram findings:

- Diastolic dysfunction
  - First manifestation in early HTN. E.g. Grade 1 diastolic impairment or impaired relaxation
- LV hypertrophy (concentric); uniformly increased LV wall thickness
  - DDx if asymmetric: valvular disease, infiltrative disorders (amyloid, fabrys), HOCM
- LV mass index (LVMI) corrected for Body Surface Area (BSA): g/m^2
  - Men: $<134 g/m^2$
  - Women: $<110 g/m^2$

Marwick TH, Gillebert TC, Aurigemma G, Chirinos J, Derumeaux G, Galderisi M, Gottdiener J, Haluska B, Ofili E, Segers P *et al*: **Recommendations on the Use of Echocardiography in Adult Hypertension: A Report from the European Association of Cardiovascular Imaging (EACVI) and the American Society of Echocardiography (ASE)†**. *Journal of the American Society of Echocardiography* 2015, **28**(7):727-754.

Case study - Pam

Diagnosis

Given the lowered eGFR and raised albuminuria results are consistent over 3 months…

Pam has resistant hypertension associated with CKD

Establish stage of CKD – need both eGFR and albuminuria status

Hypertension and kidney function

A bidirectional relationship

High blood pressure can damage the small blood vessels in the kidneys. The damaged vessels cannot filter waste products from the blood the way they should.

Or……damaged kidneys cause high blood pressure and high blood pressure damages kidneys

Yu Z, Coresh J, Qi G, Grams M, Boerwinkle E, Snieder H, Teumer A, Pattaro C, Köttgen A, Chatterjee N, Tin A. A bidirectional Mendelian randomization study supports causal effects of kidney function on blood pressure. *Kidney Int.* 2020 Sep;98(3):708-716.

Diagnosing CKD

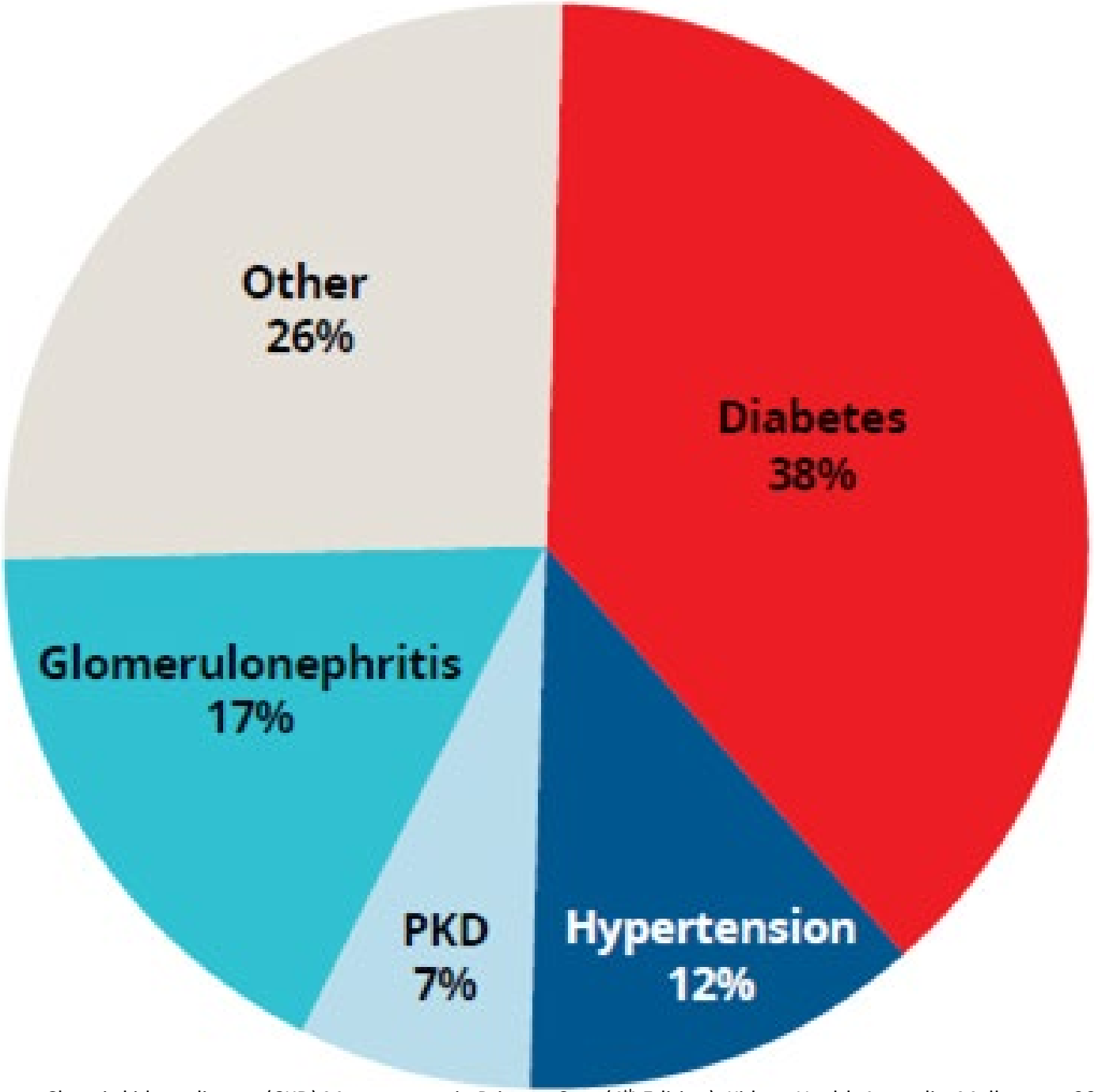
There are three components to a diagnosis of CKD

- eGFR gives the CKD stage. Consistent over 3 months
- Albuminuria is present if 2/3 tests over 3 months are positive
- Underlying pathology determines the cause of CKD

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

Causes of CKD in Australia

- Most common causes are
  - Diabetes mellitus
  - GN
  - HTN
  - Polycystic kidney disease



Chronic kidney disease (CKD) Management in Primary Care (4th Edition), Kidney Health Australia, Melbourne, 2020.

Staging CKD

eGFR stage + albuminuria stage + underlying diagnosis (CKD stage 3b + microalbuminuria). Review & implement the orange colour-coded Clinical Action Plan in the CKD Management in Primary Care handbook. You ensure CKD stage 3b is a diagnosis in Pam's medical record for follow up/recall.

		Albuminuria Stage		
Kidney Function Stage	**GFR (mL/min/1.73m²)**	**Normal (A1) uACR <3.0 mg/mmol**	**Microalbuminuria (A2) uACR 3.0-30 mg/mmol**	**Macroalbuminuria (A3) uACR >30 mg/mmol**
1	≥90	Not CKD unless haematuria, structural or pathological abnormalities present		
2	60-89			
3a	45-59			
3b	30-44		Stage 3b	
4	15-29			
5	<15 or on dialysis			

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

Colour-coded action plans

Use the orange clinical action plan for Pam's stage 3b CKD

Refer to action plan on page 27 of the handbook

Orange clinical action plan

eGFR 30-59mL/min/1.73m² with microalbuminuria (A2) or
eGFR 30-44 mL/min/1.73m² with normoalbuminuria (A1)

Management goals

- Slow progression of CKD.
  - Slow decline in eGFR.
  - Reduce albuminuria by at least 30%.
- Assess and lower cardiovascular risk.
- Avoid nephrotoxic medications or volume depletion.
- Encourage positive lifestyle changes and self-management practices.

+

- Early detection and management of complications.
- Adjust medication doses to levels appropriate for kidney function.
- Appropriate referral to a nephrologist when indicated.

+

Management strategies

Frequency of review
- Every 3-6 months

Clinical assessment
- Blood pressure
- Weight and waist circumference
- Smoking/vaping history

Laboratory assessment

Recommended:
- uACR
- eGFR
- Urea, creatinine, and electrolytes
- Full blood count

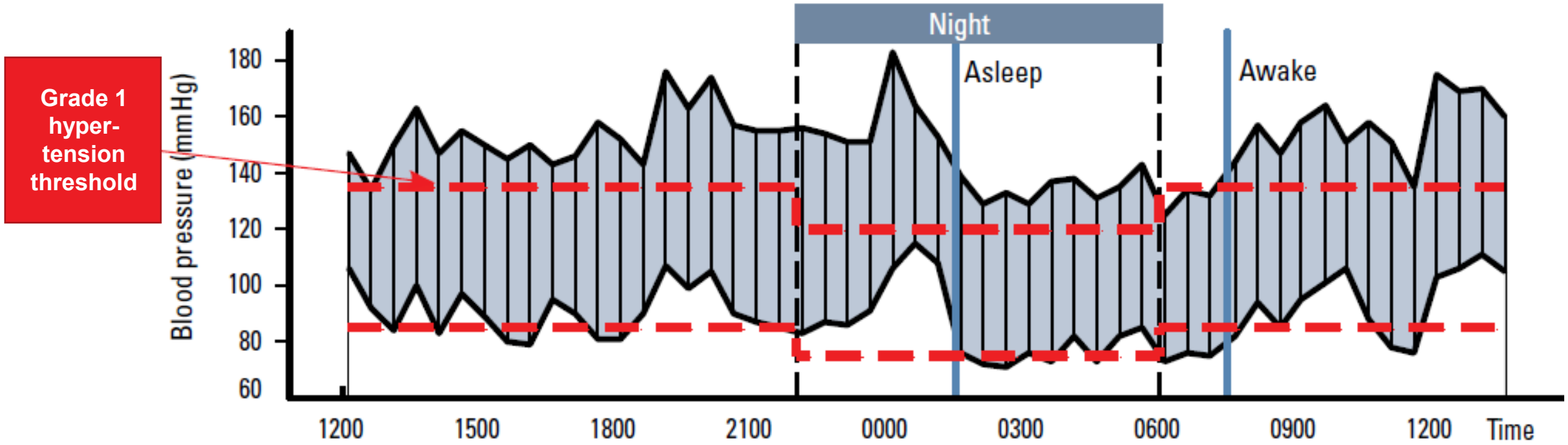
Also consider:
- Screening for diabetes (fasting blood glucose or HbA1c)
- HbA1c (for people with diabetes)
- Dipstick urinalysis for haematuria detection
- Lipid studies (Trig, Chol, HDLC, LDLC)
- Iron studies
- Calcium and phosphate
- Parathyroid hormone (6-12 monthly if eGFR <45mL/min/1.73m²)

Treatment checklist
- Complete investigations to determine underlying cause of CKD.
- Provide advice on positive lifestyle changes (addressing smoking/vaping, nutrition, alcohol use, physical activity, sleep, stress).
- Maintain blood pressure consistently below target.
- Complete cardiovascular risk assessment.
- Prescribe medications to slow CKD progression, e.g., ACE inhibitor or ARB, SGLT2 inhibitor, non-steroidal MRA.
- Consider lipid lowering treatment where appropriate.
- Optimise glycaemic control.
- Avoid nephrotoxic medication or volume depletion and adjust doses to levels appropriate for kidney function.
- Assess for common issues presenting in CKD.
- Appropriate referral to nephrologist when indicated.
- Discuss contraception with individuals of child-bearing age.
- Recommend vaccinations.

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

Ambulatory BP report

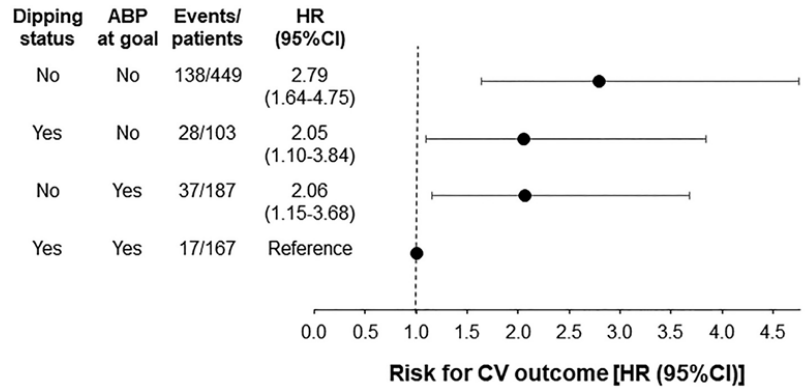
Patient name:	Pam	ID:	007
Scan start date	1/5/23	Clinic SBP/DBP	165/95
Scan start time	12:08	Total readings	56
Scan end date	2/5/23	Successful readings	52
Scan end time	13:37	Percent successful	93

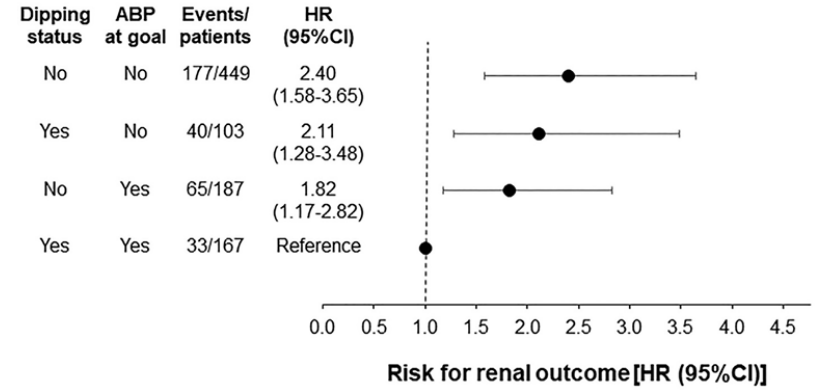


National Heart Foundation and High Blood Pressure Research Council of Australia Ambulatory Blood Pressure Monitoring Consensus Committee. Ambulatory blood pressure monitoring. *AFP*. 40(11); 2011: 877-880

BP control CKD

- Nocturnal dipping ~at least 10% decline at night
- 900 Italian patients with CKD[1]
- Non-dippers:
  - Higher rate of CKD progression
  - Higher risk of cardiovascular disease





1. Borelli et al, AJKD 2023

Case study – Pam's management plan

- ABPM results consistently 159/93 mmHg - Pseudo-resistant hypertension excluded
- Control BP – maintain consistently below 130/80 mmHg as Pam has albuminuria
- Encourage home BP monitoring
- Implement chronotherapy – one evening medication dose due to nocturnal hypertension (non-diuretic agent ie: CCB)
- Consider adding a SGLT2 inhibitor to her medication therapy
- Establish cause for CKD stage 3b with microalbuminuria
- Create a sick day action plan

Pugh D, Gallacher PJ, Dhaun N. Management of Hypertension in Chronic Kidney Disease. *Drugs*. 2019; 79:365-379

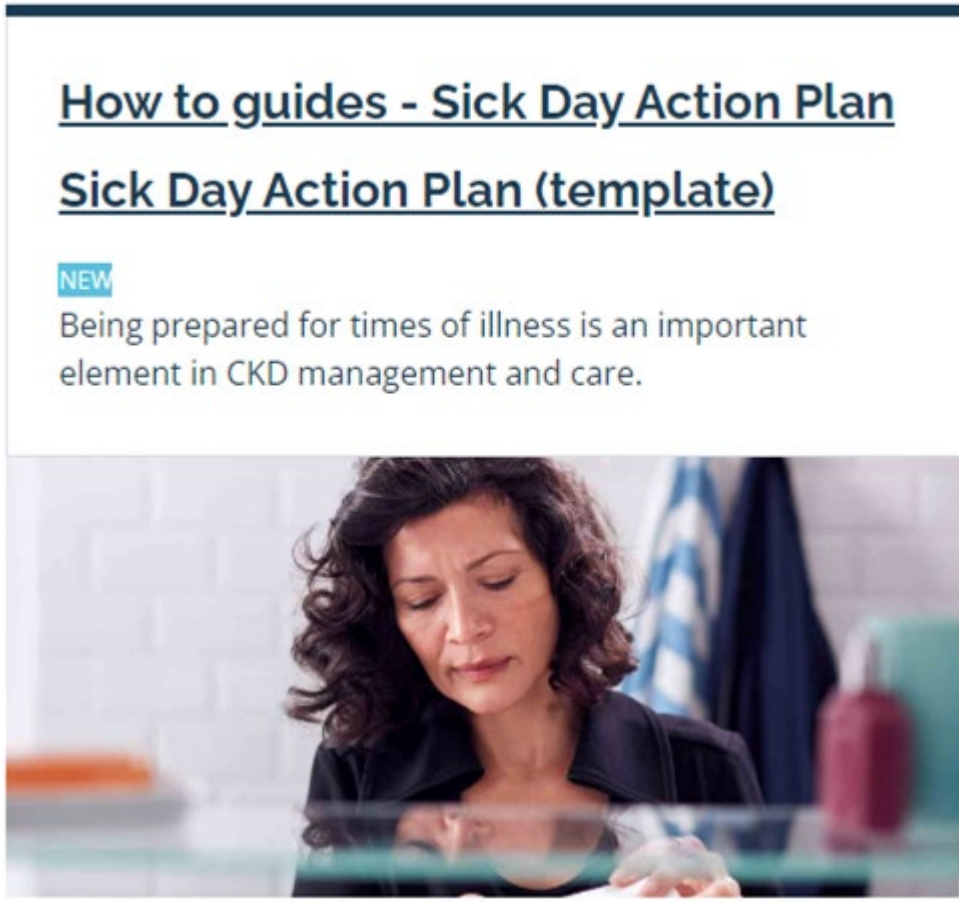
Sick day action plan

REMEMBER
Ensure patients/clients have a sick day action plan to prevent acute kidney injury.

Mnemonic for drugs to be avoided on a sick day (SADMANS)

Mnemonic for drugs to be avoided on a sick day (SADMANS)

- **S** Sulfonylureas
- **A** ACE-inhibitors
- **D** Diuretics
- **M** Metformin
- **A** Angiotensin receptor blockers
- **N** Non-steroidal anti-inflammatory
- **S** SGLT2 inhibitors



‘How to guides’ available in the Kidney Health Professional Hub

Chronic Kidney Disease (CKD) Management in Primary Care, 5th edition. Kidney Health Australia: Melbourne, 2024.

What is the cause of CKD for Pam?

Findings in Pam

- Resistant hypertension, CKD stage 3b with microalbuminuria
- Normal anatomy on ultrasound
- No evidence of haematuria of pyuria

Consider following causes:

- Likely related to long standing hypertension
- Absence of haematuria (eg: IgA) and pyuria (eg: IN, infection) makes active parenchymal disease unlikely
- Normal ultrasound makes obstructive uropathy very unlikely (also uncommon on women)

Case study - Pam

Anti-hypertensive medication schedule: perindopril/indapamide 5/1.25mg/d mane and felodipine 10 mg nocte

Test	Results – 3 months ago	Results – 2nd visit	Results – 3rd visit	Reference range
Serum Creatinine µmol/L	125 µmol/L	130 µmol/L	131 µmol/L	< 115
eGFR mL/min/1.73m^2	41	39	40	≥ 90
Serum K+ mmol/L	4.6	4.6	4.6	< 6
Urine ACR mg/mmol	25 (1st void specimen)	45 (1st void specimen)	40 (1st void specimen)	< 3.0
Ultrasound	-	Two kidneys (no scars or obstruction) L= 9.8cm; R=9.3cm	-	-
ECG	-	Left ventricular hypertrophy (LVH)	-	-
Blood pressure mmHg	165/95 OBP	159/93 ABPM	160/100 OPM	≤ 130/80

Does her therapy need to be changed? If so, what should you do?
(choose multiple options)

a) **Lifestyle modification – review diet and alcohol consumption, physical activity, sleep (OSA), stress**
b) **Introduce SGLT2 inhibitor**
c) **Increase dose of perindopril**
d) **Increase dose of indapamide**
e) **Switch to thiazide-like diuretic**
f) **Switch felodipine to amlodipine**
g) **Add a new class of agent**
h) **Refer for renal denervation**

Question

Does her therapy need to be changed? If so, what could you do?

a) **Lifestyle modification – review diet and alcohol consumption, physical activity, sleep (Obstructive Sleep Apnoea), stress**
b) **Introduce SGLT2 inhibitor**
c) **Increase dose of perindopril**
d) Increase dose of indapamide
e) Switch to thiazide-like diuretic
f) Switch felodipine to amlodipine
g) Add a new class of agent
h) Renal denervation – limited evidence on efficacy and safety [1]

Answer

1. Townsend RR et al. Catheter-based renal denervation in patients with uncontrolled hypertension in the absence of antihypertensive medications: a randomized, sham-controlled, proof of concept trial. *Lancet*. 2017;390:2160-70.

What is the best approach to medication management in RHTN?

Guiding principles:

- Explore lifestyle factors that may contribute (eg: OSA, metabolic syndrome)
- Consider underlying secondary causes (eg: Primary Aldosteronism)
- Check adherence – use combinations (more potent in hypertension), minimise number of pills
- Check daily pattern of BP with ABPM - prescribe doses in response to individual pattern
- Persist, encourage and be prepared to vary regimens
- Don’t compromise on the target
- Refer for Nephrologist if not at target and on 3+ drugs

Lifestyle interventions

Essential in reducing the progression of CKD

The key elements are:

'SNAPSS' (smoking, nutrition, alcohol, physical activity, sleep and stress)[1]

- **S**moking/vaping – Refer to Quitline if required.
- **N**utrition – advocate whole fresh seasonal food, avoiding ultra processed foods and sugar. Refer to a renal dietitian if required.
- **A**lcohol – Advise to drink to safe levels, in line with national guidelines.
- **P**hysical activity – something is better than nothing. Aim for 30 mins low impact most days. Integrate strength training. Refer to an Exercise Physiologist if required.
- **S**leep – consider underlying sleep disorder associated with CKD.
- **S**tress – support with medication and refer to a psychologist if required

Lifestyle modification presents an opportunity to engage patients/clients in self-management

Adapted from Smoking, nutrition, alcohol, physical activity (SNAP): A population health guide to behavioural risk factors in general practice, 2nd edn. Melbourne: The Royal Australian College of General Practitioners 2015

Algorithm for management of hypertension in CKD

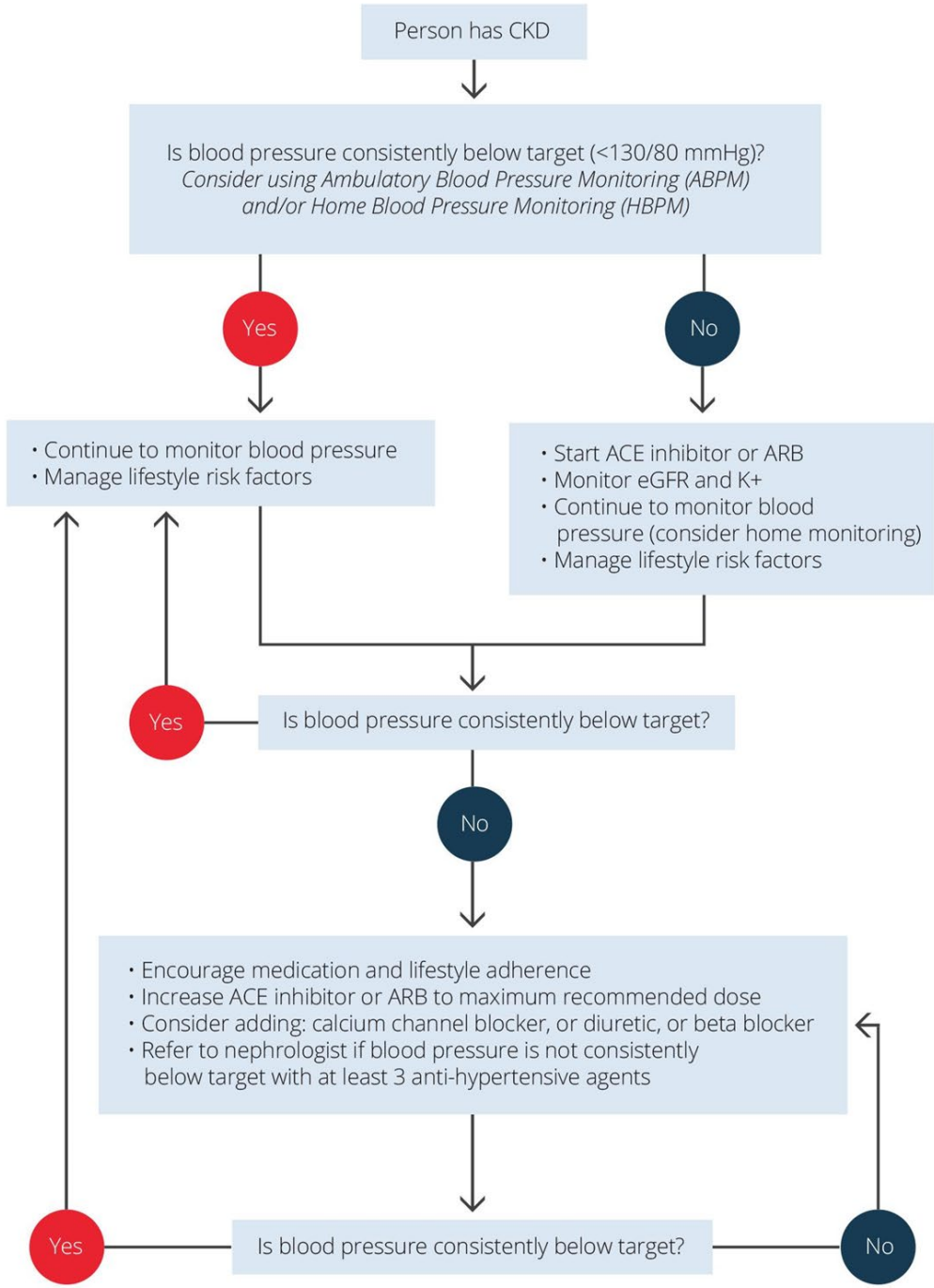
STEP 1 : ACE/ARB ALWAYS first line in CKD with HTN

STEP 2 :add one of CCB/diuretic/bblocker

STEP 3: add a third agent

STEP 4: refer to nephrologist if not meeting target

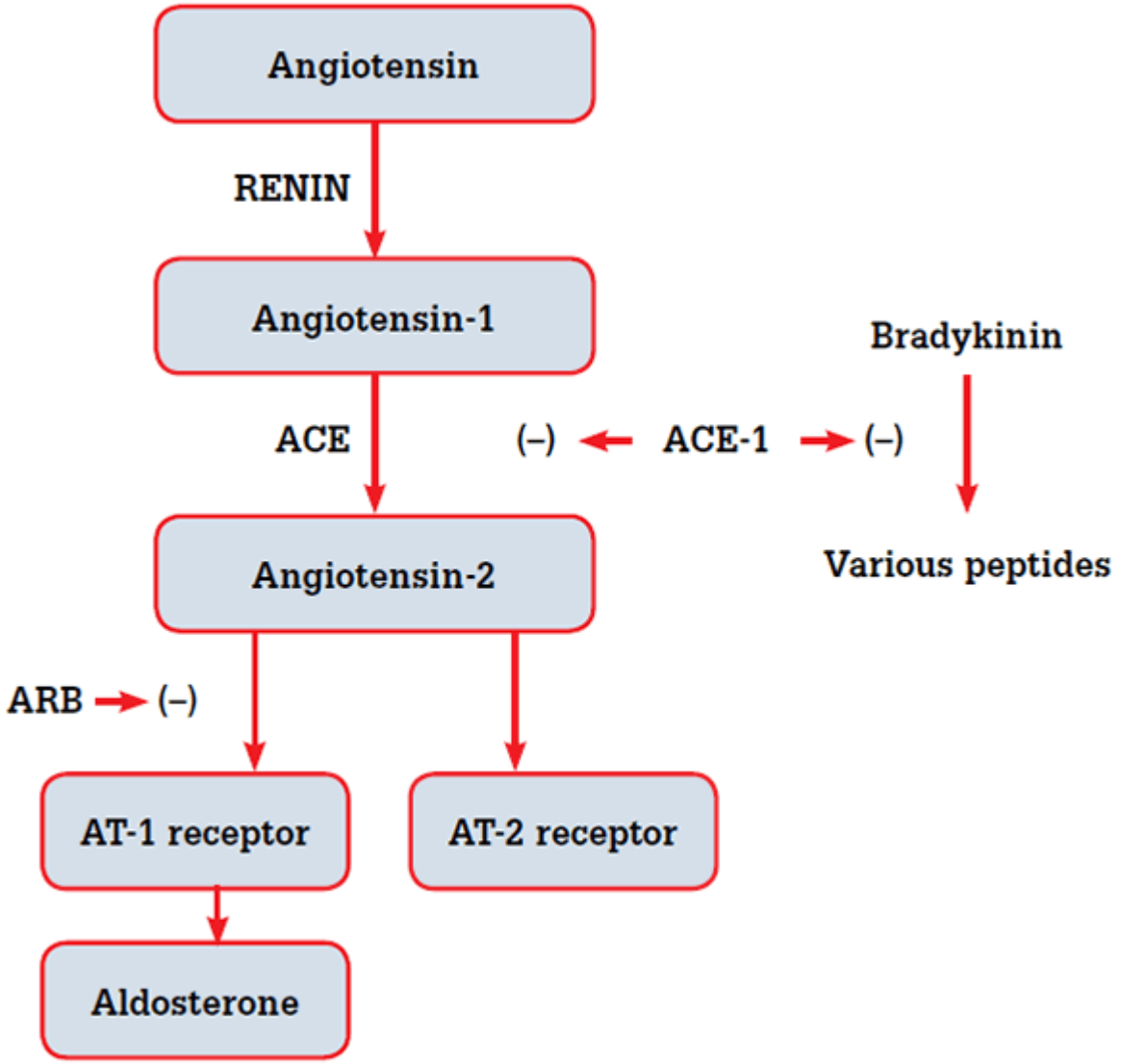
Refer to algorithm on page 16 of the handbook



Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

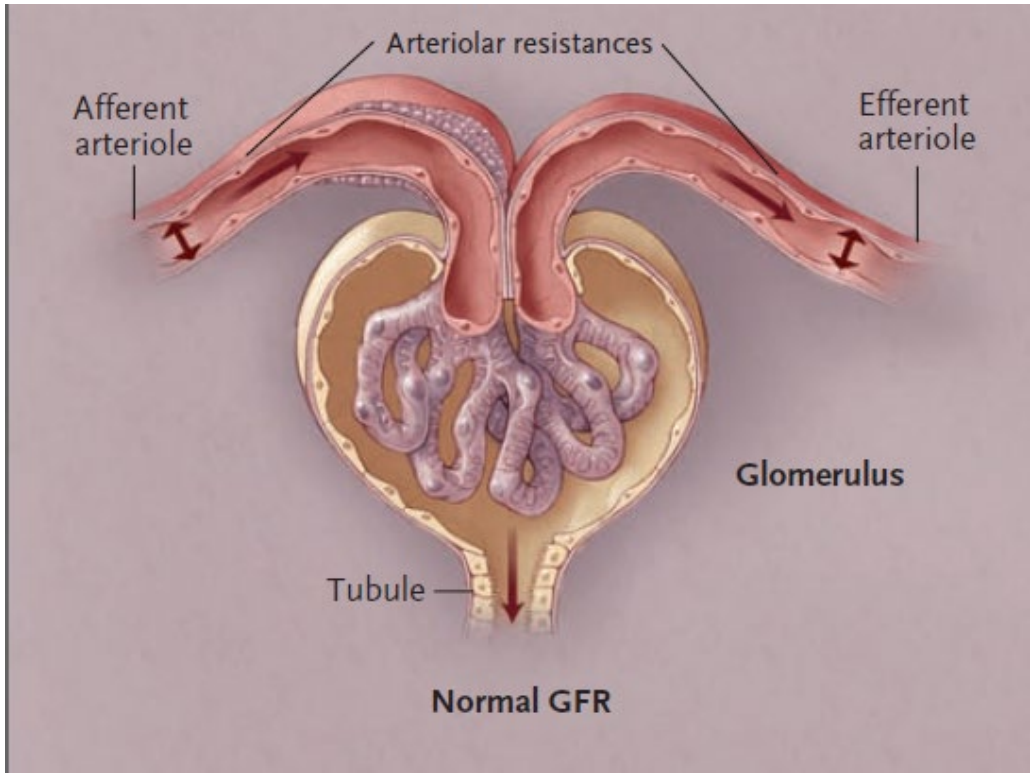
ACE/ARB

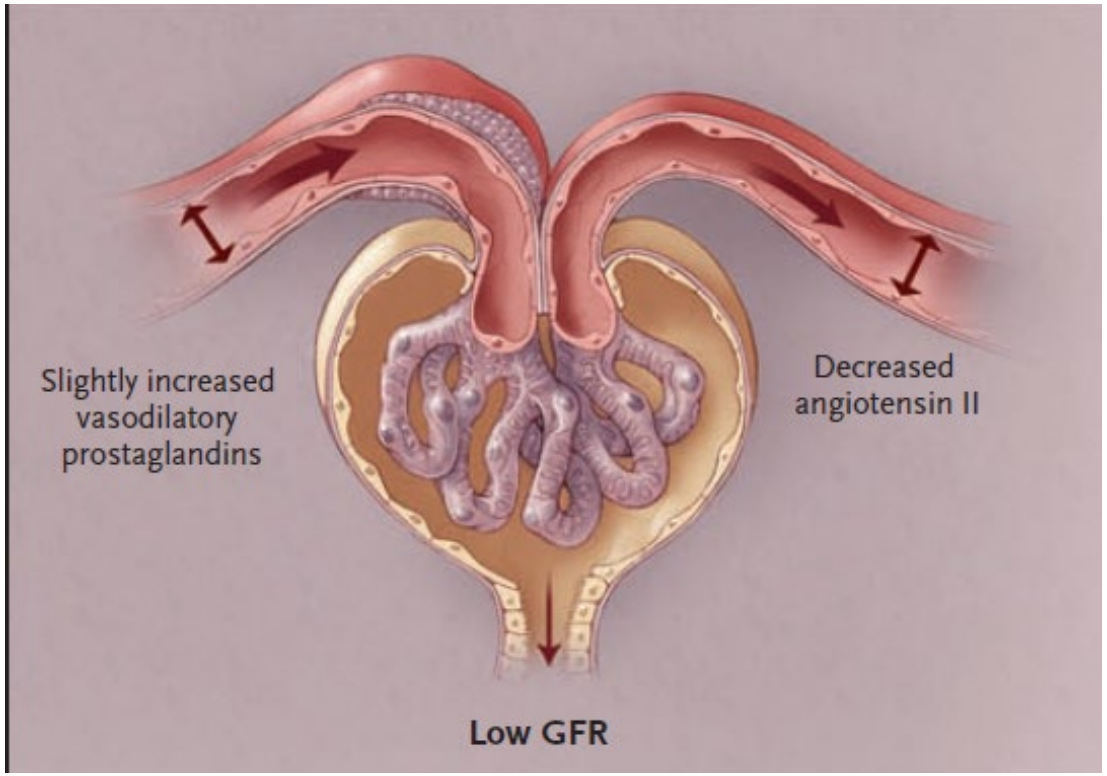
- Angiotensin II
  - direct vasoconstrictive effect on pre- & post capillary venules
  - Stimulate release of catecholamines from adrenal medulla
  - Reduce excretion of sodium and water
  - Stimulate synthesis and release of aldosterone
  - Stimulate hypertrophy of vascular SM cells and cardiac myocytes



ACE/ARB

- Proteinuria mechanism is multifactorial: increased transglomerular pressure, increased GBM permeability, reduced tubular reabsorption.
- RAAS blockade reduces the transglomerular pressure resulting in decreased albumin losses.





1. Abuelo. J, NEJM 2007

RAS blockade and kidney function

Clinical tip

ACE inhibitors and ARBs cause a reversible reduction in GFR when treatment initiated. K+ likely to increase by 0.5mmol, ideally keep < 5.5.

Check eGFR within 2 weeks following initiation.

Provided reduction is < 25% within 2 weeks of starting therapy, the ACE inhibitor or ARB should be continued.

If reduction is > than 25% below the baseline value, discontinue and consider referral to a nephrologist.

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

Cardiovascular risk assessment in CKD

- CKD is a potent risk factor - more than diabetes.
- Reduced eGFR and presence of albuminuria are independent risks for CVD.
- The Australian CVD risk calculator can be used to estimate CVD risk, but determine CKD **before** using the calculator www.cvdcheck.org.au.
- People with **moderate to severe CKD** (eGFR < 45 mL/min/1.73m^2 and/or uACR > 30mg/mmol have **pre-determined high risk** of a CVD event in 5 yrs (≥ 10% probability).
- For people with **eGFR 45-59mL/min/1.73m^2** and/or **3-30mg/mmol**, **consider reclassification** to a higher risk category.

New CVD Guidelines were launched July 2023
www.cvdcheck.org.au

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

Statin therapy for CKD

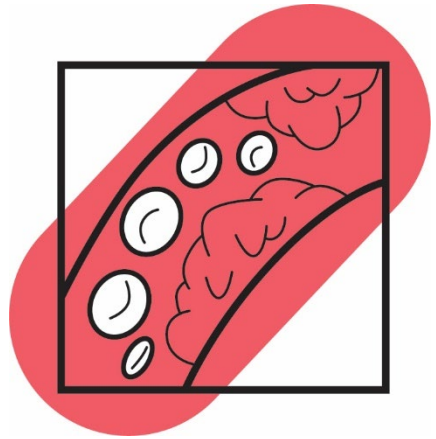
All adults with newly identified CKD, fasting lipid profile evaluation is recommended. Follow-up measurement of lipid levels may not be needed.

Consider secondary causes and specialist evaluation if LDL-cholesterol >4.9 mmol/L or triglycerides >11.3 mmol/L.

Statin (+/-ezetimibe) for:

- Non-Indigenous people with CKD (eGFR ≥15ml/min/1.73m^2) and CVD risk ≥10%
- First Nations Australians with CKD and CVD risk ≥5%.

Lifestyle advice if hyper-triglyceridaemia is present.



Refer to: CARI Guidelines: Management of cholesterol-lowering therapy in people with chronic kidney disease.

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

SGLT2 inhibitors for CKD

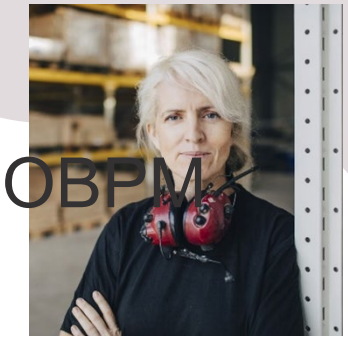
When can I use SGLT2 inhibitors in CKD?

PBS Criteria Authority Streamline 13220:

- Diagnosis of proteinuric CKD (with or without diabetes) present for ≥ 3 months prior to prescribing.
- eGFR 25 - 75 mL/min/1.73m^2.
- uACR 22.6 - 565 mg/mmol.
- Must be stabilised, for at least 4 weeks, on either: (i) an ACE inhibitor or (ii) an angiotensin II receptor antagonist.
- Do not use in combination with another SGLT2 inhibitor.
- Not recommended to initiate if eGFR < 25 mL/min/1.73m^2.
- May be prescribed by nurse practitioners (continuing therapy only).

Dapagliflozin for chronic kidney disease: a new indication and clinical criteria have been added to the PBS listing for dapagliflozin. NPS MedicineWise website. New PBS listing: Dapagliflozin for chronic kidney disease (nps.org.au). Accessed Sep 7, 2022.

Next steps and outcomes for Pam



If BP maintained to target continue to monitor with home and OBPM

Monitor kidney function with annual KHC

If uncontrolled with 3+ medications refer to a nephrologist

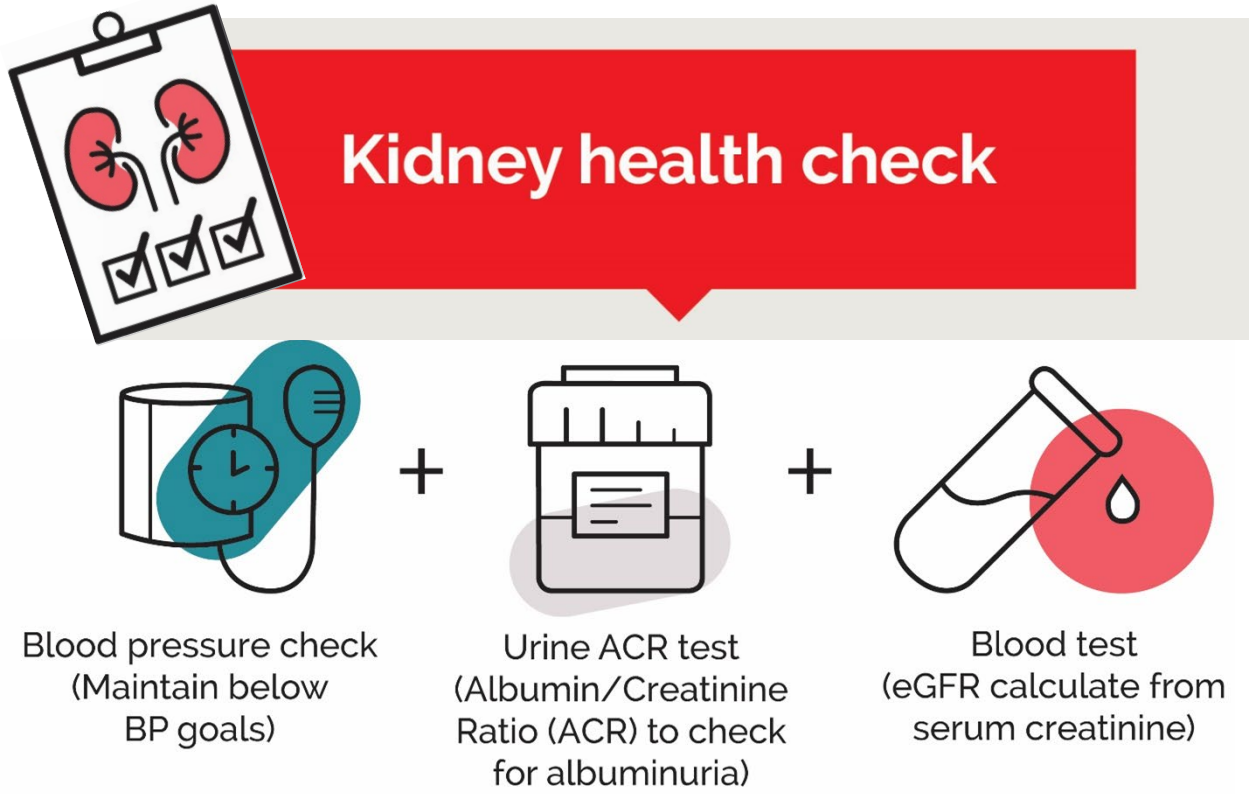
Annual Kidney Health Check for ongoing management.

Addressing CKD in your practice

- Patient/client led behavioural changes and lifestyle management
- Practice nurses implement Kidney Health Check prompts in all chronic disease management templates
- Use your practice data to identify patients/clients with risk factors
- Code CKD stage and underlying causes in your practice software
- Implement a register and recall system to actively screen patients
- MBS Item numbers implement care through management plans and assessments
- Refer patients/clients newly diagnosed with CKD to Kidney Health Australia for non-medical advice and support services. Phone 1800 454 363 or kidney.org.au

Ongoing management includes…

Kidney Health Check every 1-2* years



***annually for individuals living with hypertension or diabetes**

Chronic Kidney Disease (CKD) Management in Primary Care (5th edition). Kidney Health Australia, Melbourne, 2024.

CKD Management in Primary Care Handbook

5TH EDITION

The #1 guide for to help detect, manage and refer patients in your practice with CKD.

CKD-Go! App

New app available now.

The best bits of the CKD handbook in an App.

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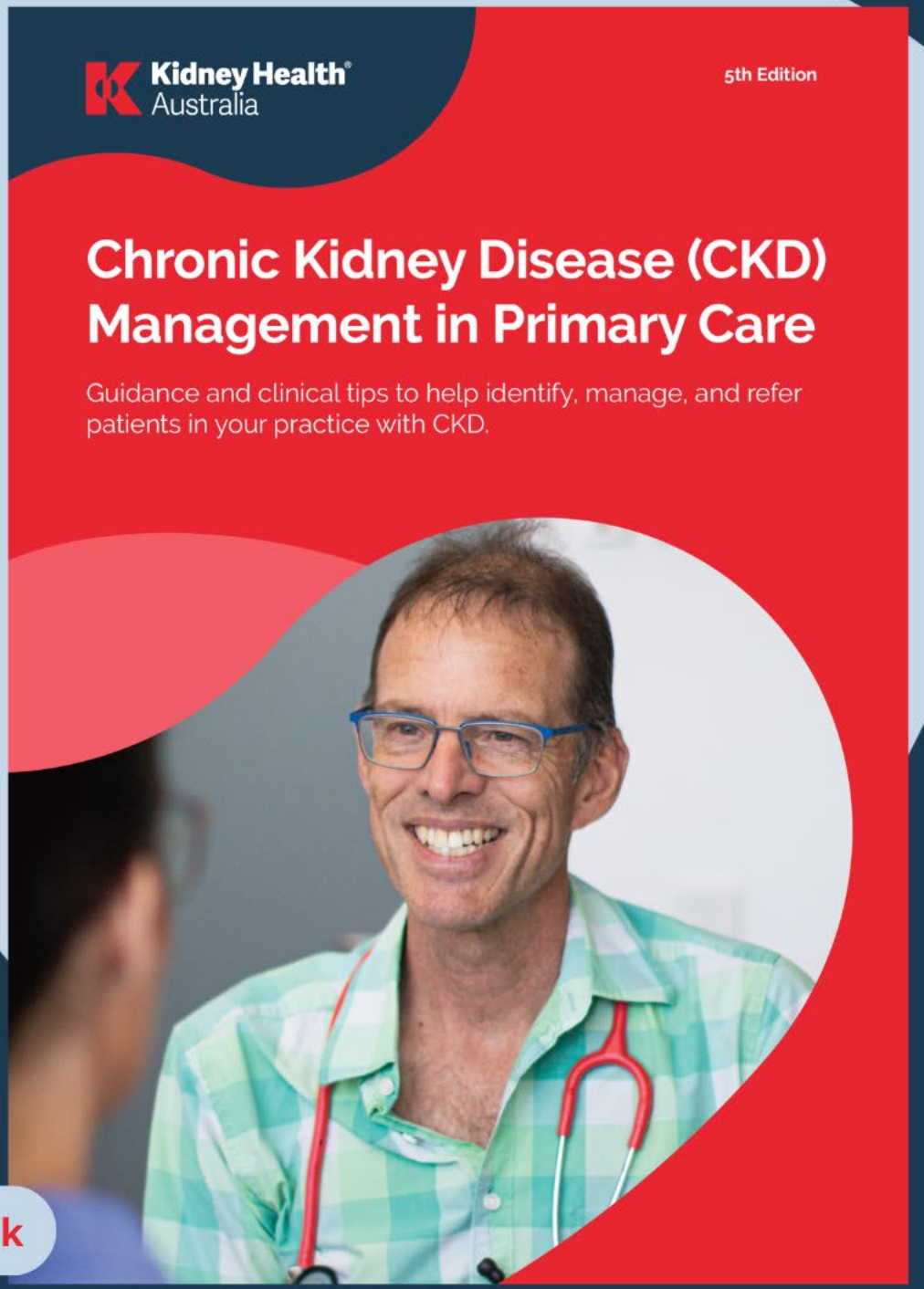
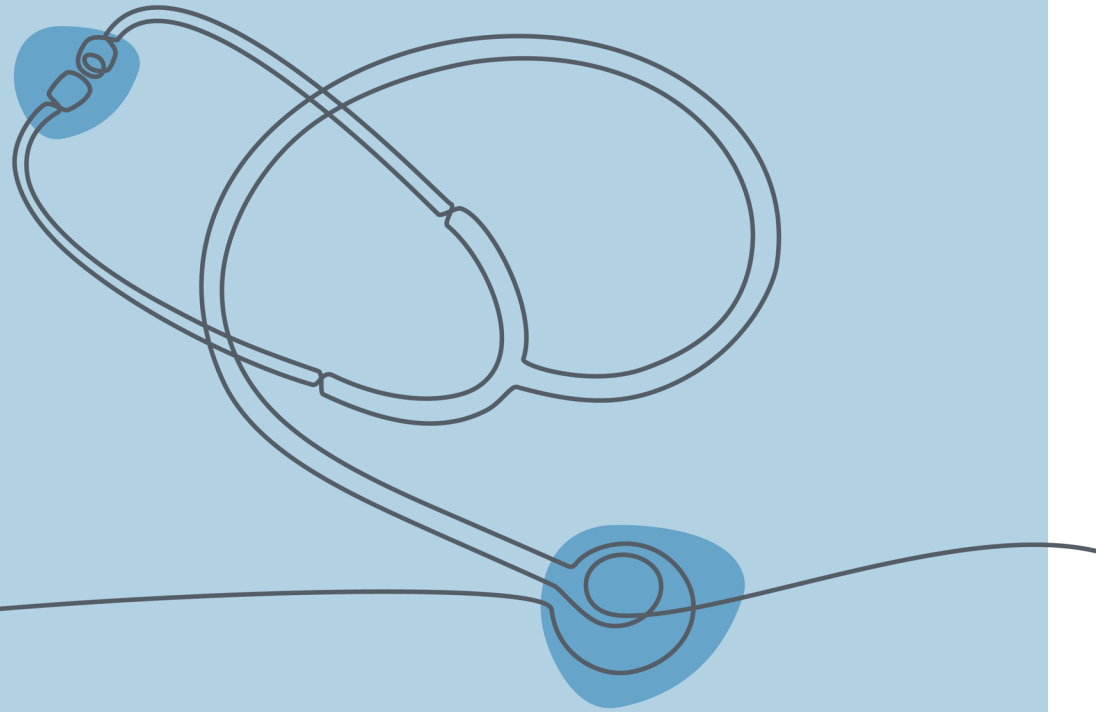


Kidney Health Australia

Question time…

General Practice Liaison Officer Program presents

Championing Generalism Workshop



A collaborative, multi-disciplinary and multi-specialty learning opportunity for GPs covering conditions commonly managed in primary care

Radiology: the butterfly effect

Dr Manas Singh | Staff Specialist, Radiology

phn BRISBANE NORTH
An Australian Government Initiative

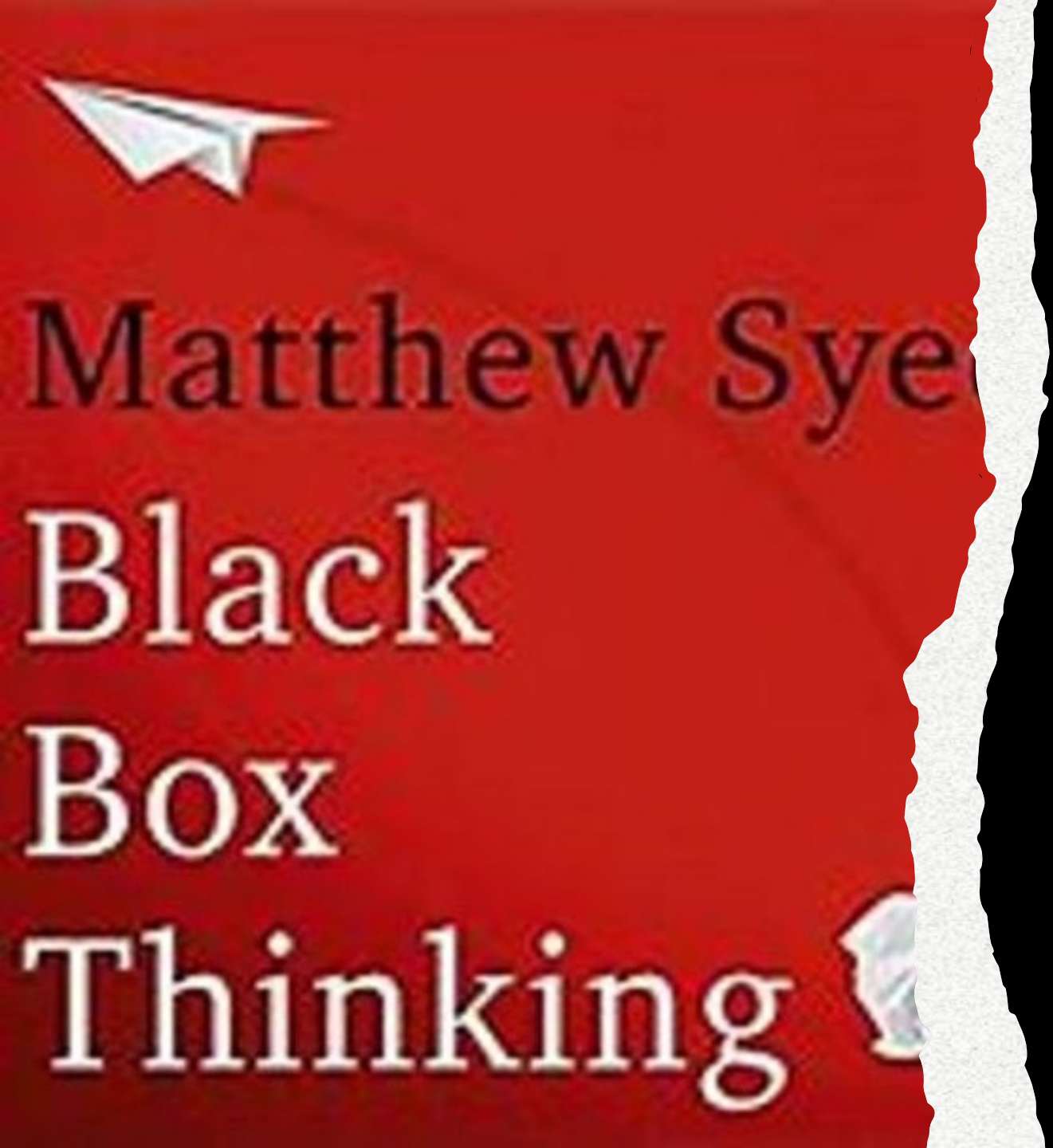
Queensland Government
Metro North Health

Butterfly Effect

- Harm and Micro-harm in Radiology

Dr Thakur Manas Singh

07/06/24



Disclosures

No financial disclosures.

Work for **iMED Radiology**
Qld Health (**RBWH**)
RANZCR Examiner

Cases (**all deidentified**)
- public hospitals
- some private radiology providers

WHY ME ??

- Anaesthetics
- General radiologist (private + Public)
- Interested in patient safety
- Make mistakes, and I struggle when I am told of my mistakes
- Want to improve myself and the system

Question that will make

nearly every

Radiologist uncomfortable??

Question that will make

nearly every

doctor

~~Radiologist~~ uncomfortable??

The butterfly effect

I first heard of it in the movie **Jurassic Park (1994)**, where Jeff Goldblum (Dr Ian Malcolm) explains it by saying “It simply deals with unpredictability in complex systems”.

I was in middle school and did not understand it's meaning.

Belief that flapping of wings by a butterfly causes typhoon – does not happen literally.

It is the potential of small things to significantly affect outcomes.

Our scans, reports, and their interpretations can have similar effects.

Question that will make **nearly every** radiologist/ doctor uncomfortable??

What has been -

Your worst mistake ??

Most recent mistake ??

Have you ever been contacted by OHO/ AHPRA??

Today's talk

Cases

Harm and Micro-harm.

Survivorship bias.

Some suggestions going forwards.

Case 1

Case 1 – my case

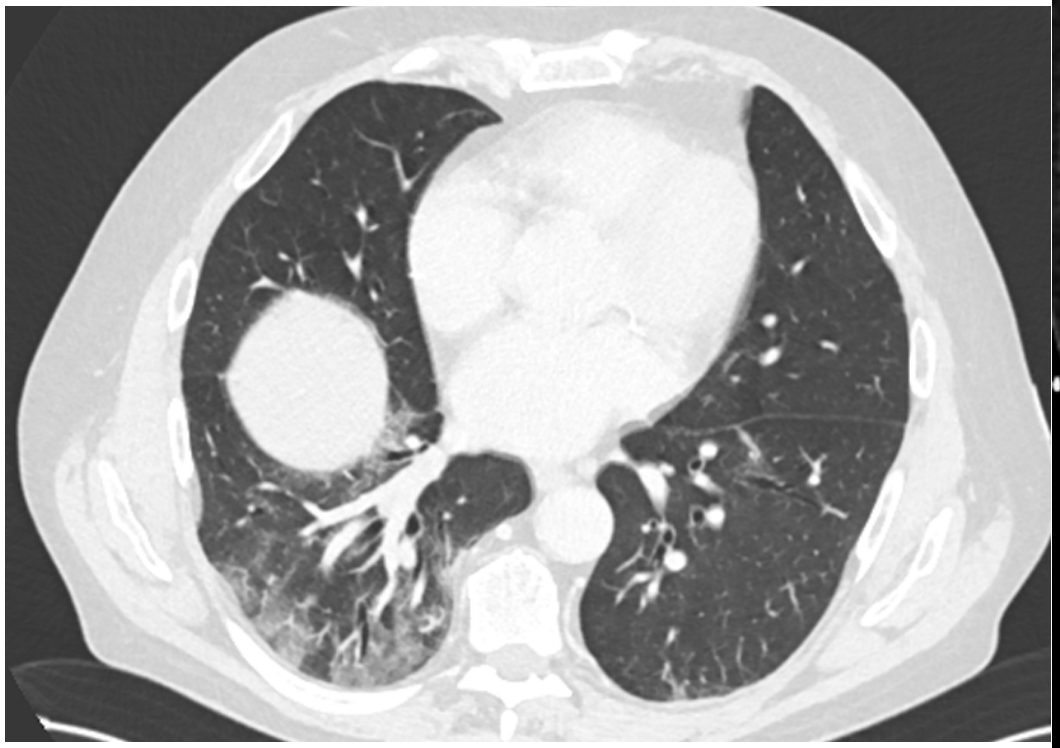
Case 1

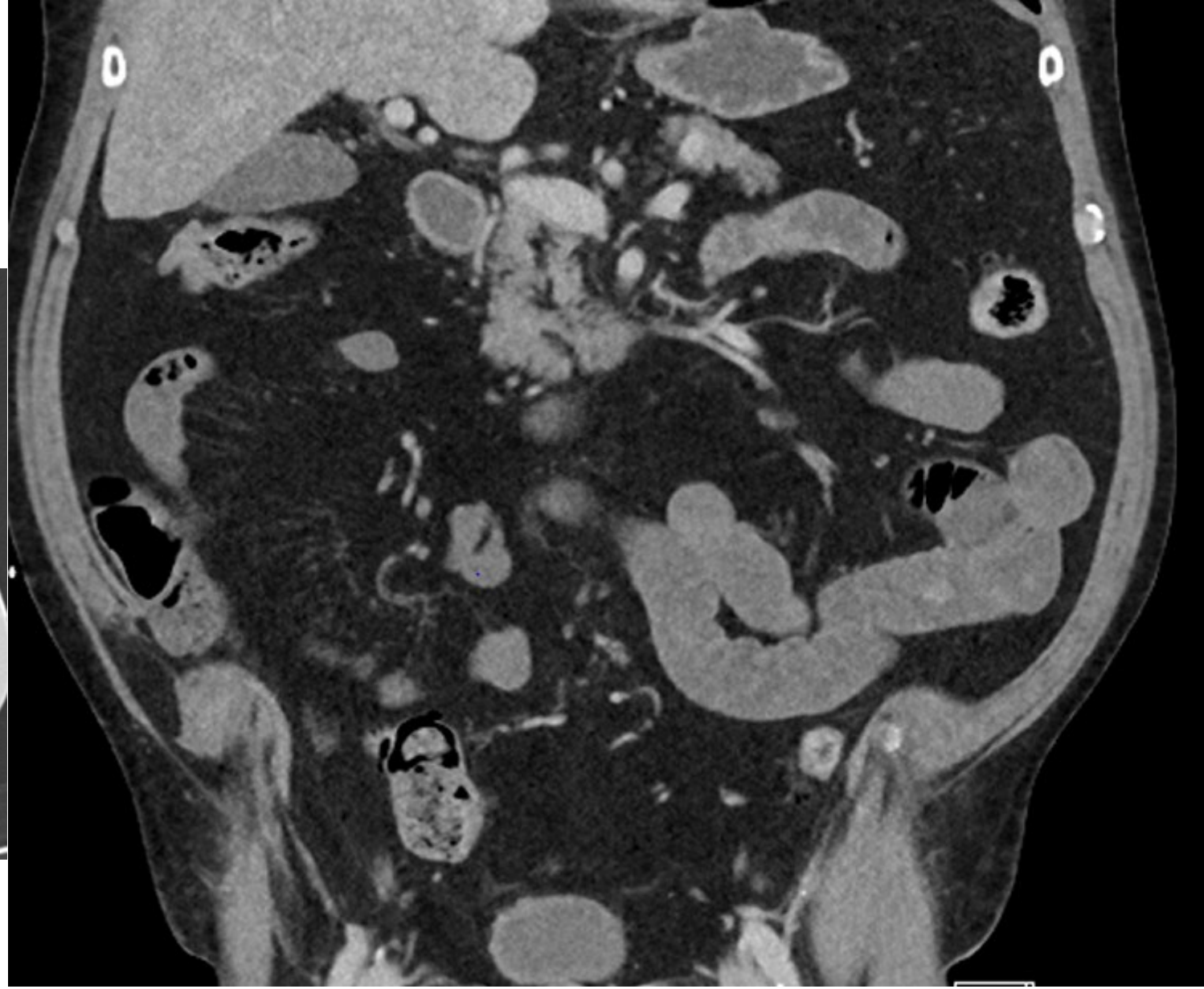
HISTORY:
75 M, Acute onset upper abdominal pain with vomiting, bowel opened today, on exam tender and guarding in the epigastric area, sluggish BS, b/g history of bowel surgery. Rule out bowel obstruction.

IMPRESSION:
Peribronchial inflammatory change in the partially imaged right lower lobe, may represent **pneumonia** and needs correlation with plain radiographs.

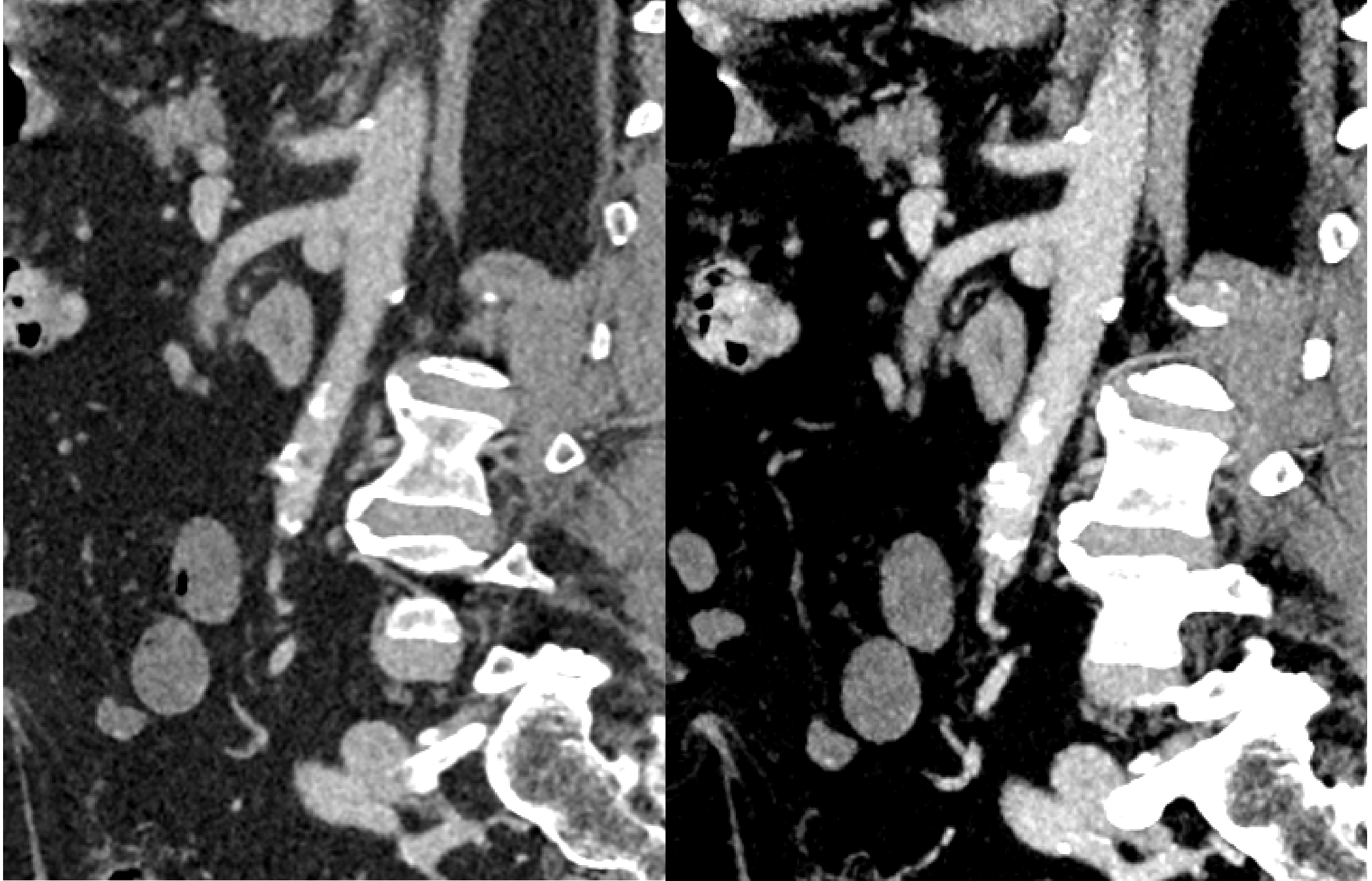
No abdominal cause for symptoms demonstrated.

Case 1





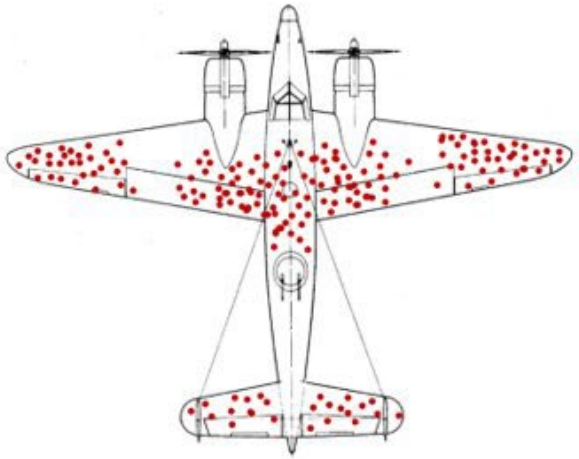
Case 1



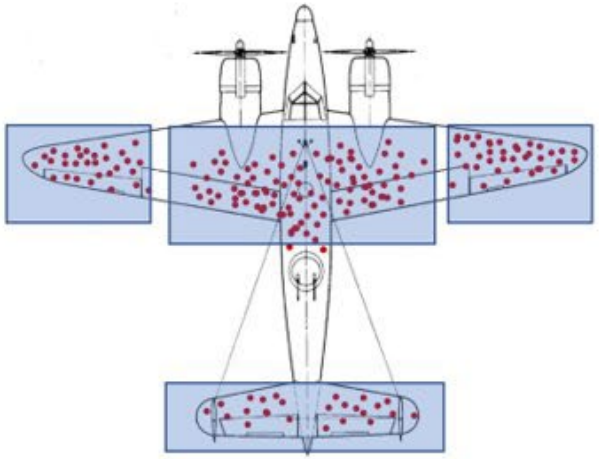
Case 1 - LEARNING POINTS

- Survivorship bias
- Open up to feedback

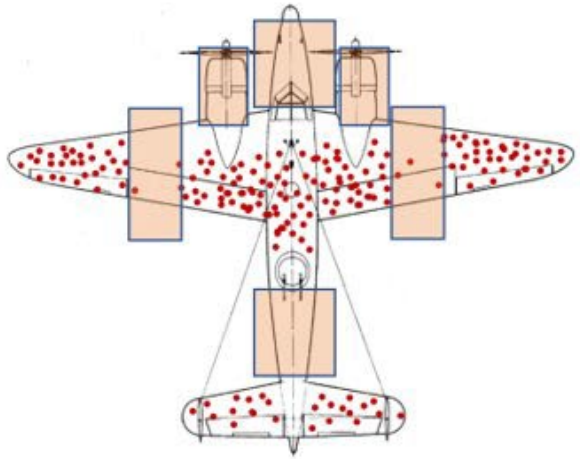
Survivorship Bias



Our data if only from returning flights. Here we is a visualization of the places that bullet holes were observed.



And initial guess at how to fix this might be to apply additional armor platting to the parts of the plane with the most holes…



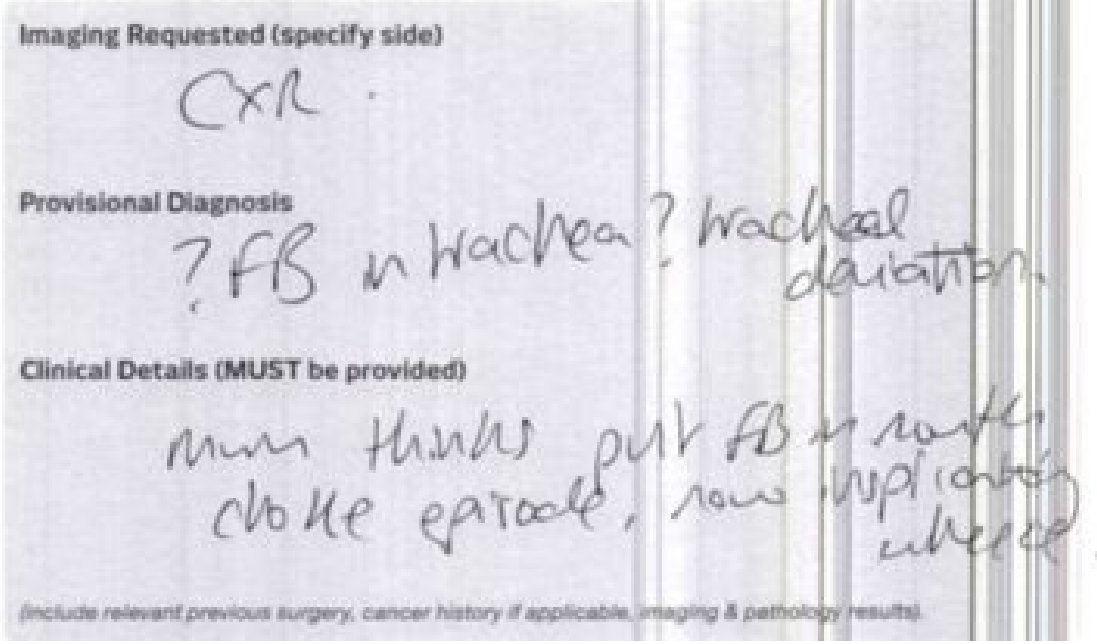
…. However this is where planes that *returned* had bullet holes. The planes we want to protect are the ones that did *not* return, so we should place armor there.

Abraham Wald (1902-1950)

Image courtesy :www.knowyourmeme.com

Case 2

Case 2


Imaging Requested (specify side)

CxR

Provisional Diagnosis

? FB in trachea? tracheal deviation.

Clinical Details (MUST be provided)

mum thinks put FB in mouth choke episode, now inspiratory wheeze

(include relevant previous surgery, cancer history if applicable, imaging & pathology results)

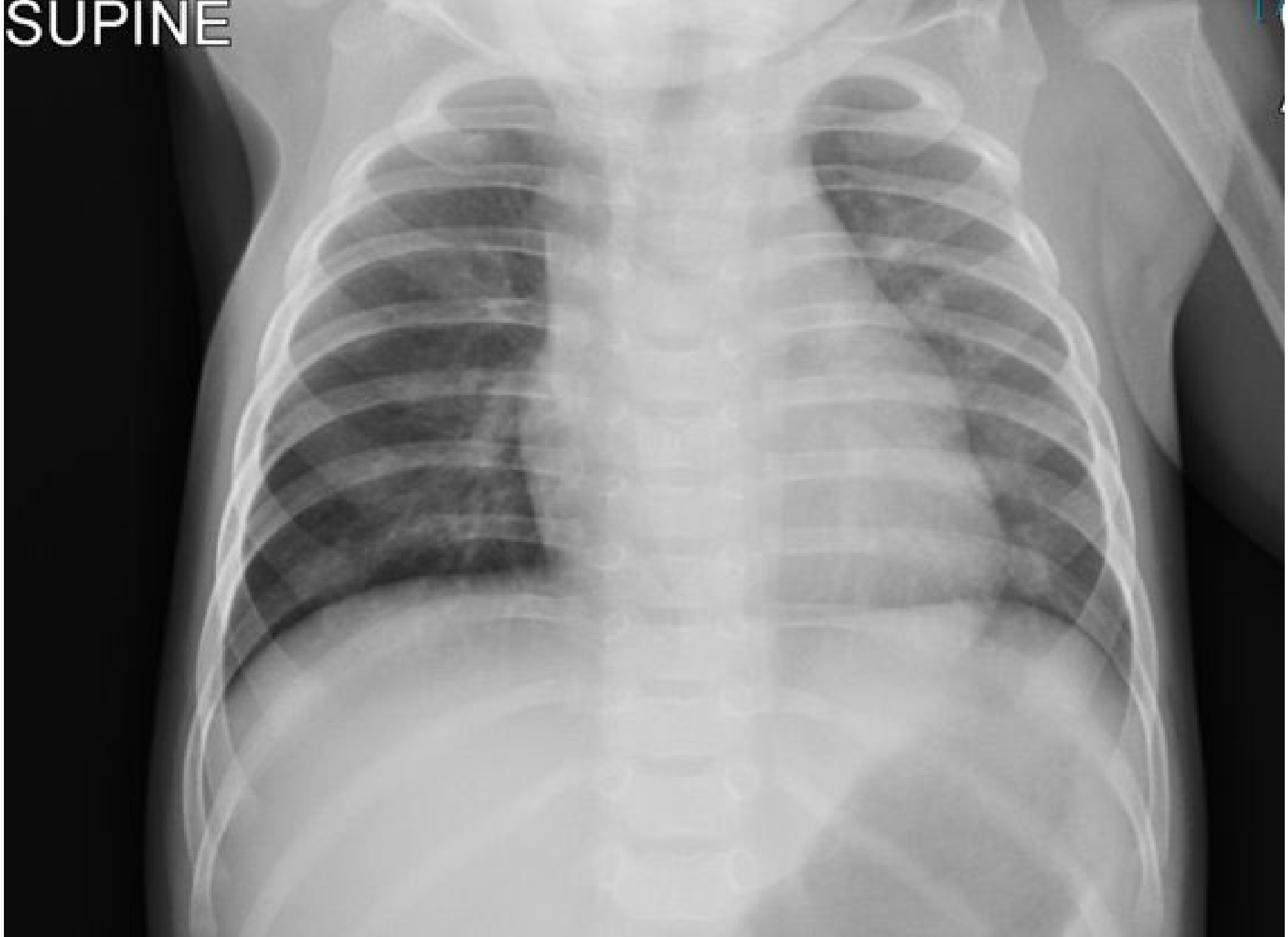
History:
7 month-old child, with choking episode.

Mum thinks, put FB in mouth, now settled, has inspiratory wheeze .? FB trachea ? Tracheal deviation.

Impression:
Increased **lucency** in the **right hemithorax** could be secondary to proximal obstruction (**foreign body**).

No radiopaque foreign body however is demonstrated.
Lateral decubitus radiograph should be considered for further evaluation.

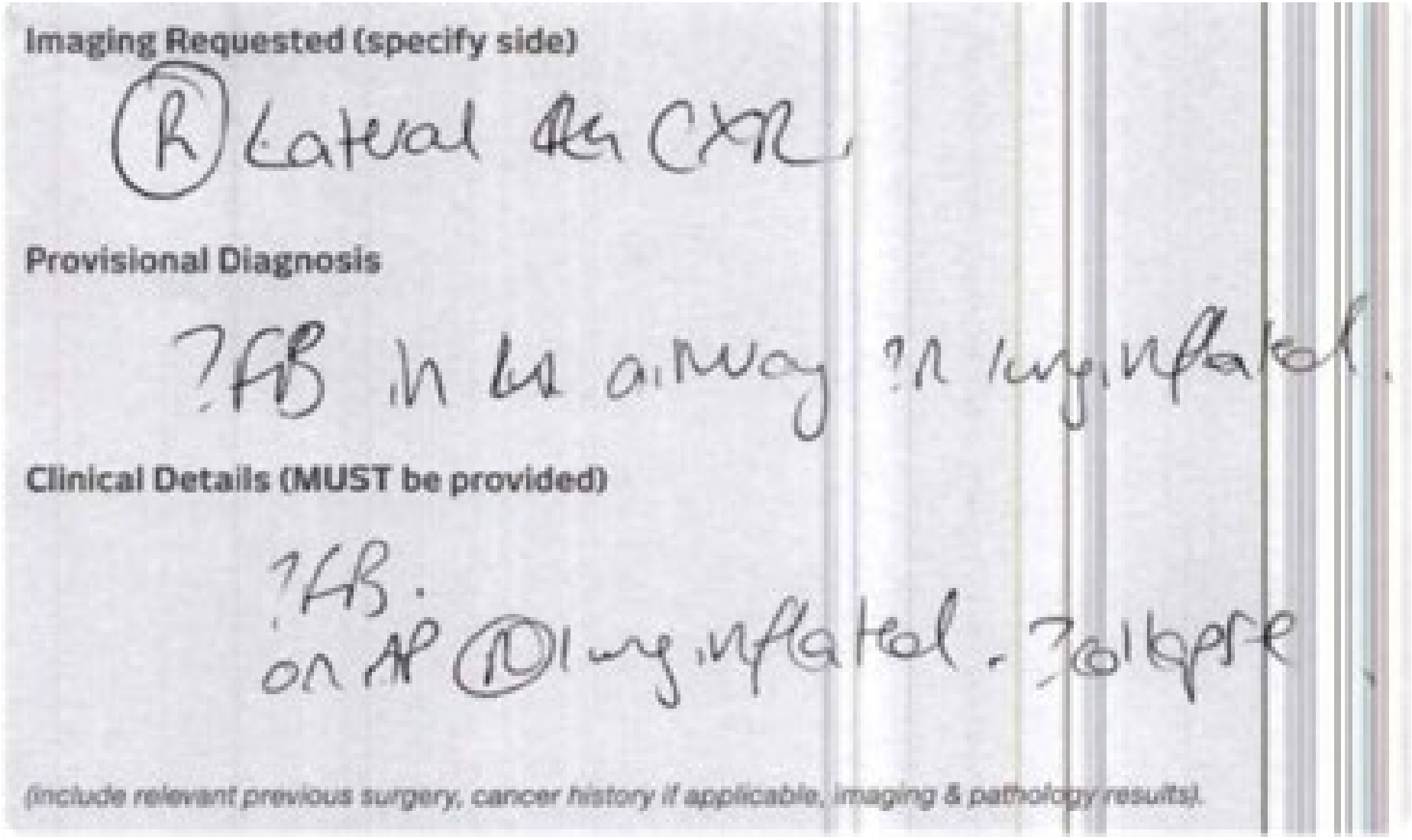
Case 2:
AP
Chest



Case 2

History:

? FB in R airway ? R lung inflated ? Collapse



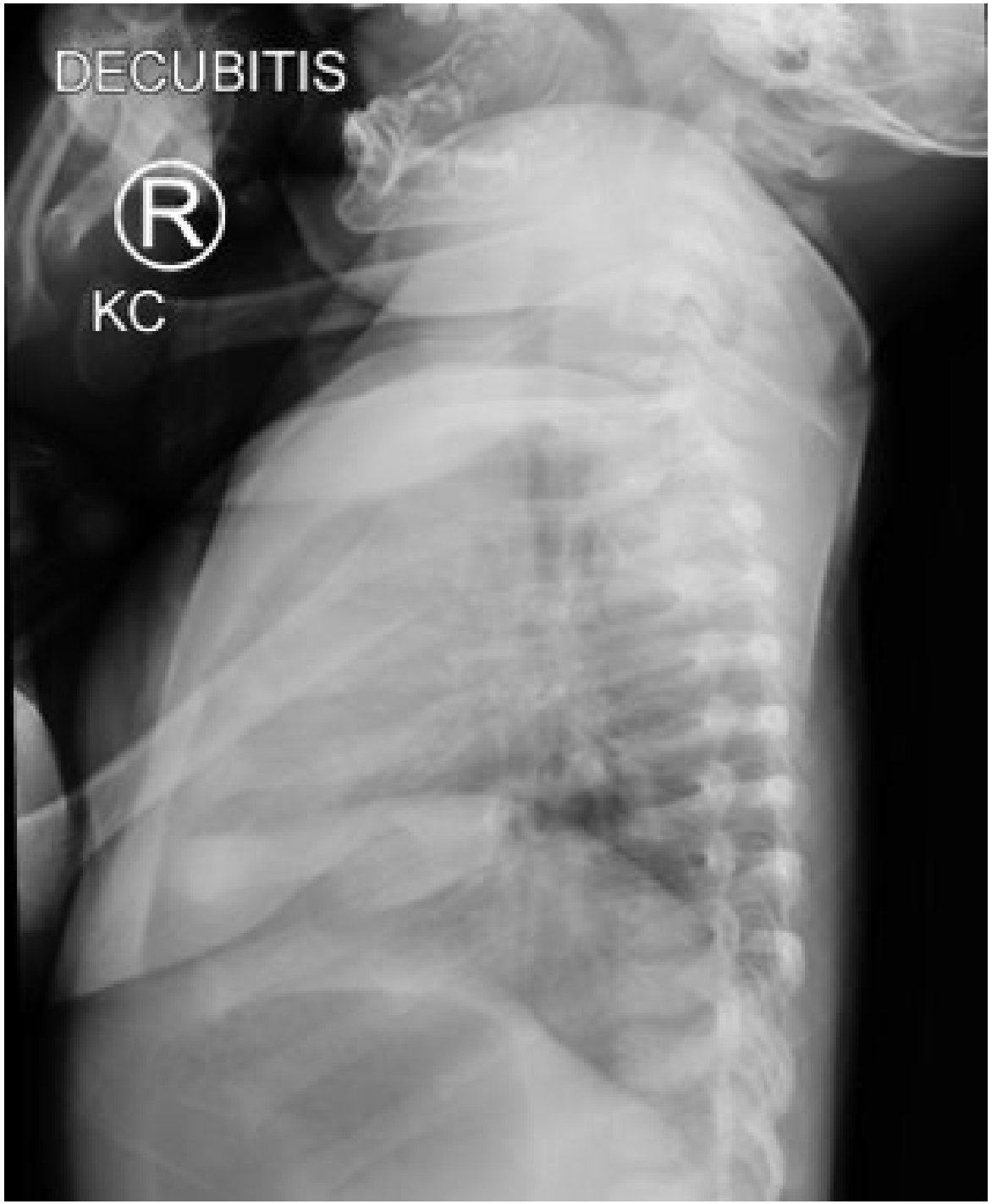
Case 2:

Impression:

No radiopaque foreign body is seen.

No new findings compared to AP chest x-ray.

Difficult Inter-hospital transfer



Case 2:

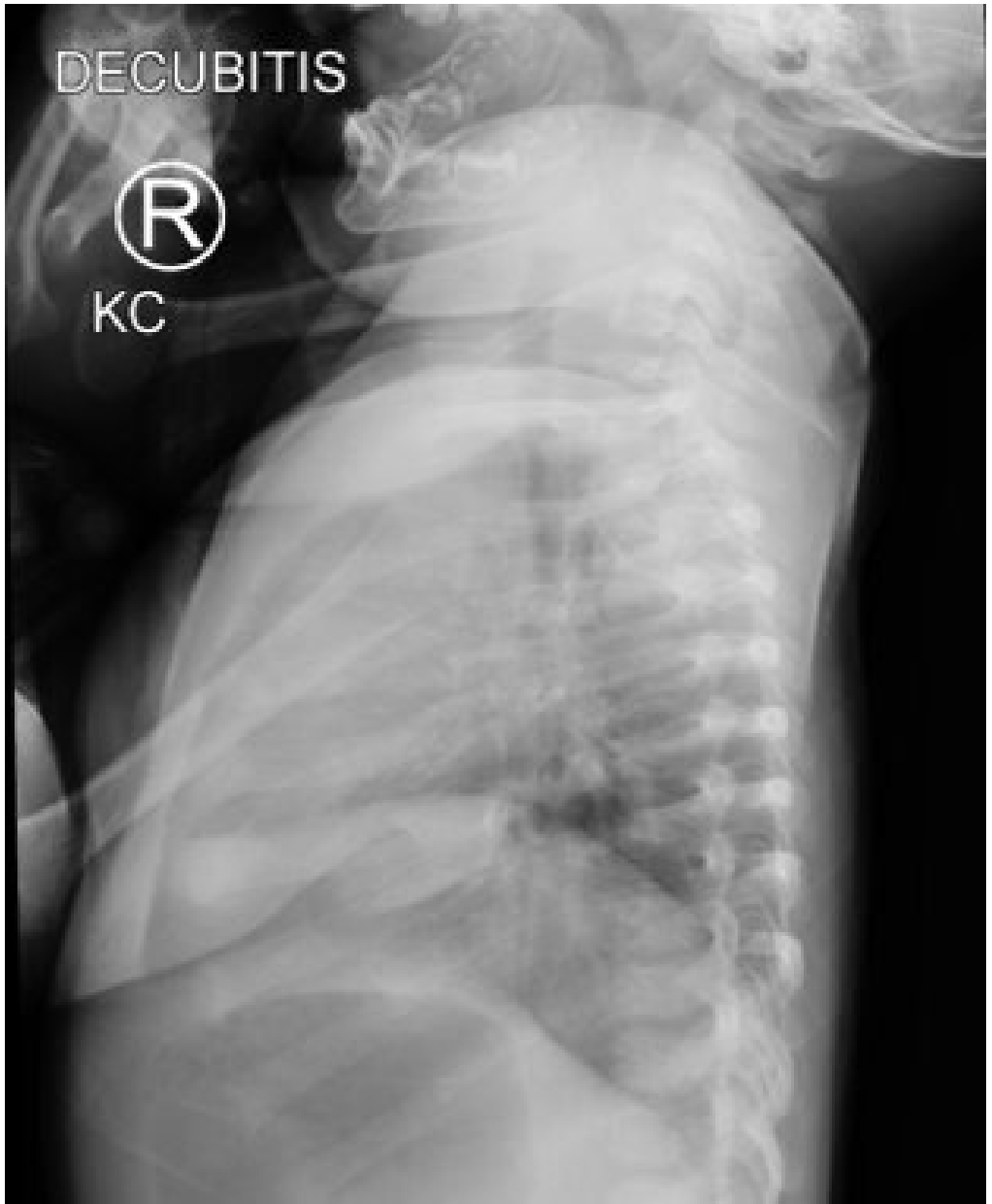


Image courtesy :www.radiology.con.mk

Image courtesy :www.radiologykey.com

Case 2 - Bronchoscopy

Findings

INDICATION: Suspected airway foreign body

FINDINGS:

Cockroach lodged in right main extending down right intermedius with pus beyond foreign body

Surrounding inflamed mucosa but no granulation

Case 2 - Bronchoscopy

Findings

INDICATION: Suspected airway foreign body

FINDINGS:

Cockroach lodged in right main extending down right intermedius with pus beyond foreign body

Surrounding inflamed mucosa but no granulation

The next image may be disturbing to some viewers

Case 2 – LEARNING POINTS

- **Call out radiological errors to the radiologist.**

- **When in doubt check /call it out.**

Case 3

Case 3

HISTORY:

84 F, abdominal and chest pain. Hypertension

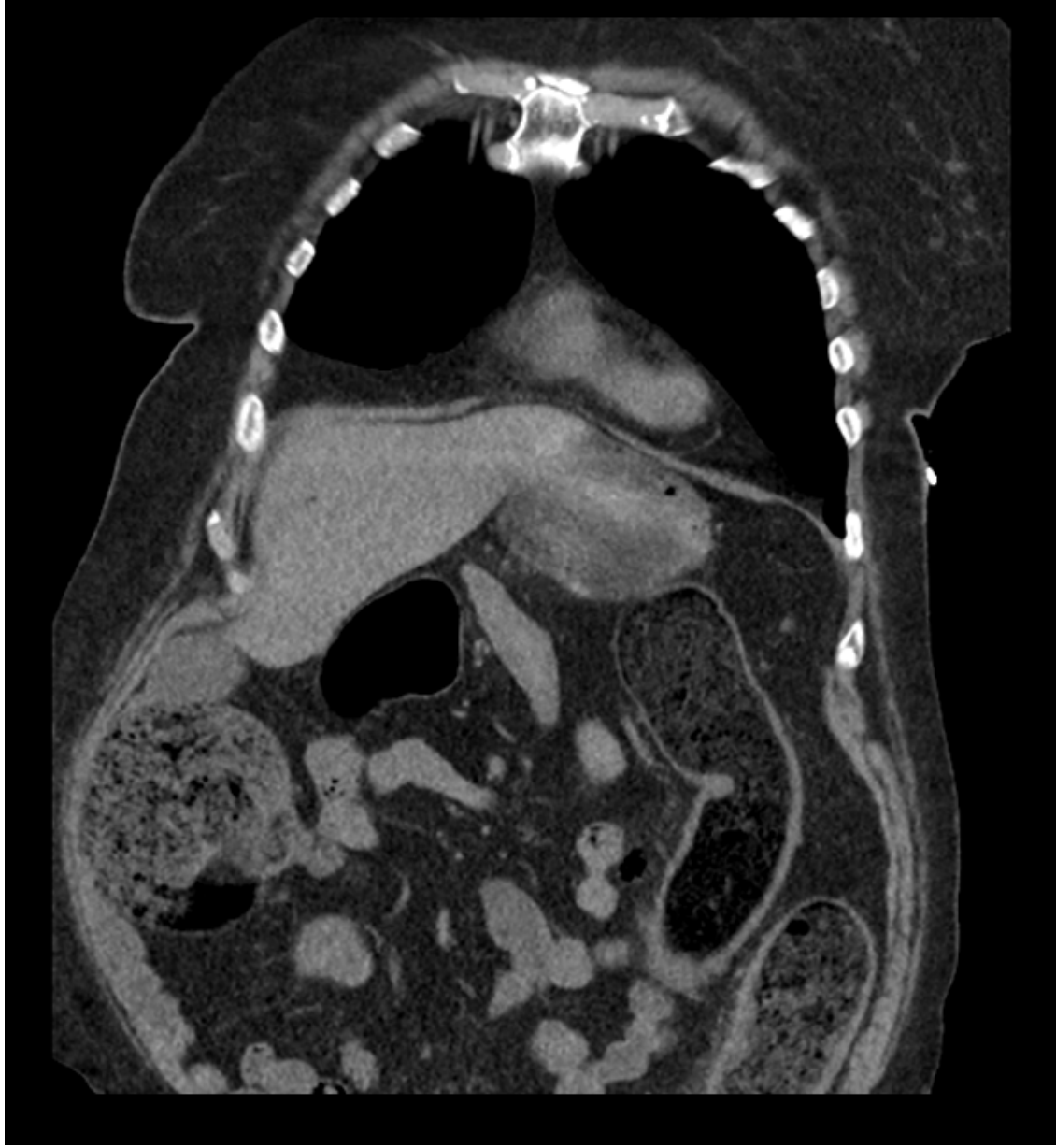
? Aortic aneurysm ? Diverticulitis.

IMPRESSION:

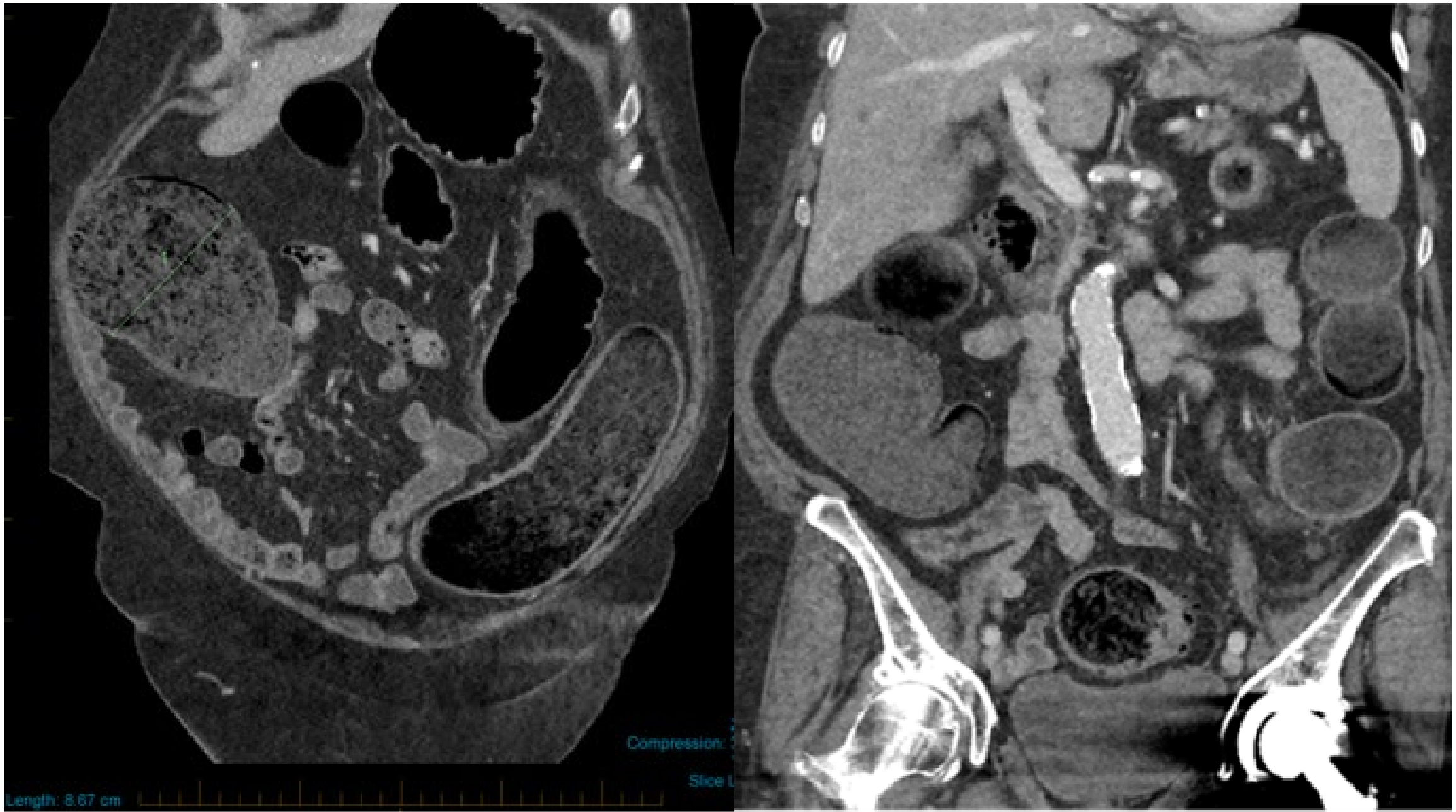
No acute aortic syndrome found.

Findings consistent with extensive **stercoral colitis**, when clinically matched.

Mild free peritoneal fluid in peri-splenic distribution.
No pneumoperitoneum found.



Case 3



Case 3

Admission to **Medical** Ward

Surgical review – stenosing lesion in sigmoid picked up by surgeons (histology – diverticular stricture)

Surgery –> infarcted bowel –>stoma -->infarction --> more theatre visits with multiple resections –> ICU –> shock –> vasopressors --> and eventually RIP.

Case 3 – 6 months earlier

HISTORY:

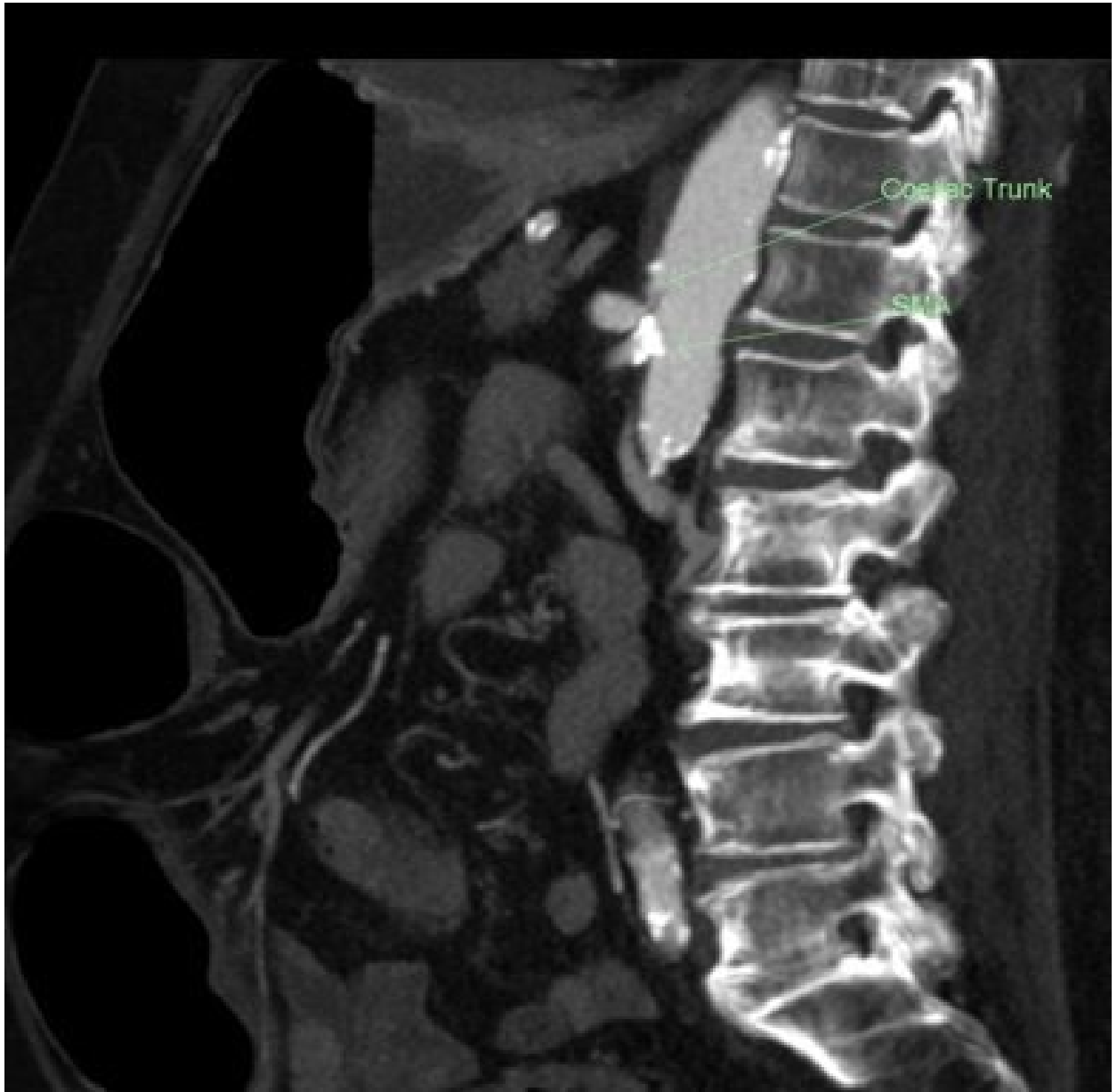
Crampy abdominal pain and diarrhoea +++.

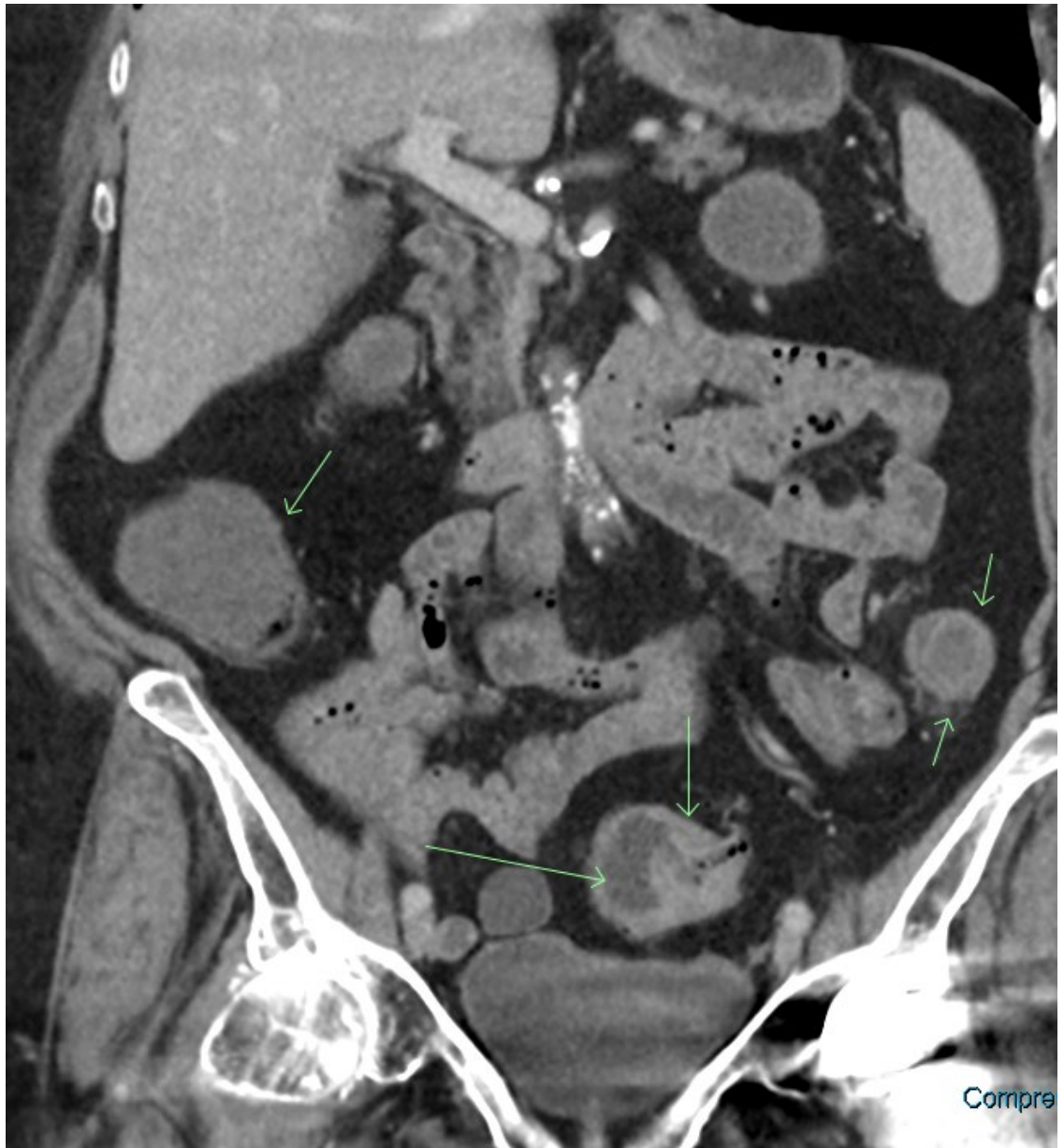
IMPRESSION:

Pancolitis, differentials include infection, inflammatory or vascular colitis.

No acute vascular occlusion or thrombosis detected, although diffuse calcified and non-calcified atheromatous plaques are present along the aorta and major branches.

Case 3 – 6 months earlier





Case 3 – 6 months earlier

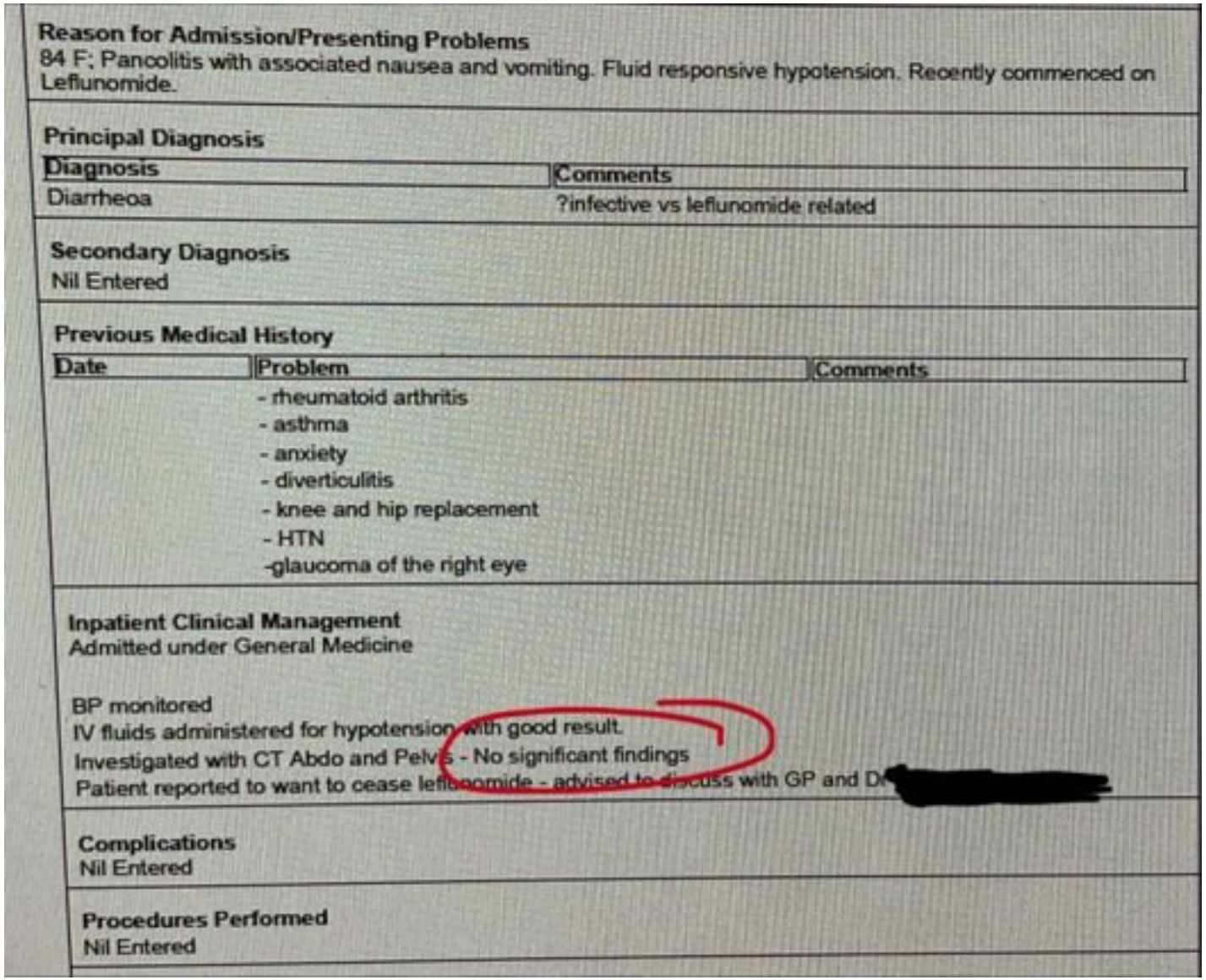
Radiologist – unaware patient was on Leflunomide

CONSIDERATIONS:

Distal diverticulosis related stricture and developing obstruction.

Chronic mesenteric ischemia.

Non-Occlusive Mesenteric Ischemia (NOMI)



Reason for Admission/Presenting Problems
84 F; Pancolitis with associated nausea and vomiting. Fluid responsive hypotension. Recently commenced on Leflunomide.

Principal Diagnosis

Diagnosis	Comments
Diarrheoa	?infective vs leflunomide related

Secondary Diagnosis
Nil Entered

Previous Medical History

Date	Problem	Comments
	- rheumatoid arthritis - asthma - anxiety - diverticulitis - knee and hip replacement - HTN -glaucoma of the right eye	

Inpatient Clinical Management
Admitted under General Medicine

BP monitored
IV fluids administered for hypotension with good result.
Investigated with CT Abdo and Pelvis - No significant findings
Patient reported to want to cease leflunomide - advised to discuss with GP and D[redacted]

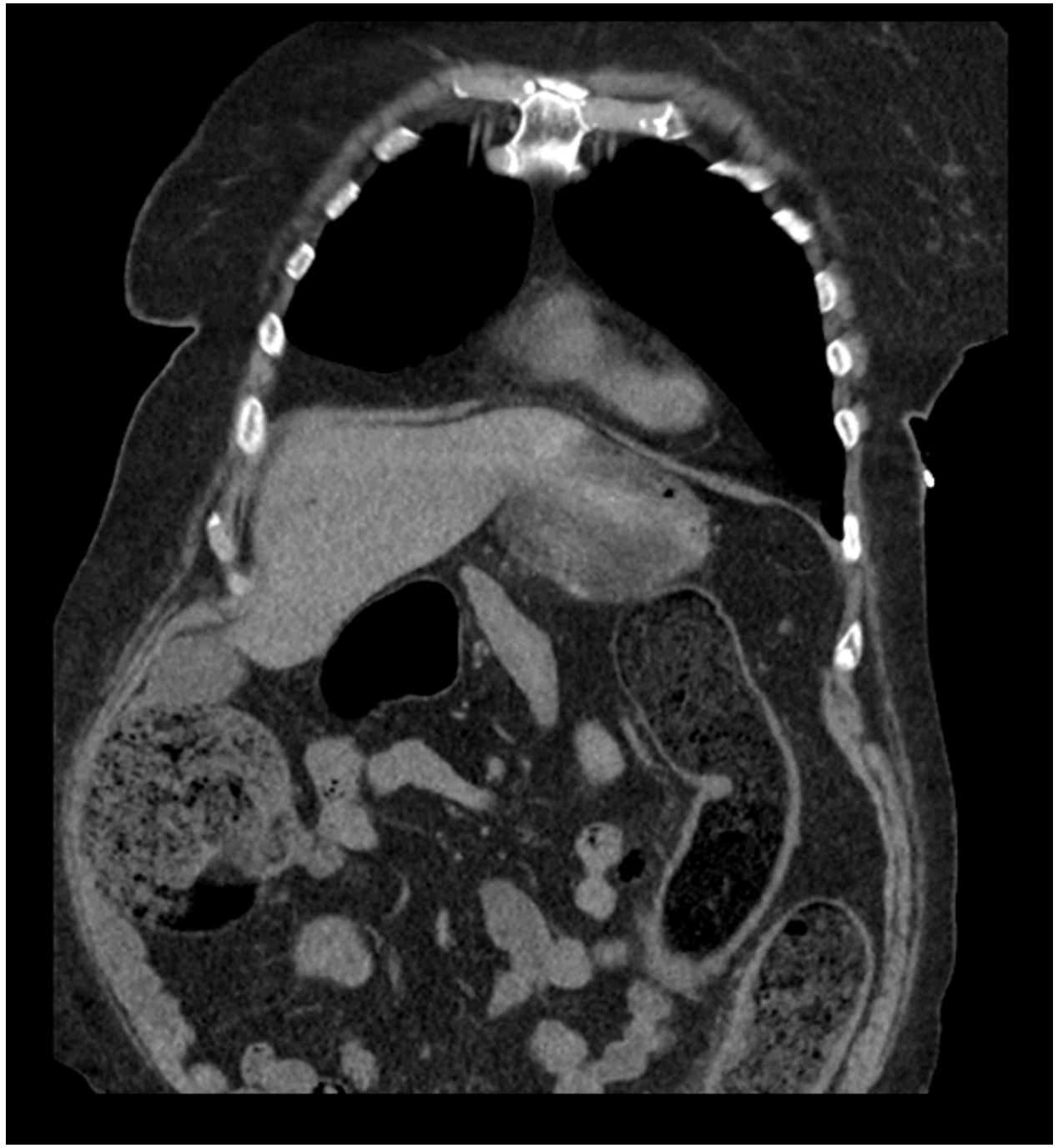
Complications
Nil Entered

Procedures Performed
Nil Entered

Case 3 – LEARNING POINTS

- Big loopholes in communication between hospitals and GPs exist.

- Unfortunately, it is the junior most in the team writing the discharge summary without adequate understanding of implications of what they see, hear and write.



MICROHARM

What is it?

- My terminology, Google has not caught up yet.

What happens?

- Harm where major morbidity or mortality is not easily perceived from a single incident/ event.

What is the outcome?

- Butterfly effect of a small seemingly minor event, that ends up adversely affecting our patients.

MICROHARM

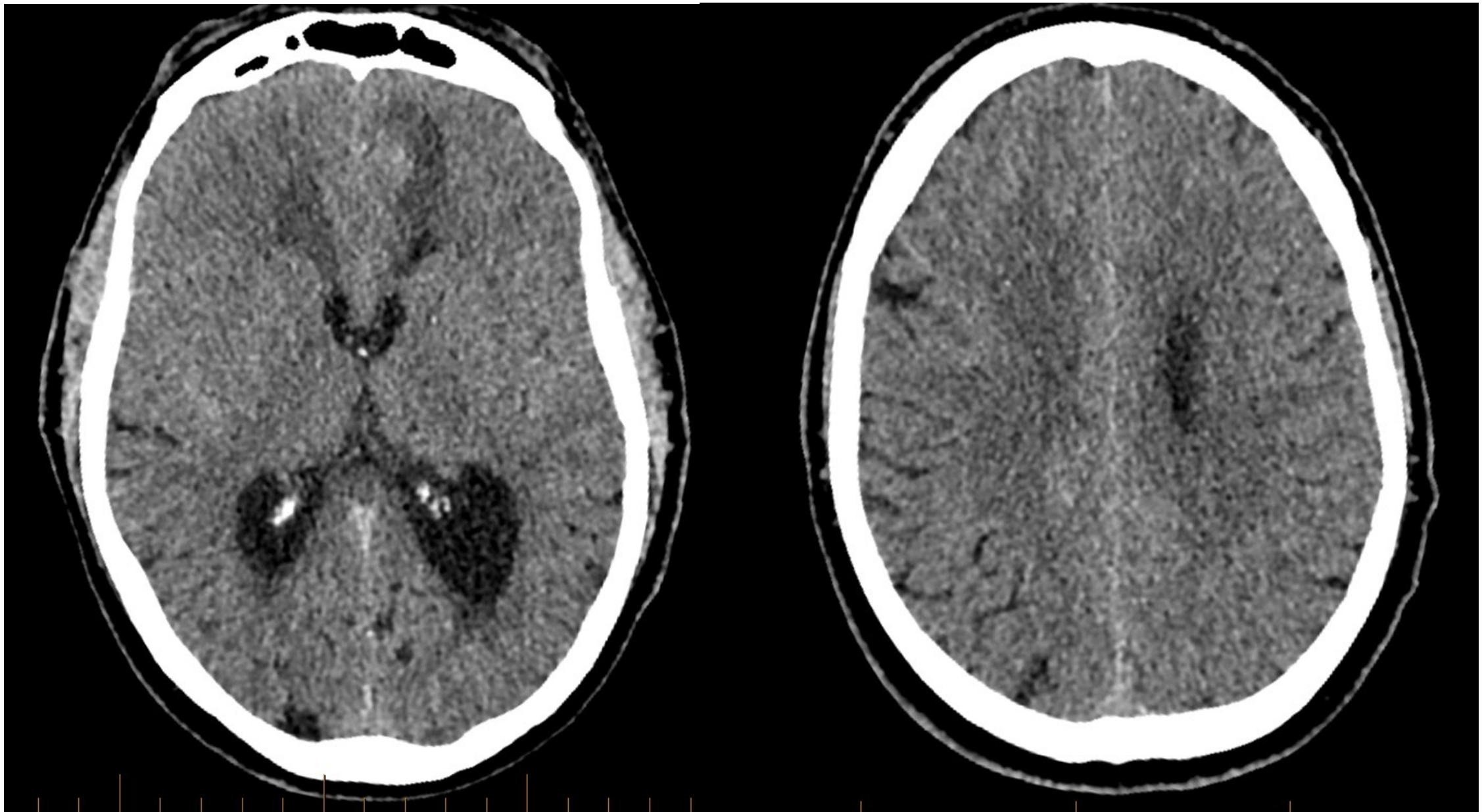
How does it affect?

- Delayed diagnosis/treatment.
- Excess imaging/ radiation/ wrong imaging.

Harm is hardly perceived in a single incident, but has the potential to cumulatively affect care, affect morbidity and mortality.

Case 4

Case 4A – Non con CT Head



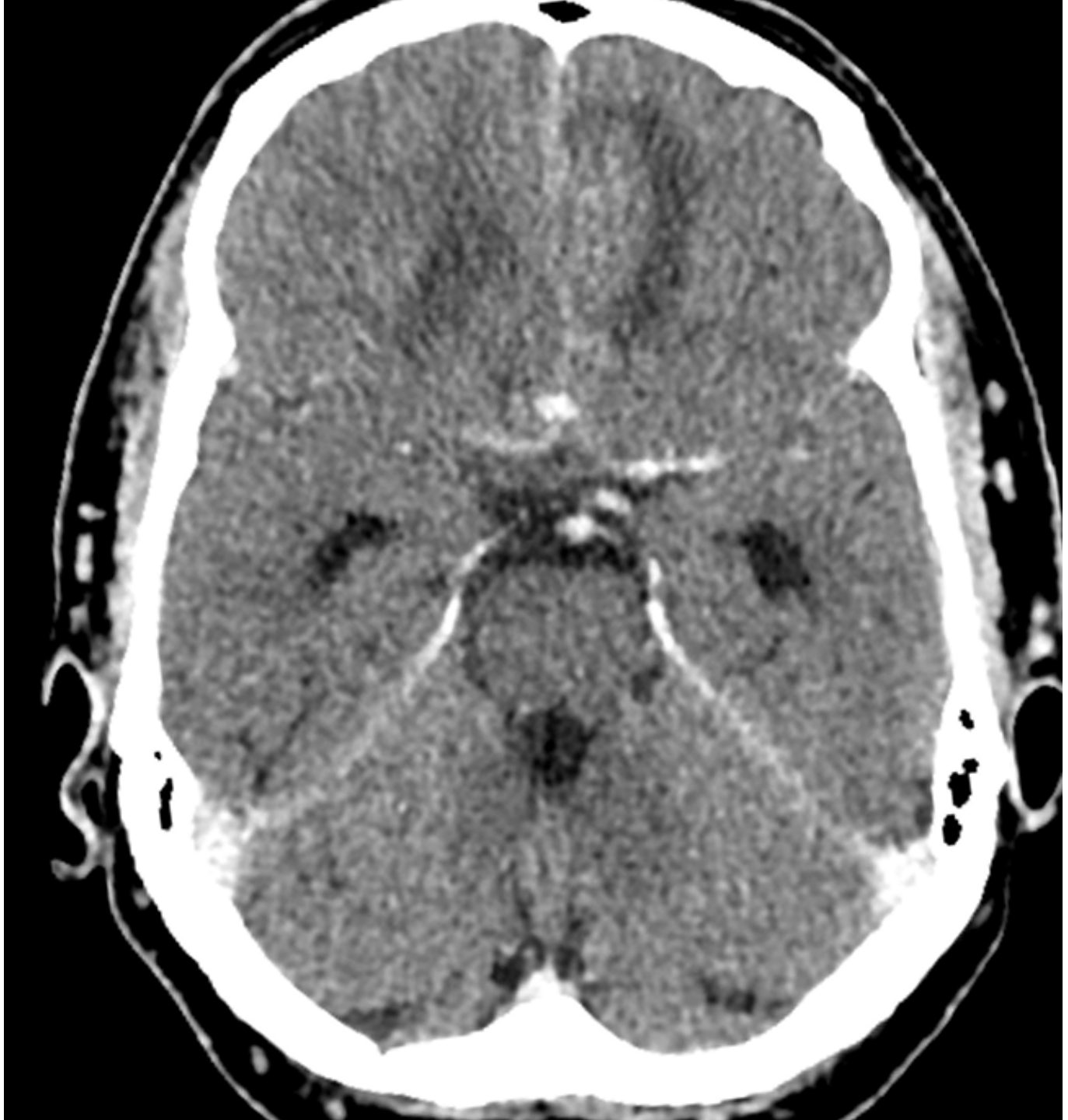
Case 4 – Non con CT Head

HISTORY:
59 M Unsteady ? Urinary incontinence. B/G alcohol misuse. GCS 14.

IMPRESSION: (Registrar year IV)
No intra cranial hemorrhage.
Parenchymal hypoattenuation in bilateral frontal lobes as well as new **hydrocephalus** and features of **raised intracranial pressure** is unlikely related to recent trauma. Further evaluation with **post contrast** CT head recommended to evaluate for underlying lesion.

ADDENDUM:(Consultant)
There is apparent patchy increased density of the sulcal spaces and cortex of the bilateral parafalcine frontal lobes. This is difficult to differentiate given the sulcal effacement. However, **subarachnoid blood** products or inflammatory material (given subsequent history of febrile patient) are in the differentials. There is similar hyperdense material in the right sylvian fissure. The appearance in the anterior parafalcine frontal lobes may relate to **infective inflammatory process, subfalcine infarct or subacute contusions.**
The basal cisterns are patent.
There is no herniation or midline shift.

Case 4A – Postcontrast CT Head



Case 4B – Post con CT Head

HISTORY:

59 M Abnormalities on CT Brain. ? Raised ICP

IMPRESSION: (Registrar year IV)

Bifrontal parenchymal hypoattenuation, new hydrocephalus, and features of raised intracranial pressure with possible leptomeningeal enhancement is concerning for **meningitis/ cerebritis** given current presentation.
If clinically appropriate, suggest further evaluation with lumbar puncture and MRI Brain.

ADDENDUM: (Consultant)
There is **suspicion of an aneurysm** in the vicinity of the anterior communicating artery, noting that this examination has been performed as a post contrast examination rather than a CT Angiogram. **An aneurysm cannot be excluded.**

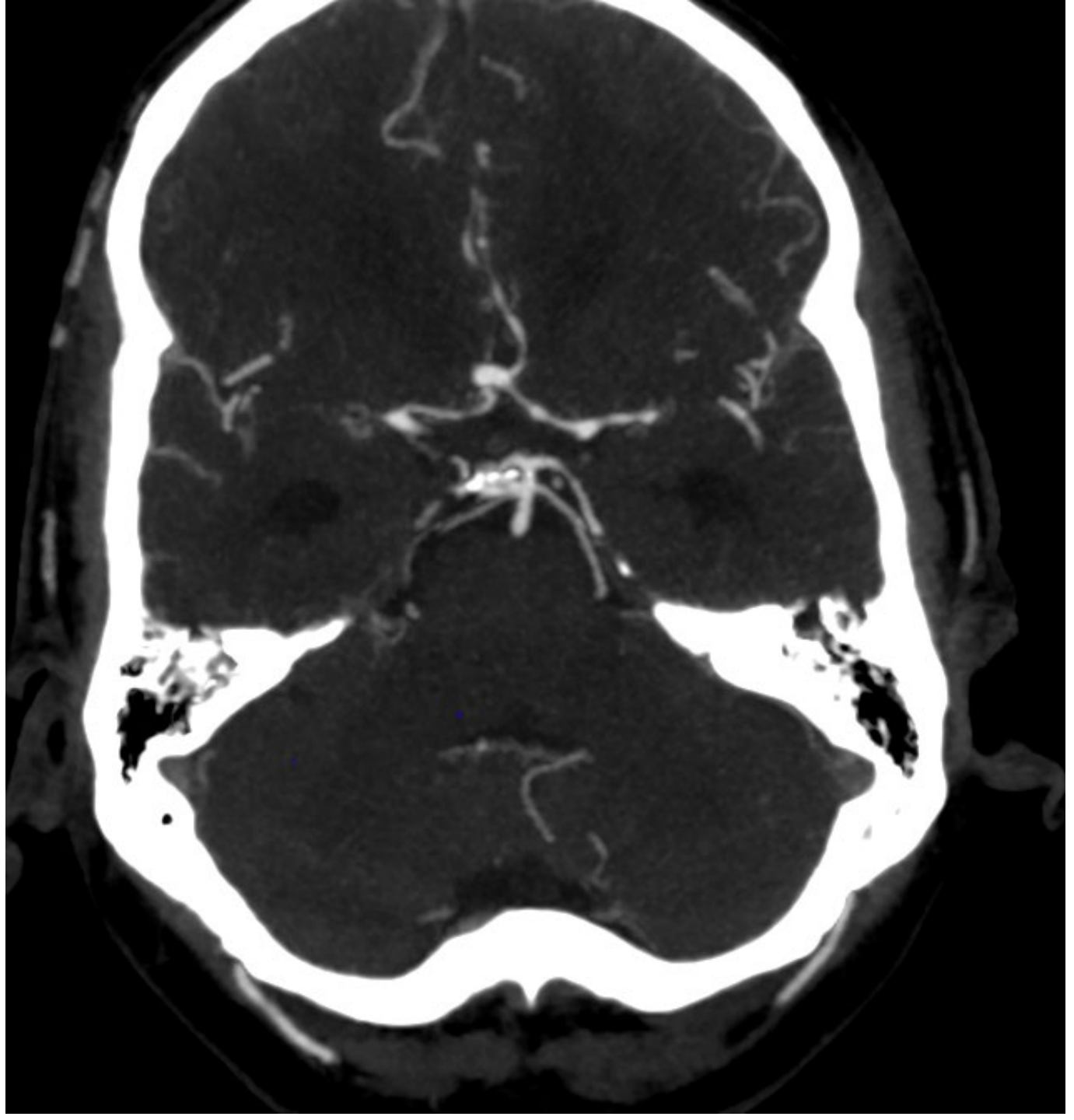
Case 4- Day 4

Request for MRI, as no clinical improvement with antivirals, for presumed encephalitis.

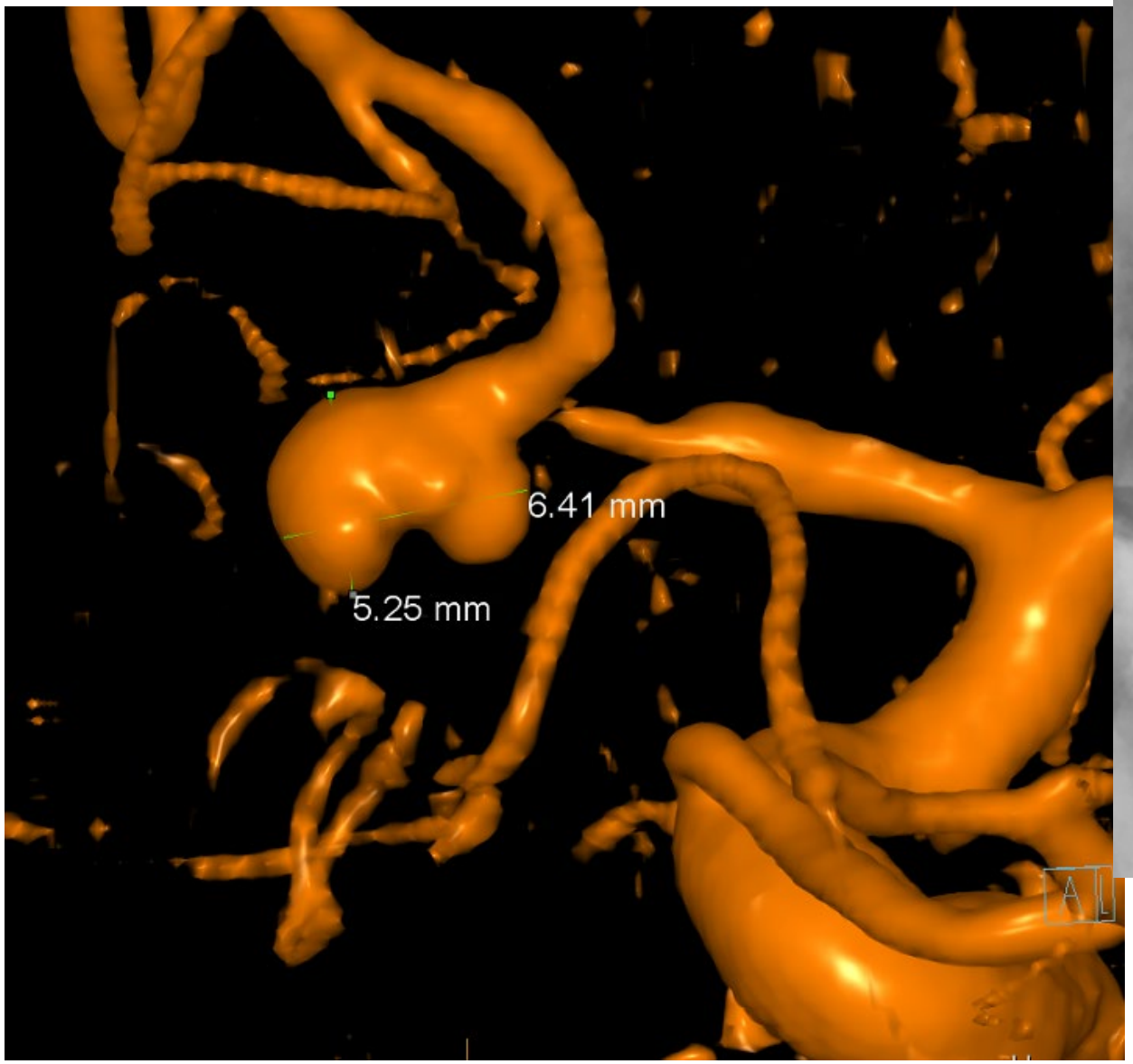
Blood on Lumbar puncture – sample not sent as it was hemorrhagic.

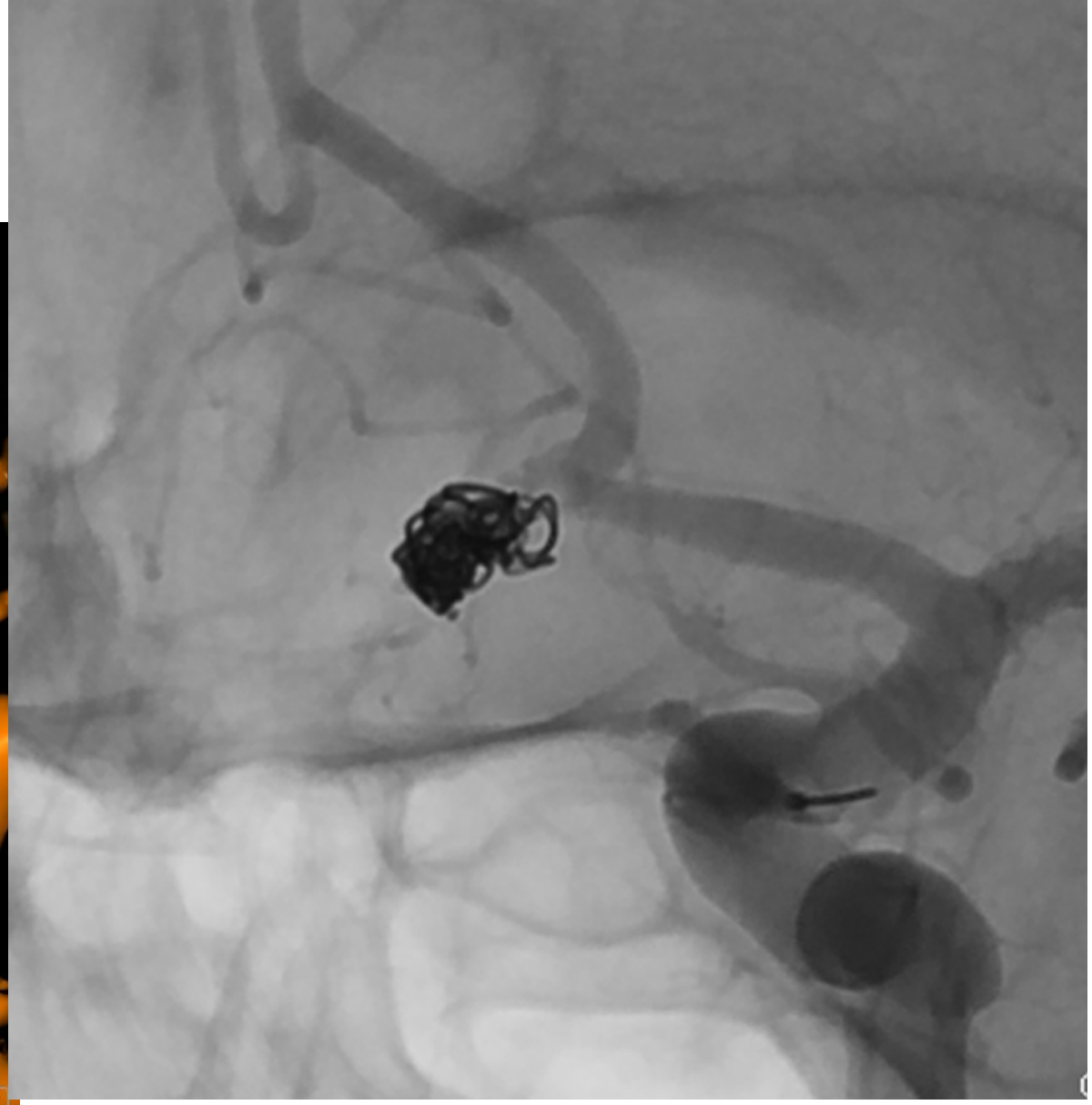
CT Angiogram was performed.

Case 4- Day 4



Case 4 - Day 6





Case 4 - LEARNING POINTS

ADDENDUM:

There is suspicion of an aneurysm in the vicinity of the anterior communicating artery, noting that this examination has been performed as a post contrast examination rather than a CT Angiogram. **An aneurysm cannot be excluded.**

Case 4 - LEARNING POINTS

ADDENDUM: (Consultant)
There is suspicion of an aneurysm in the vicinity of the anterior communicating artery, noting that this examination has been performed as a post contrast examination rather than a CT Angiogram. ~~An aneurysm cannot be excluded.~~

Case 4 - LEARNING POINTS

ADDENDUM: (Consultant)
There is suspicion of an aneurysm in the vicinity of the anterior communicating artery, noting that this examination has been performed as a post contrast examination rather than a CT Angiogram. ~~An aneurysm cannot be excluded.~~

As there is a suspicion of an aneurysm, please consider CT Angiogram to confirm/ exclude it. Dr XXX notified over phone at 10 am on 07/06/24.

Case 5

Case 5

HISTORY:

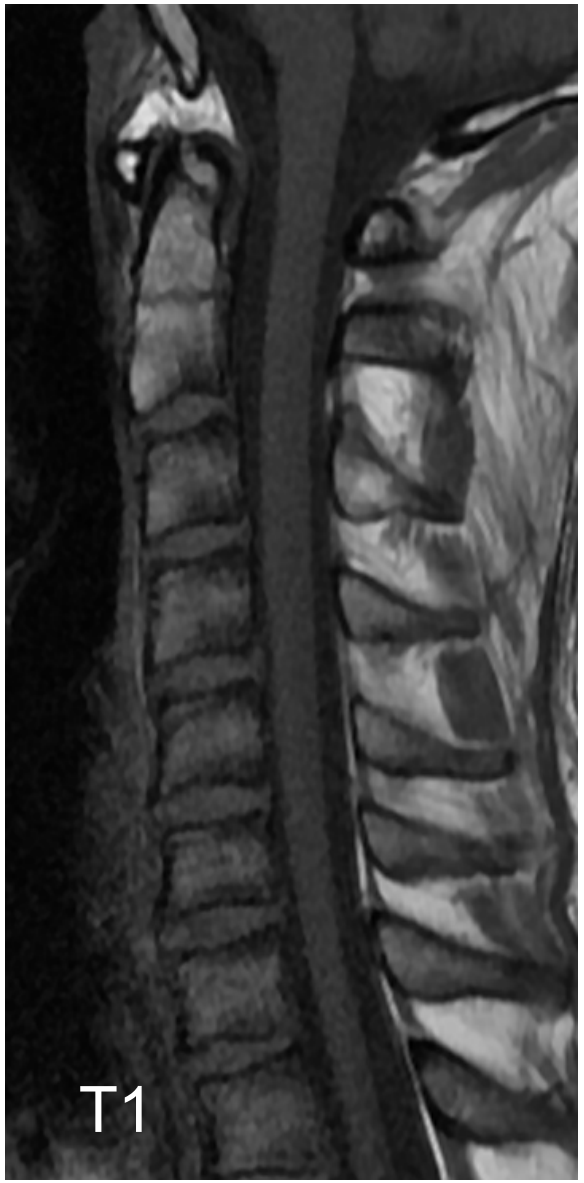
37 M left leg radicular pain with L5-S1 disc herniation. **Recent** MVA where he was rear-ended on freeway on ramp. Now developed bilateral leg pain. Some mid thoracic and cervical discomfort.

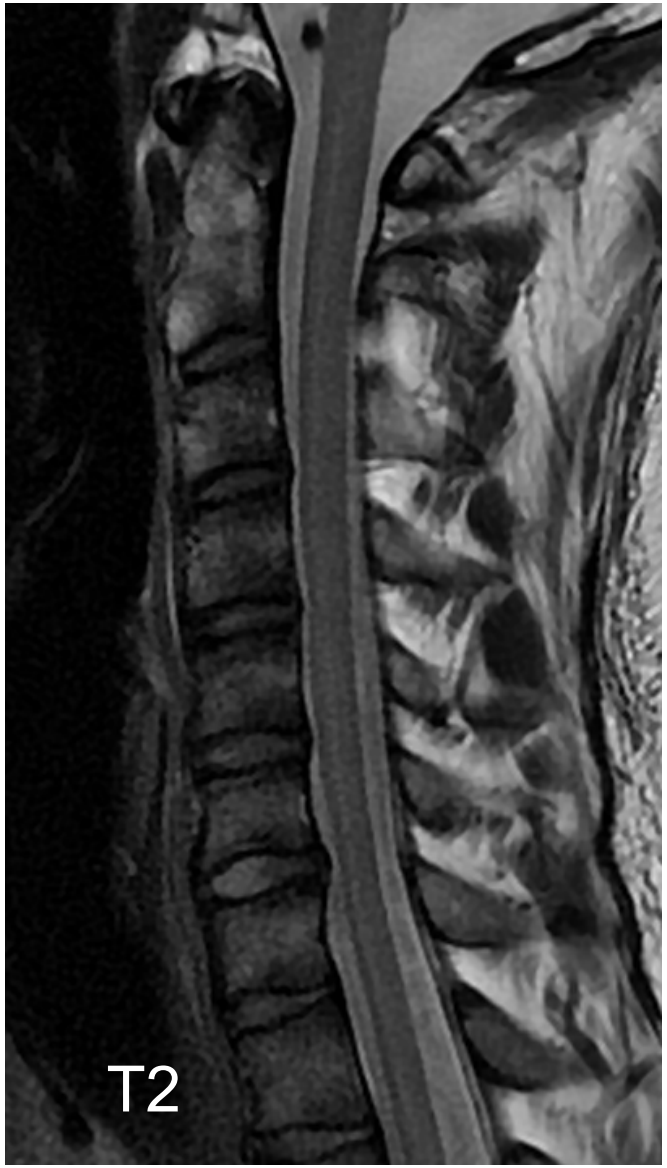
IMPRESSION:

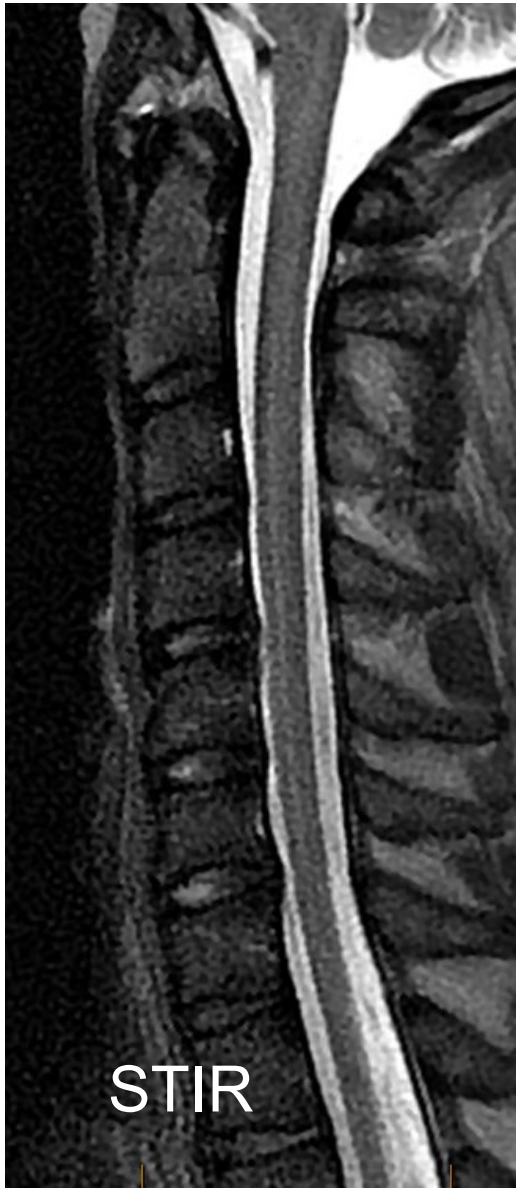
Transverse fracture through the dens, at the level of the lateral masses with no displacement. Fracture involves the anterior and posterior cortices. **No significant marrow oedema**. Minimal prevertebral soft tissue swelling. The apical ligament, transverse ligaments and posterior longitudinal ligaments appear intact. The anterior longitudinal ligament is slightly thickened - ? sprained.

This is likely a subacute fracture given the history, even though marrow oedema is minimal . I've discussed these findings with the neurosurgical team who have asked to send the patient to emergency department immediately for clinical assessment, CT cervical spine, erect cervical spine x-ray and a hard collar.

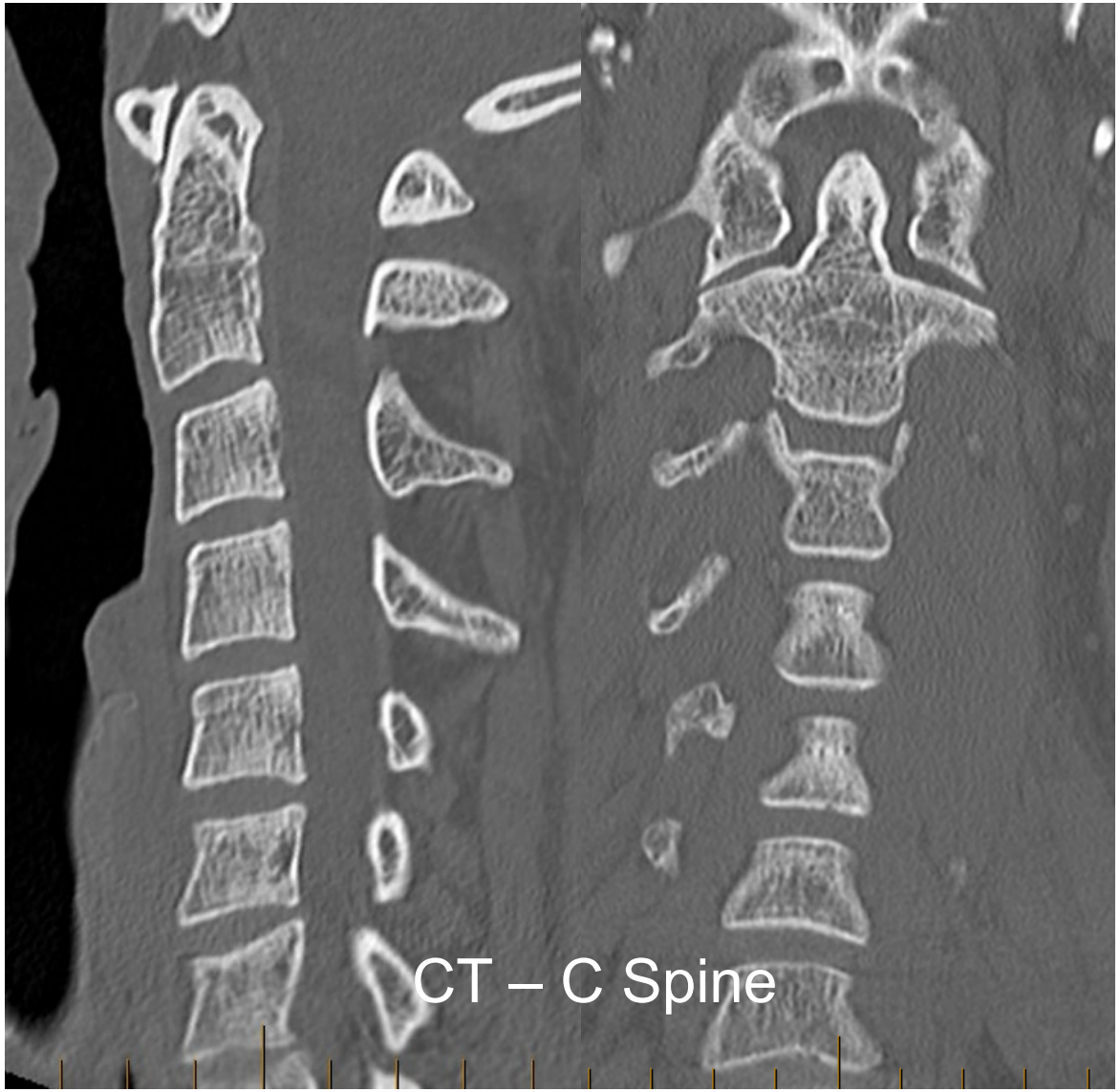
Case 10







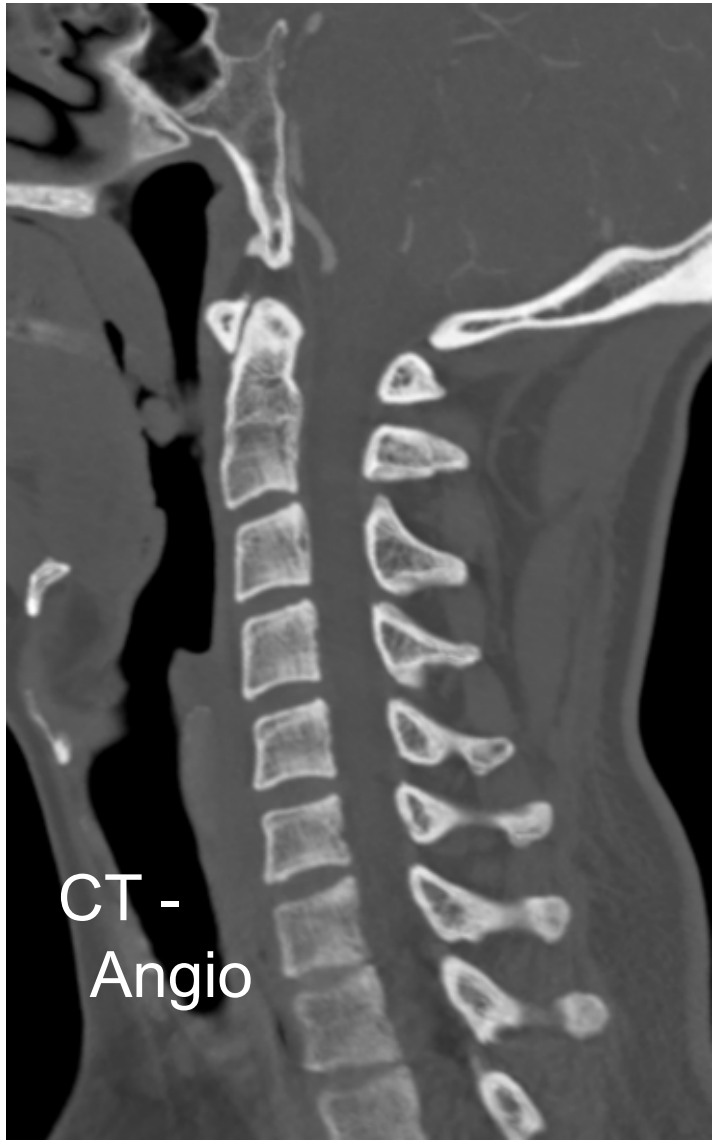
Case 10



Band of sclerosis at the superior margin of the body of C2 **may** reflect a **healed minimally displaced type II dens fracture**.

No cortical step detected.

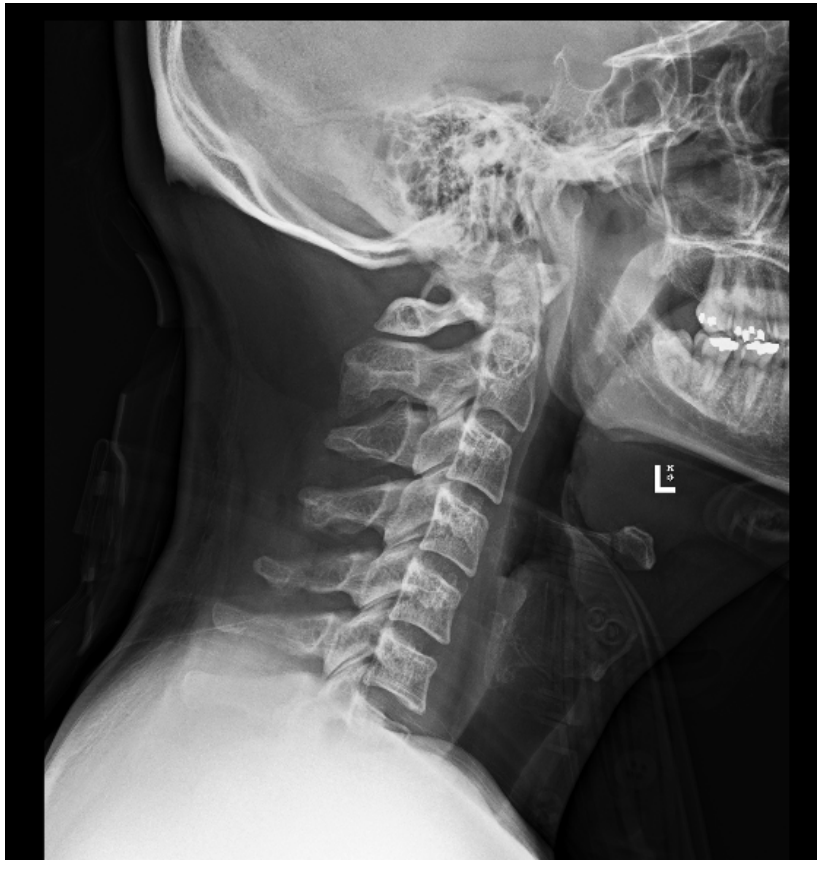
Case 10



CT Angiogram

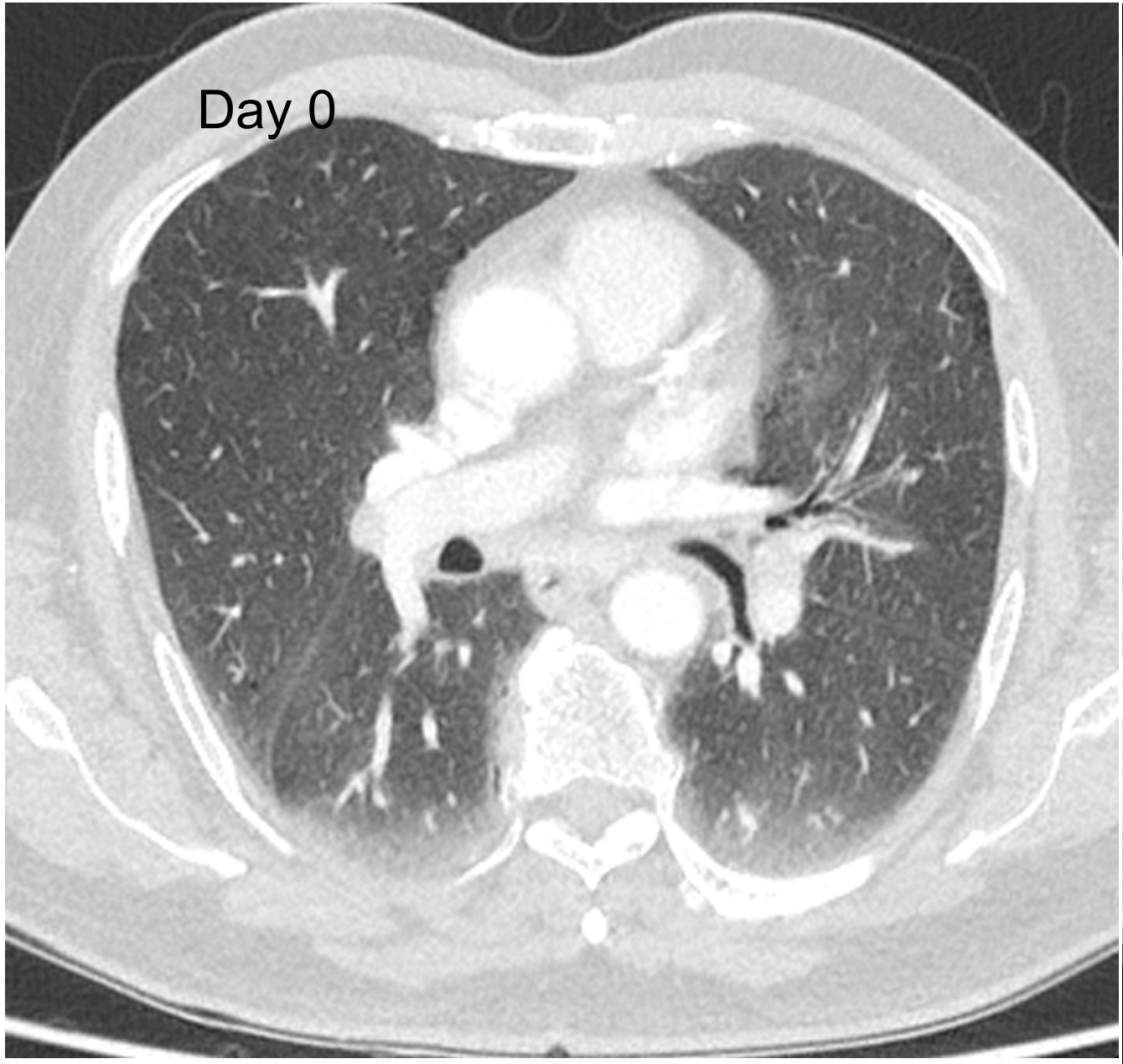
No evidence of dissection or high grade ICA stenosis.

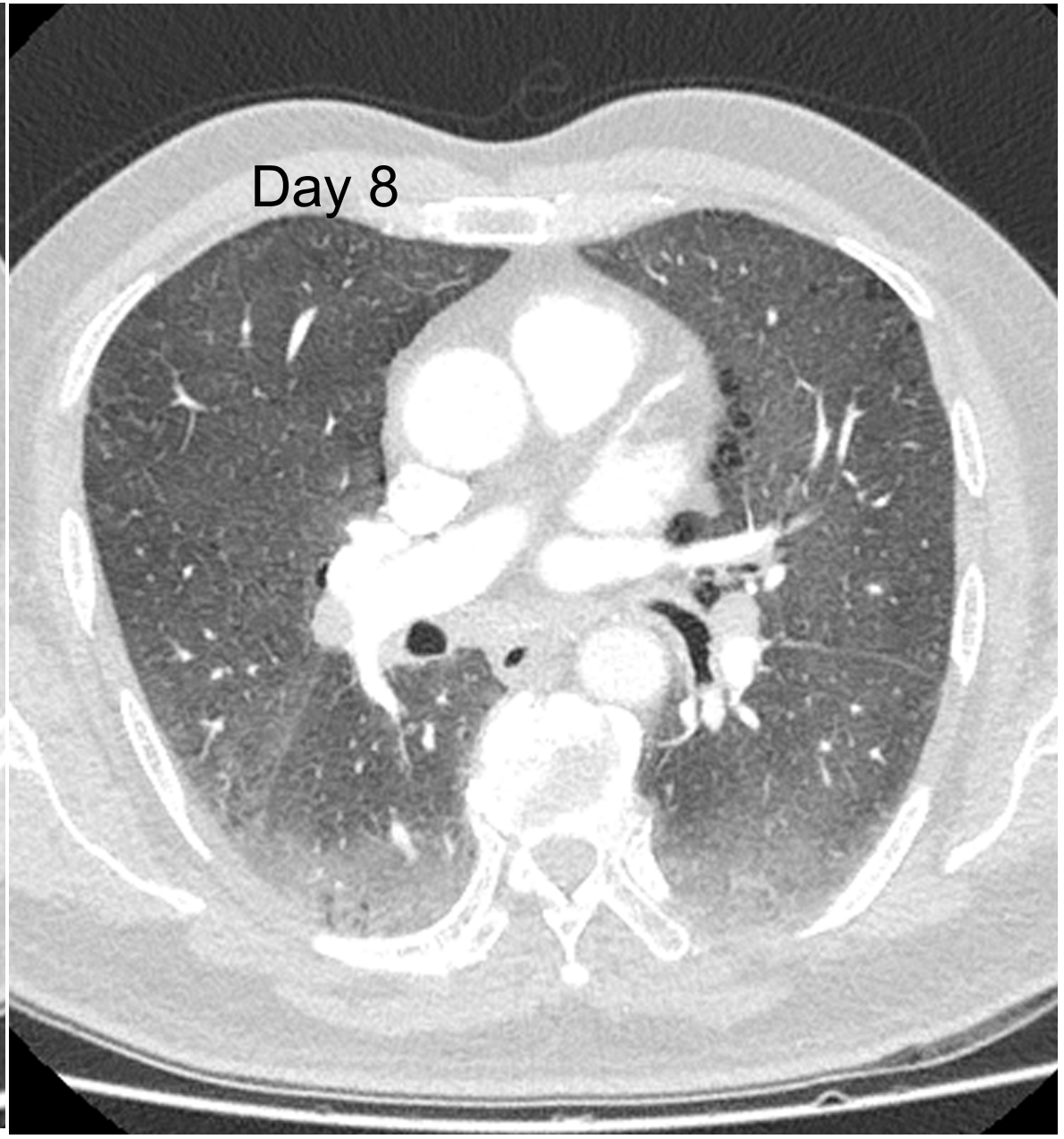
Non-contrast CT head not performed and therefore intracranial bleed not excluded.



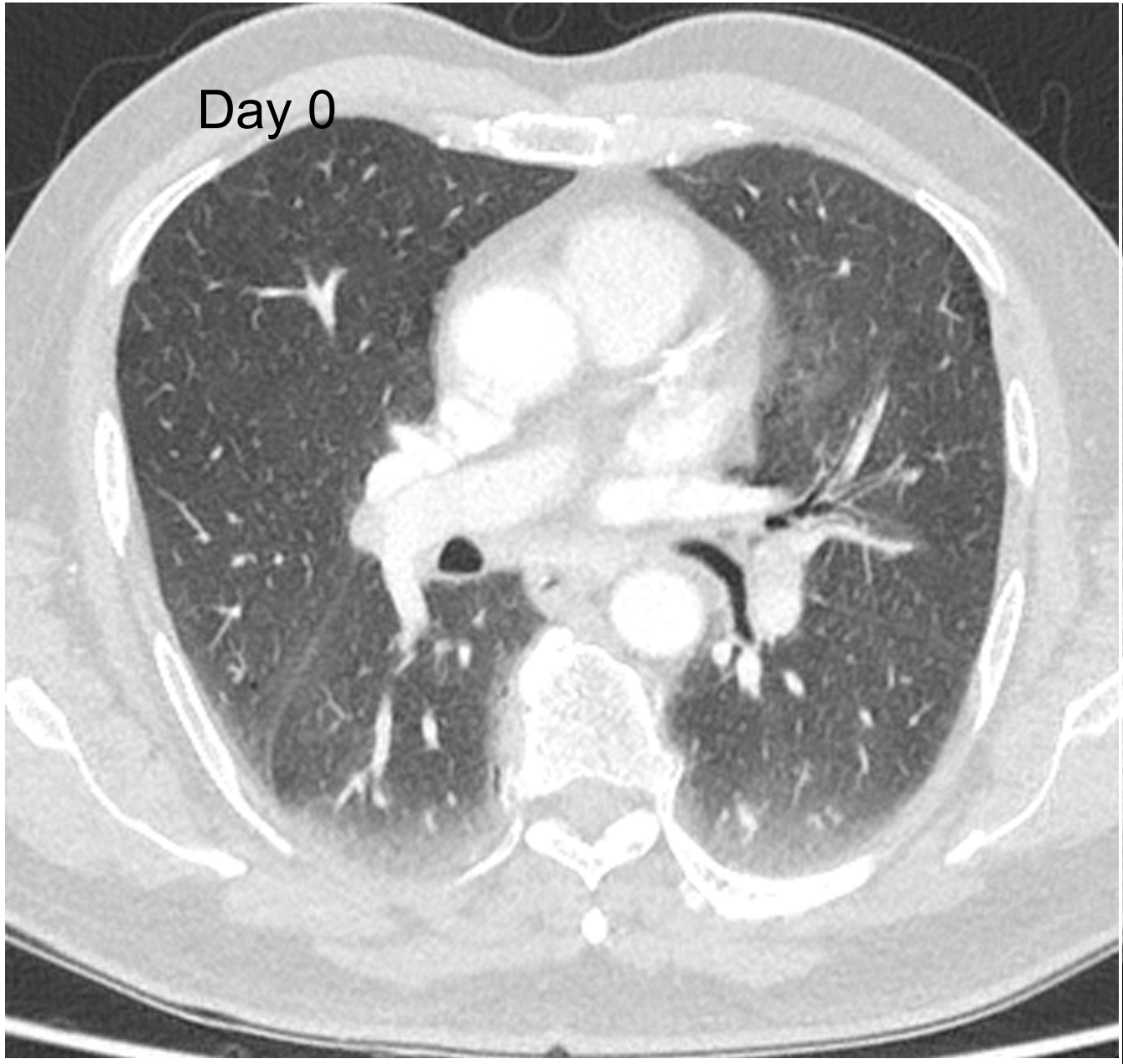
Extra Cases

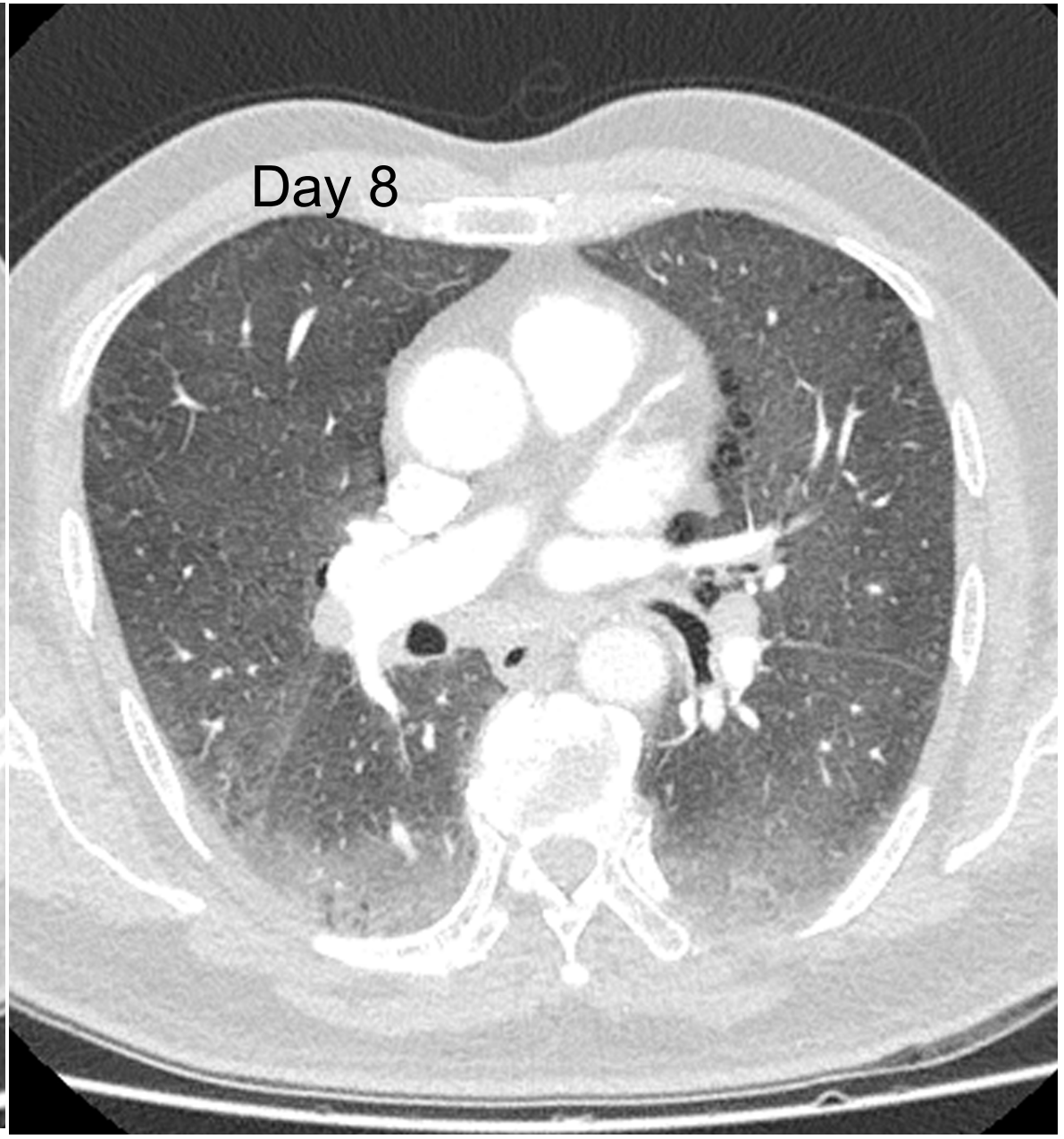
A) Missing history :



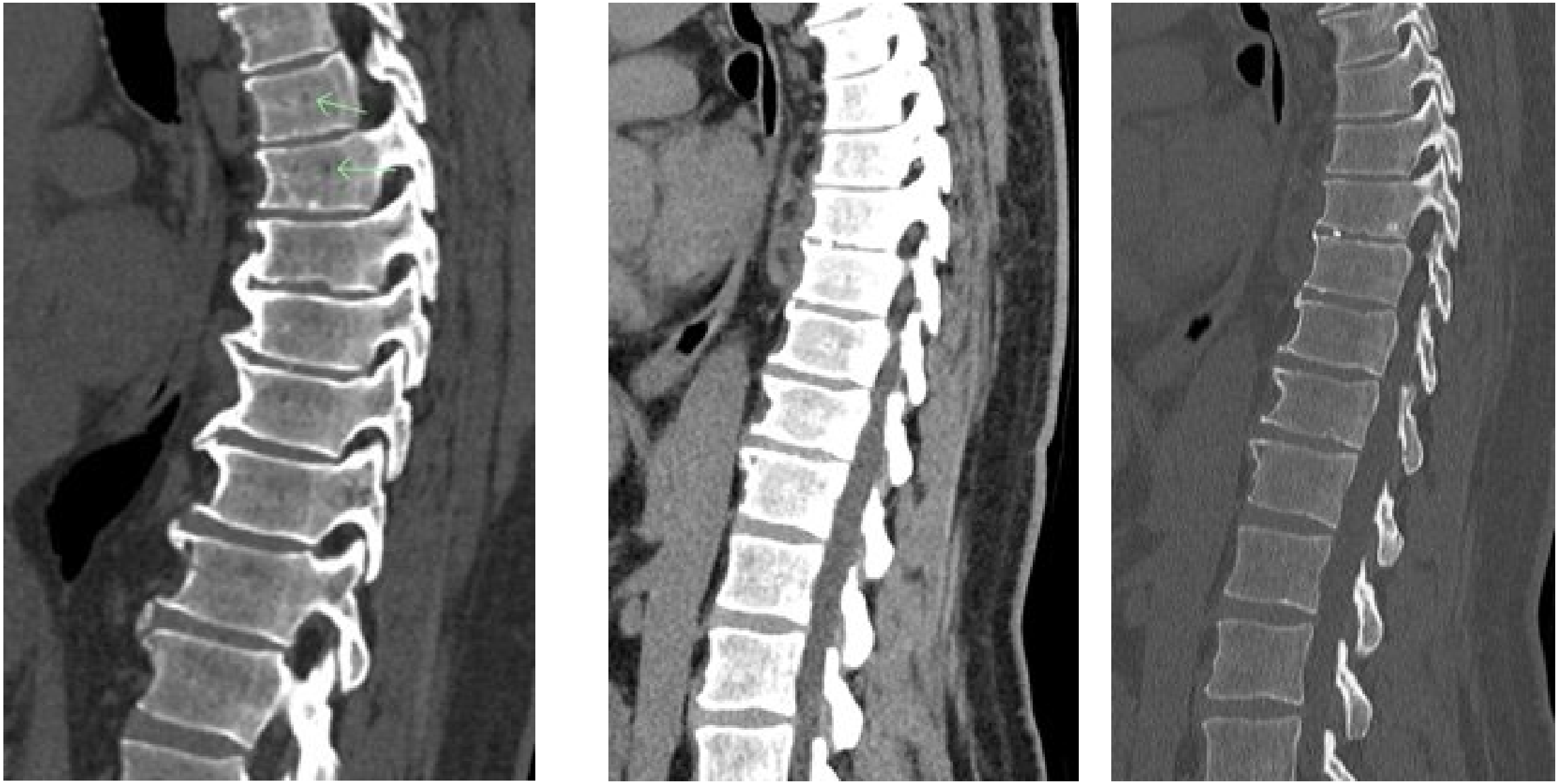


A) Missing history : Immunocompromise :PCP

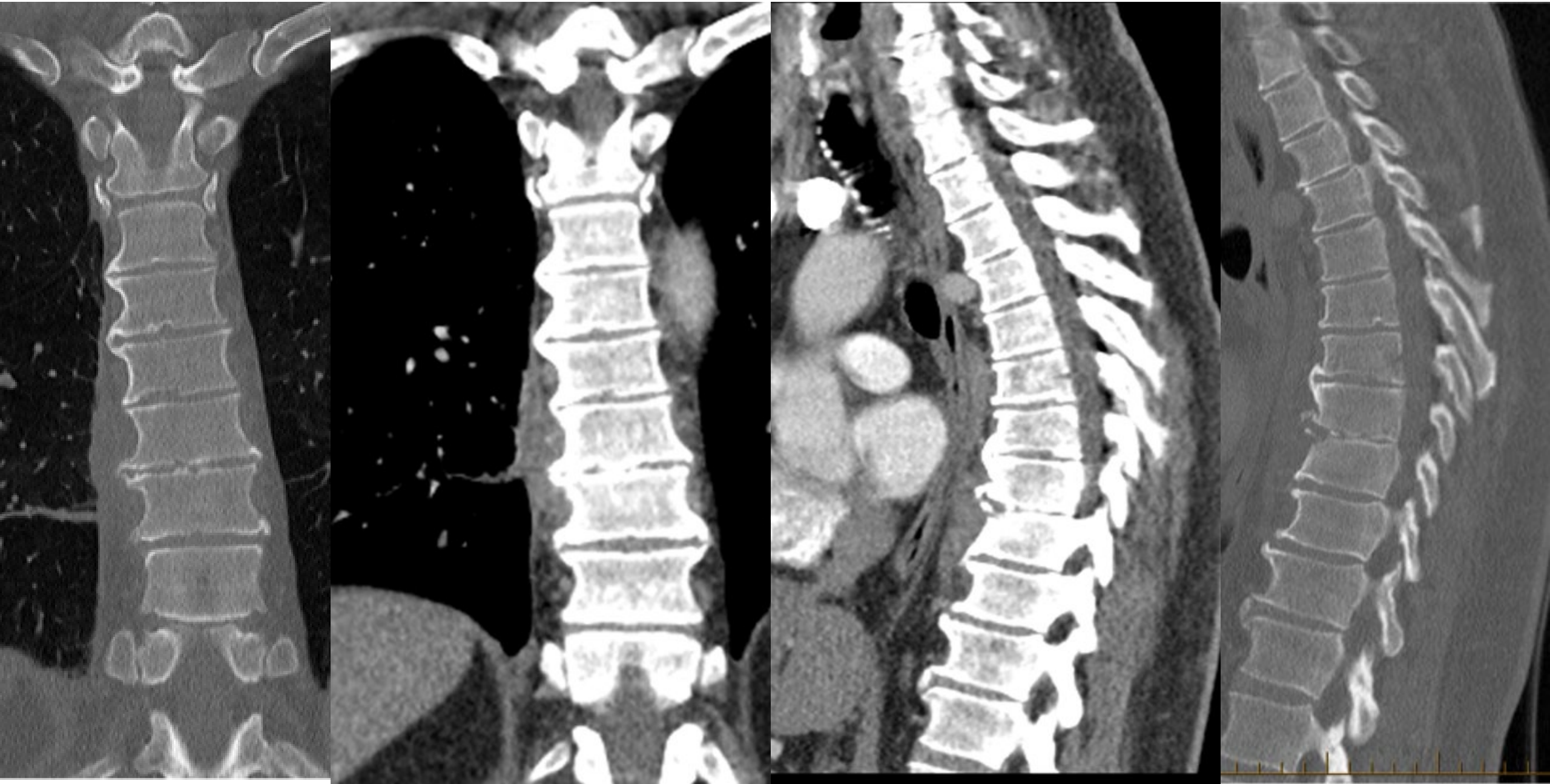




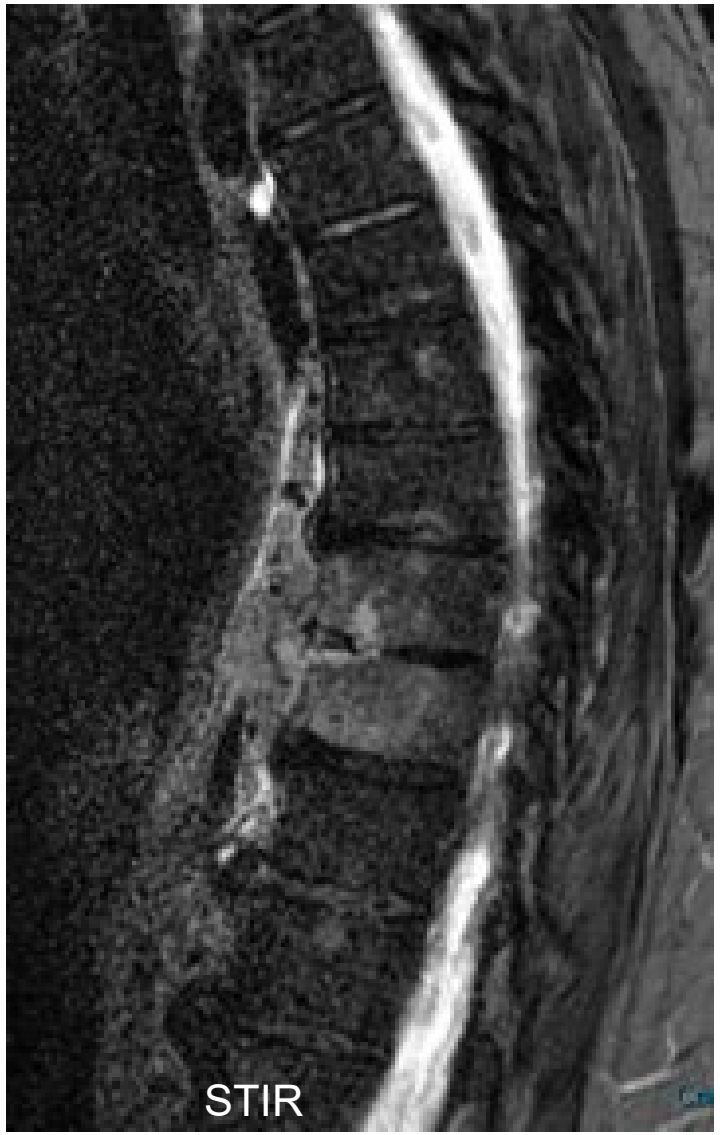
B) Back pain – down the wrong rabbit hole

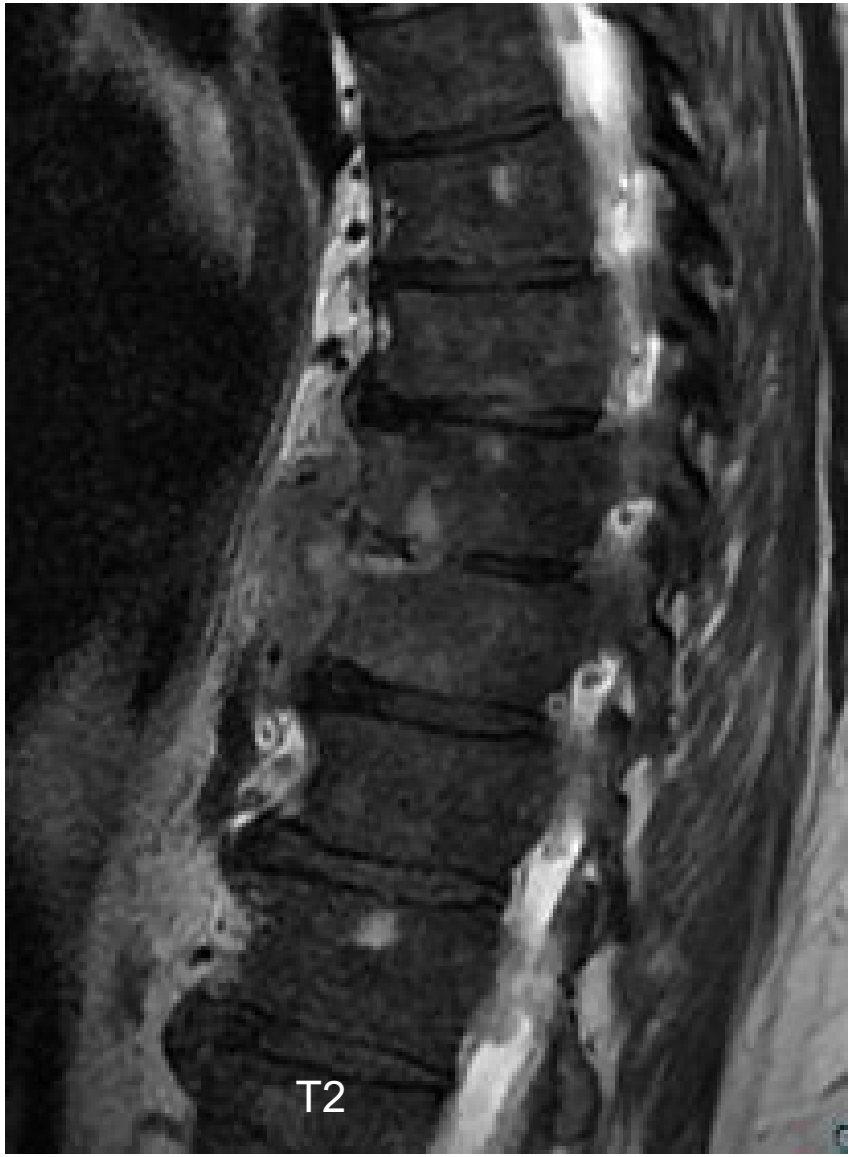


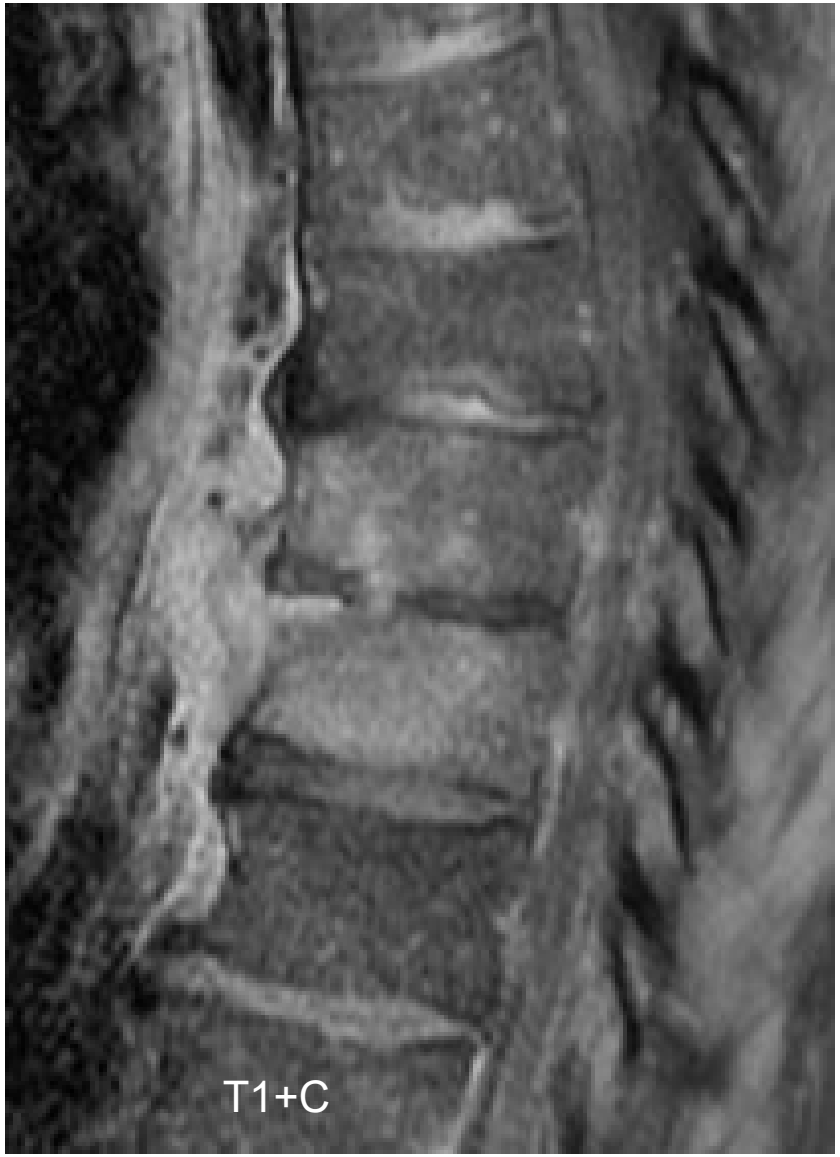
B) Back Pain – 1 month later



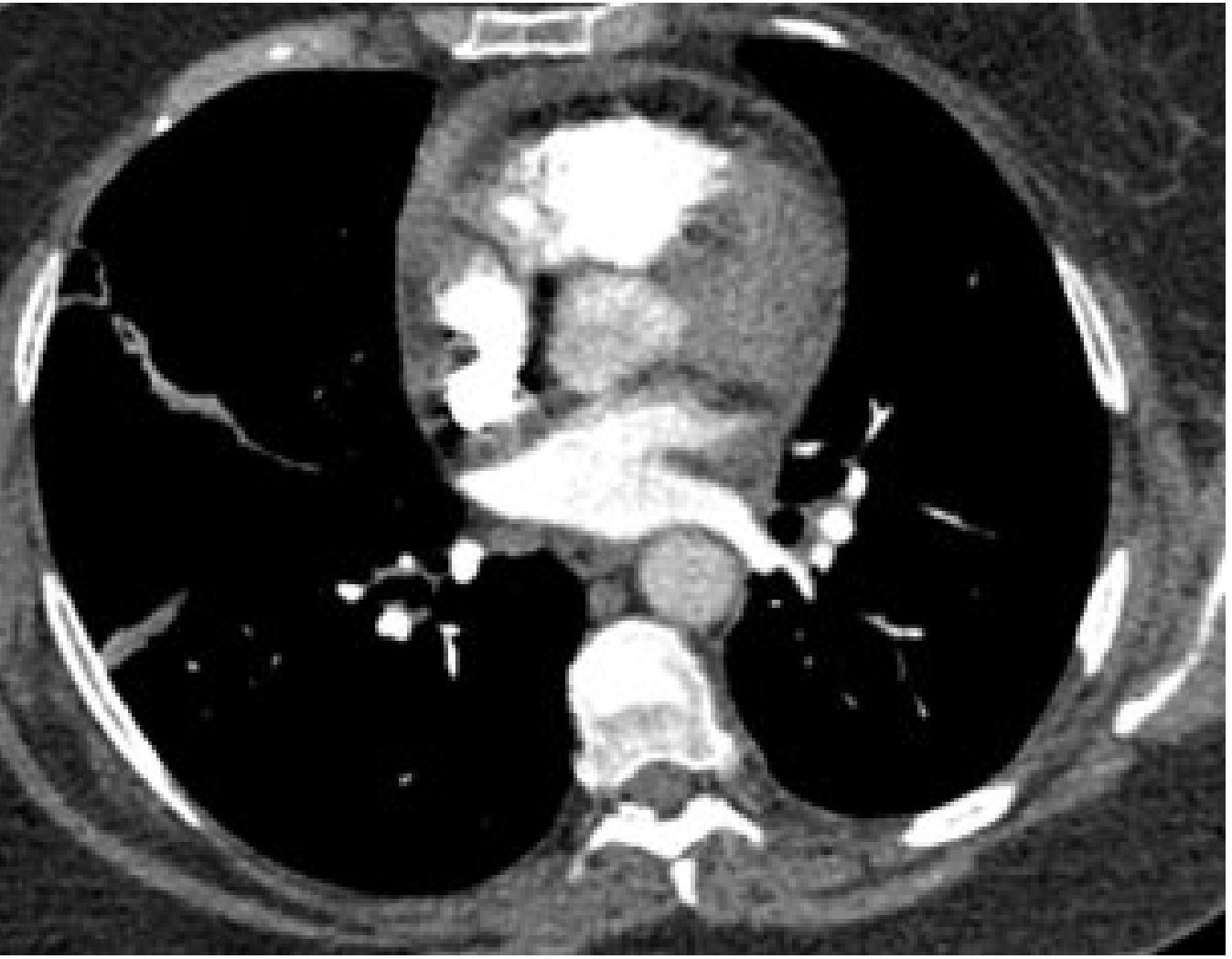
Case 7 – 2 weeks later

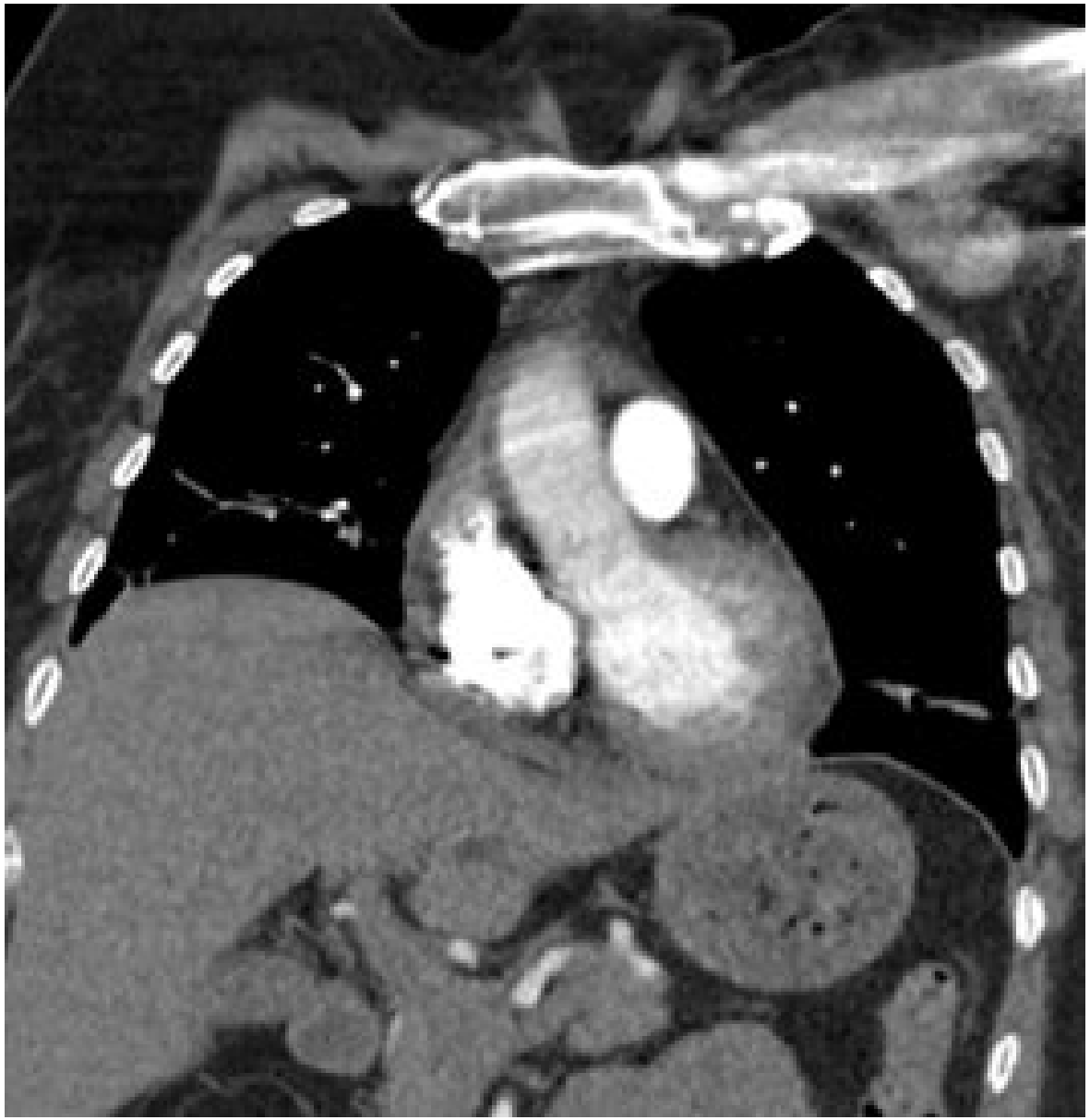






Case 9 - Pericarditis





How to train a radiologist?

How to train a radiologist?

- Good history, clear question.

  LBP, CP, SOB, ? Intraabdominal Pathology,

- Feedback Feedback Feedback

  – restaurant analogy.

  Email the radiologist, or practise manager

- If in doubt check it out/ call it out.

- Incoherent word salad reports.

Take home points

HISTORY-

Cancer

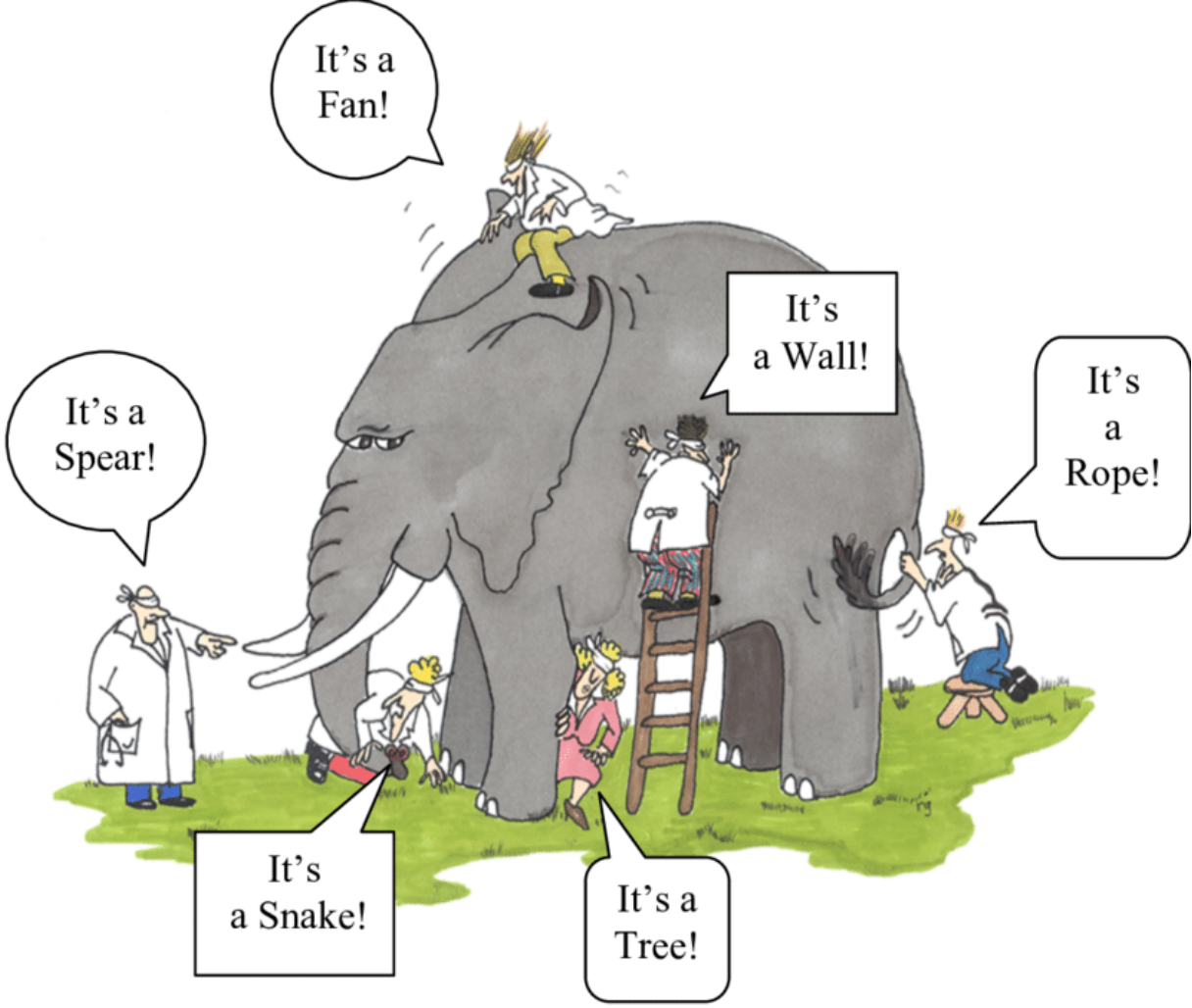
- Left lung adenocarcinoma
- Metastasis to R hip
- Treated with??

  Radiotherapy / Chemotherapy

Immunocompromise

- Why, what are they on
- Side effects etc

Complex Surgical History



Take home points

HISTORY-

Cancer

- Left lung adenocarcinoma
- Metastasis to R hip
- Treated with??

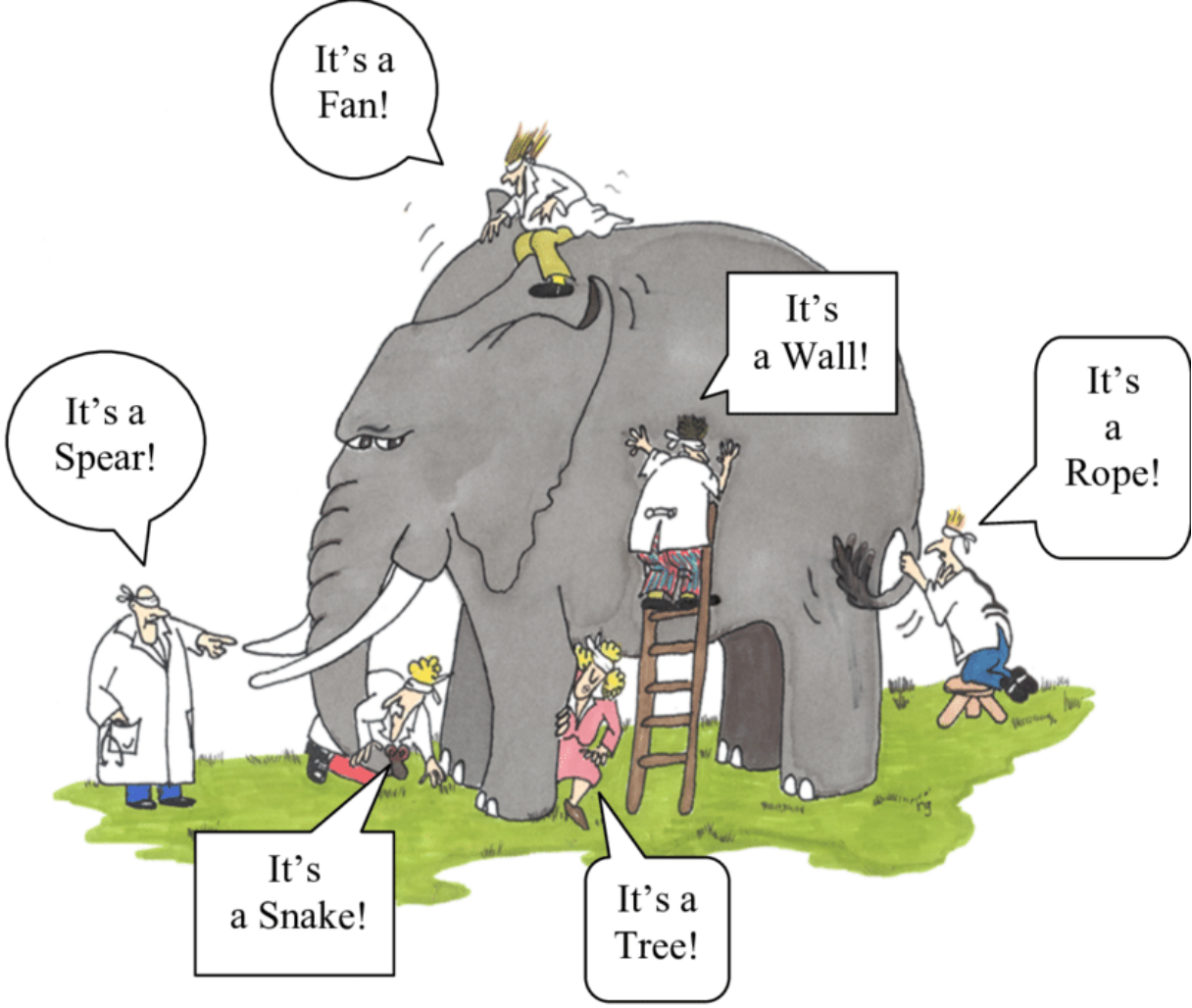
  Radiotherapy / Chemotherapy

Immunocompromise

- Why, what are they on
- Side effects etc

~~Complex Surgical History~~

L hemicolectomy for diverticulitis



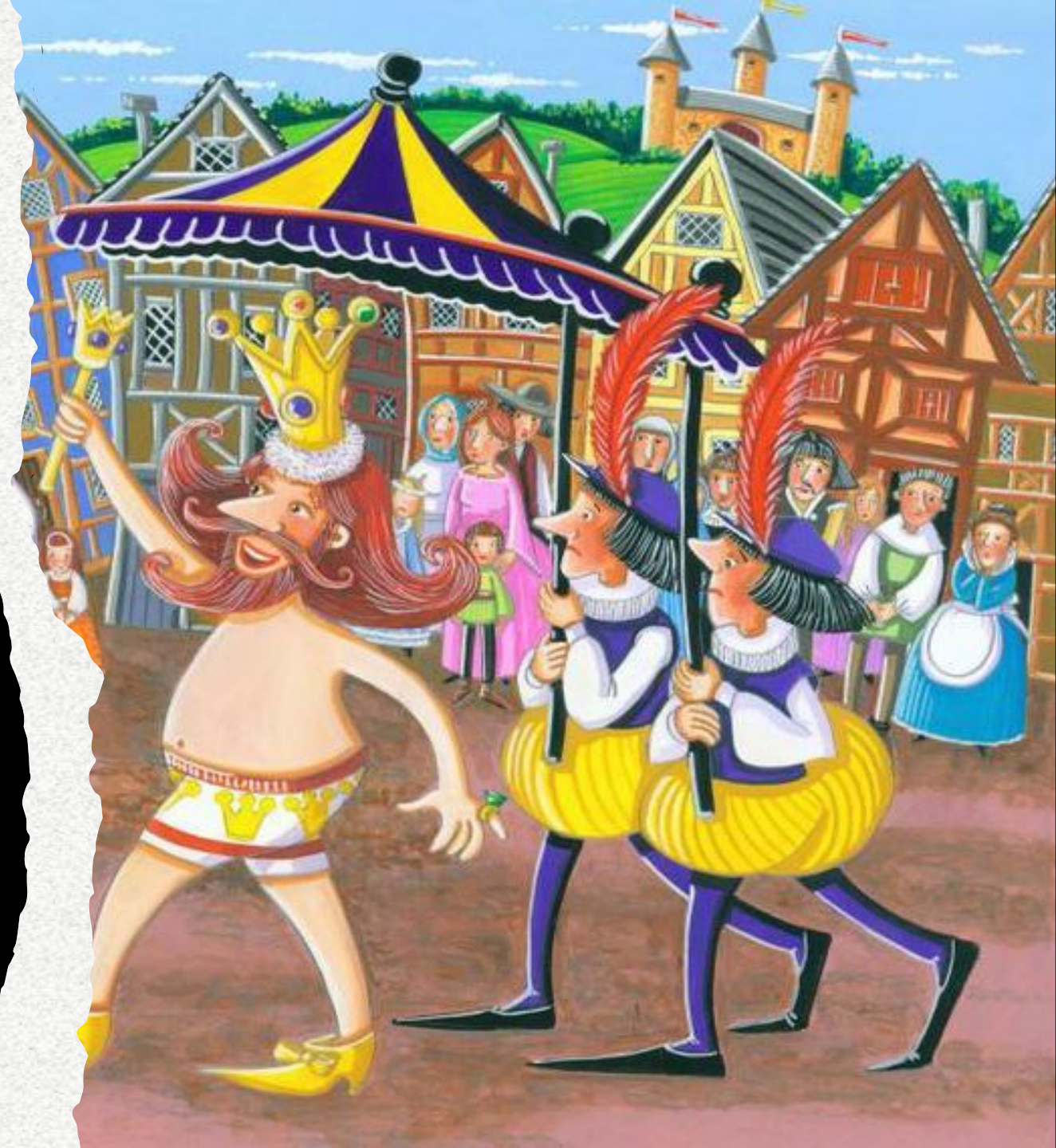
How it affects us – OHO / AHPRA

Often the case that we least expect

Feedback

- Morbidity + Mortality meetings – AMC + Colleges often have a separate category CPD for these.
- Unless the loop is closed the lesson is not learnt.
- Be open to open the black-box.
- Respectful + Objective feedback (both give and receive).

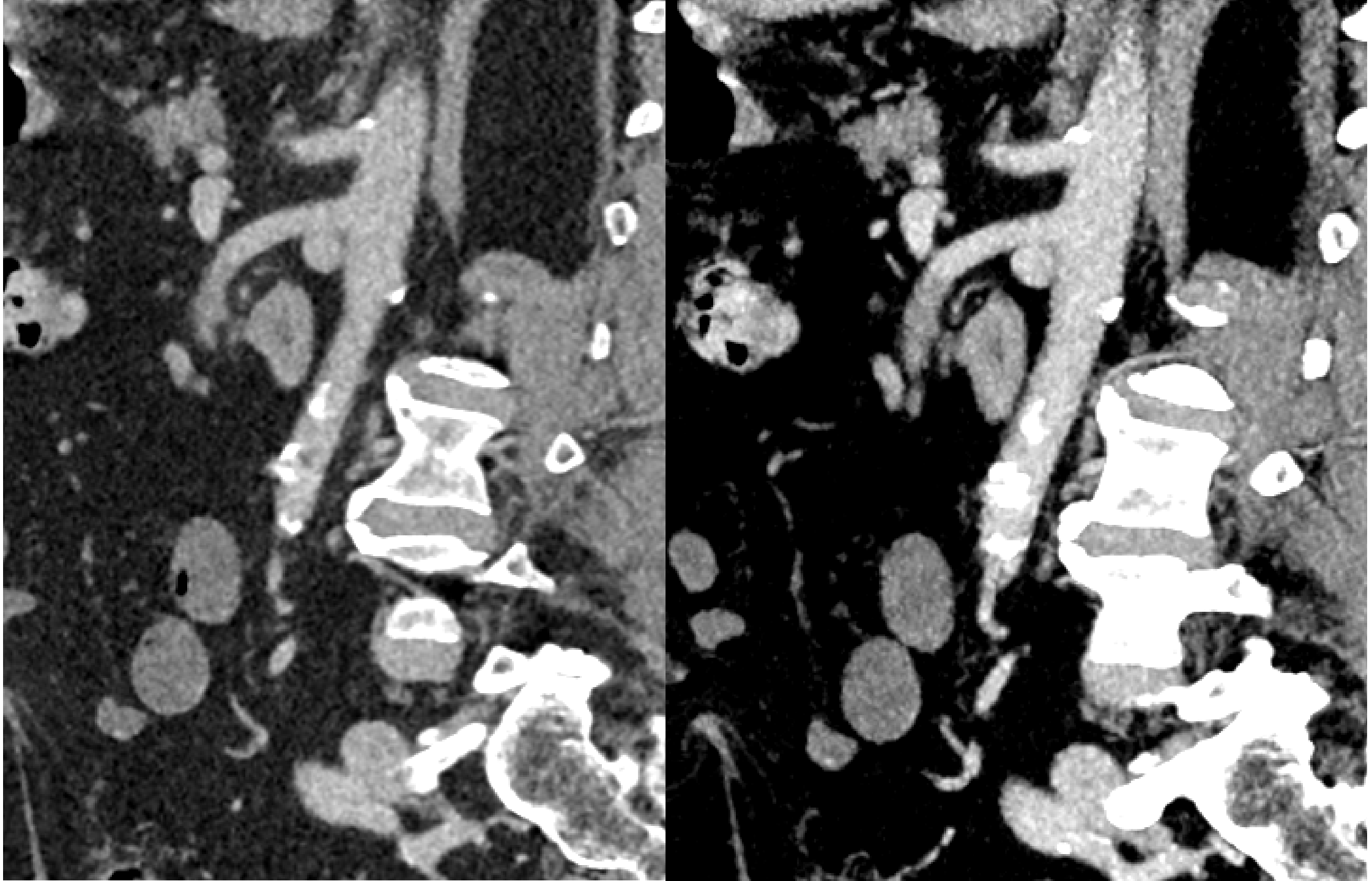
Emperor's new dress

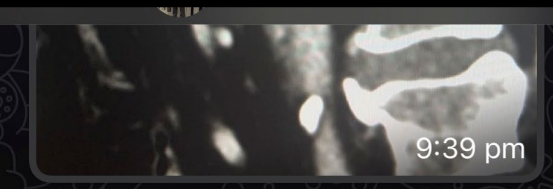


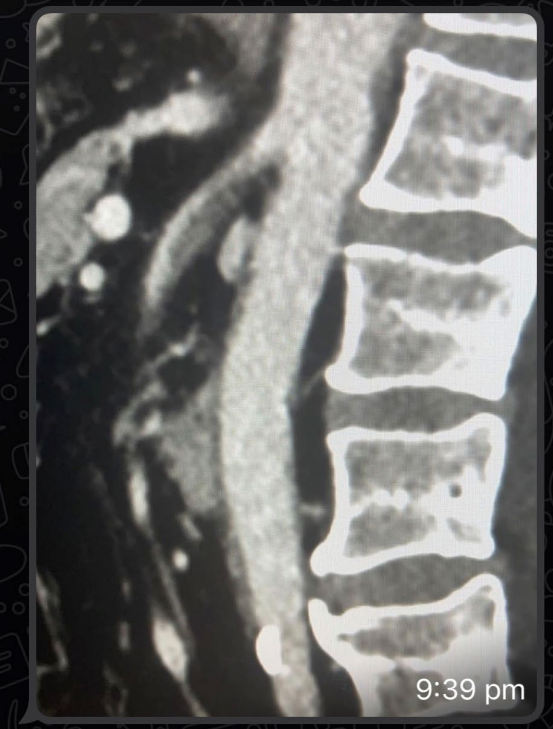

We are only as strong as
our weakest weakness

Spread the word about your errors

Case 1

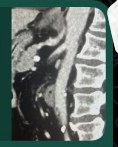






Ross Smith - Rad Reg SCUH

Photo



Awesome. That is great Ross

9:40 pm

Honestly-Makes such a difference 👍

9:43 pm

1 life lost is 1 too many

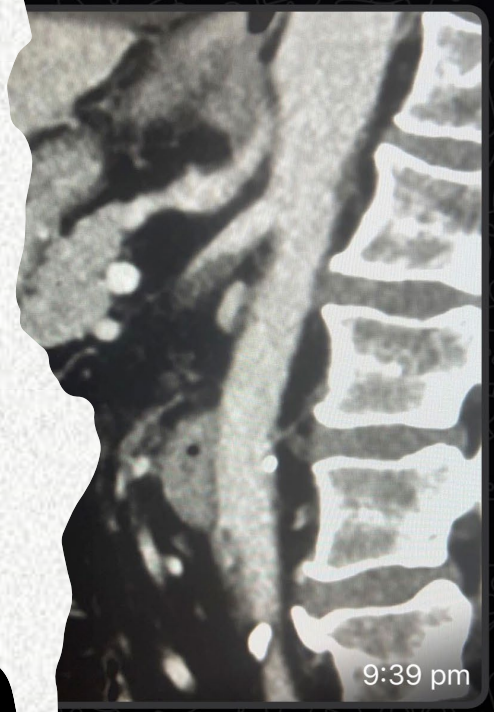
9:32 pm

This message was deleted.

9:32 pm

You deleted this message.

9:36 pm



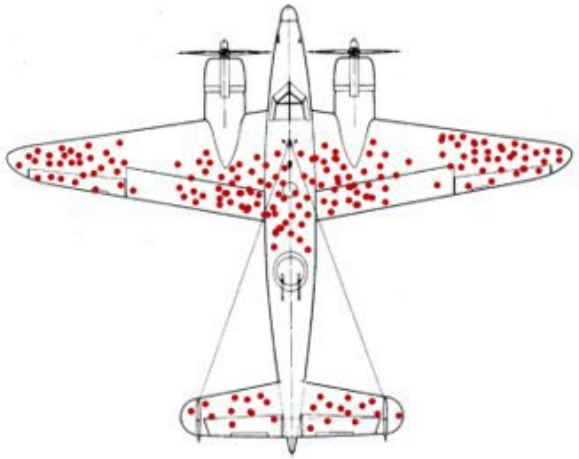
Can I ask you ??

Your worst miss ??

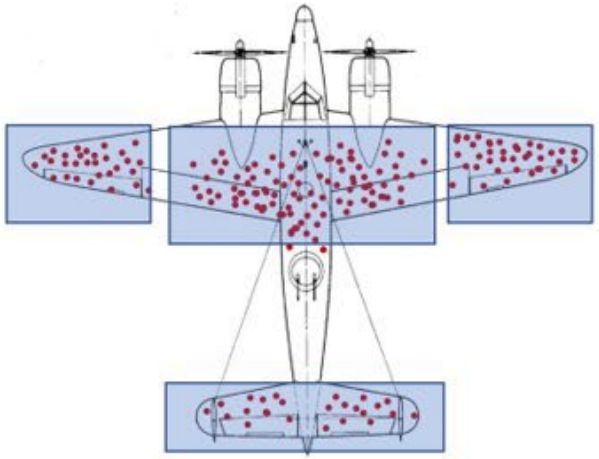
Most recent miss ??

Have you ever been contacted by OHO/ AHPRA??

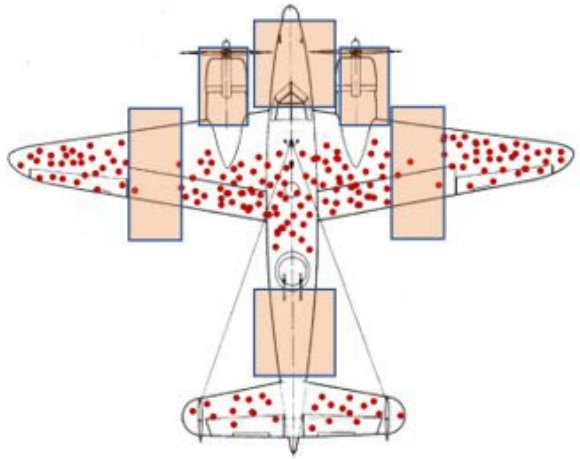
Survivorship Bias



Our data if only from returning flights. Here we is a visualization of the places that bullet holes were observed.



And initial guess at how to fix this might be to apply additional armor platting to the parts of the plane with the most holes…

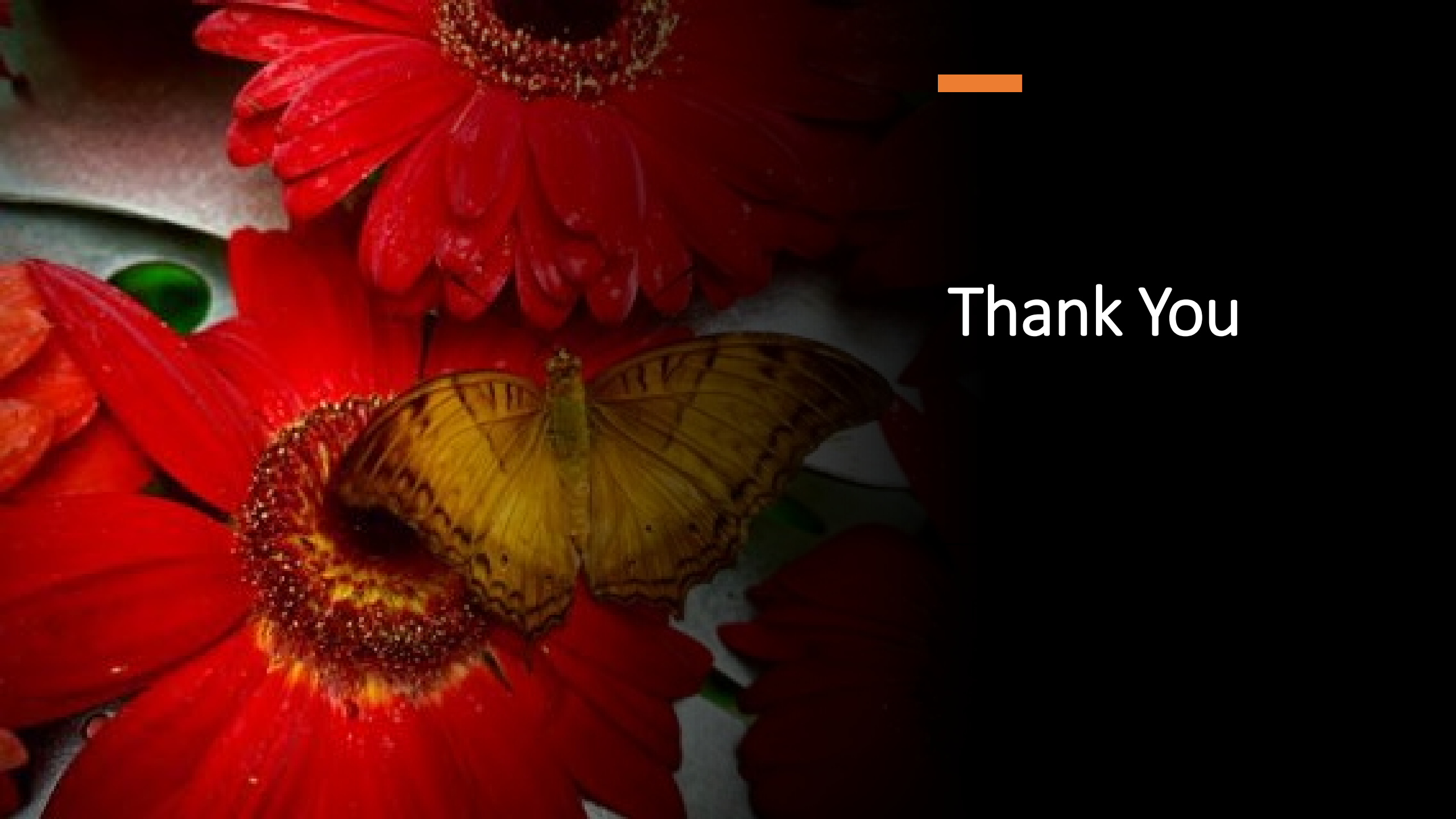


…. However this is where planes that *returned* had bullet holes. The planes we want to protect are the ones that did *not* return, so we should place armor there.

Abraham Wald (1902-1950)

Image courtesy :www.knowyourmeme.com

Spread the word about your errors



Thank You

Thank you!

Generalism

NOUN

a philosophy of care distinguished by a commitment to the breadth of practice within each discipline and collaboration with the larger health care team in order to respond to patient and community needs.