SYDNEY NORTH
Health Network

phn
NORTHERN SYDNEY
An Australian Government Initiative

1

SYDNEY NORTH
Health Network

WELCOME

Geriatrician Outreach for GPs with complex Elderly Patients

Tuesday 6 February 2024

NSW GOVERNMENT Health
Northern Sydney
Local Health District

2

ACKNOWLEDGEMENT OF COUNTRY

SYDNEY NORTH Health Network

The Sydney North Health Network and Northern Sydney LHD wish to acknowledge Australia's Aboriginal peoples – the traditional custodians of the land on which we meet and work.

We pay our respects and recognise their continued connection to land, water and community and honour their ancestors, Elders past, present and emerging.

3

HOUSEKEEPING

SYDNEY NORTH Health Network

- Please turn your mobile phones off
- Bathrooms
- Emergency Exits
- **Geriatrician Q&A session:**

  Please prepare your questions to ask the Geriatricians at end of event
- **Use event evaluation QR code at the end of the night to:**

  Provide feedback on tonight's event

  Register your interest for future education events

  To register for Keeping Well and Independent Program

phn NORTHERN SYDNEY An Australian Government Initiative

NSW GOVERNMENT Health Northern Sydney Local Health District

www.snhn.org.au

4

HealthPathways
IMPROVING PATIENT OUTCOMES

HealthPathways is an online health information website which supports GPs, hospital doctors, nurse practitioners, pharmacists, allied health and other clinicians.

HealthPathways supports:
- Condition management
- Service navigation
- Referral to specialists, facilities, public and private services
- Access to reference materials
- Access to patient educational resources

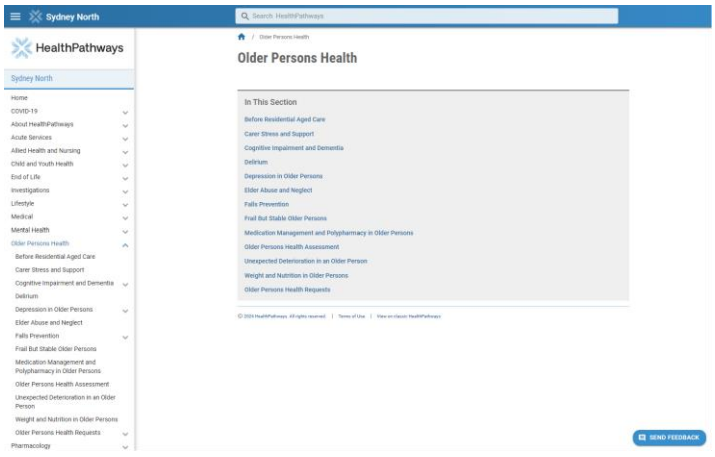
Patient benefits:
- Improved coordination of care
- Referral to specialists when appropriate

Clinician benefits:
- **Save time** – clinical information and service information easily accessible in the same place, avoid needing to look up information in multiple places
- **Up to date information** – responsive to GP needs, e.g. with suite of resources relating to COVID being produced and available at short notice
- **GPs can provide direct feedback** on a topic which prompts assessment by the HealthPathways team

Local Health District benefits:
- Hospital avoidance due to better managed care in the community
- Appropriate use of tertiary resources

5

HealthPathways
FEEDBACK



VIEW LIVE PATHWAY

TIP: If you notice something needs updating, use this feedback icon to update the team directly!

6

HealthPathways
NEXT STEPS

- Login to the HealthPathways website and view available localised pathways
- Install the HealthPathways desktop icon

- Start using HealthPathways in your practice
- Use the floating feedback button if updates are required

- For more information contact healthpathways@snhn.org.au

7

Agenda

7:00pm – 7:10pm	**Introduction** **Opening remarks**	*Hannah Hanfy – Coordination and Integration Manager, PHN* *James Inglis – Director of Operations – Integrated Care, NSLHD*
7:10pm – 7:30pm	**Dementia and Driving**	*Dr Alexandra Annesley - Geriatrician, Hornsby Ku-ring-gai Hospital, Geriatrician to GP Service*
7:30pm - 7:50pm	**Tripping on Drugs – Deprescribing**	*Dr Praveen Sivabalan -Geriatrician, Royal North Shore Hospital, Geriatrician to GP Service and Memory Clinic*
7:50pm – 8:10pm	**Frailty**	*Dr Linda Xu - Geriatrician and General Physician, Ryde Hospital, Geriatrician to GP Service*
8:10pm – 8:30pm	**Keeping Well and Independent**	*Dr Charbel Badr -General Practitioner (FRACGP)*
8:30pm – 8:50pm	**Q&A with Geriatricians**	*Dr Linda Xu, Dr Praveen Sivabalan and Dr Alexandra Annesley*
8:50pm – 9:00pm	**Evaluation** **Closing remarks**	*Hannah Hanfy* *Eugene McGarrell – General Manager, Commissioning and Planning, PHN*

www.snhn.org.au

8

Geriatrician to GP Service

The Geriatrician Outreach to GP service provides Geriatrician support to GPs in their management of complex older and frail patients who are at risk of hospitalisation within next three months.

Geriatrician support may include:
- Advice regarding patient care
- Patient assessment
- Referral for investigation or to other services

Eligibility criteria:
- Any GP located in the Northern Sydney region

Patients living in Northern Sydney region:
- With complex health needs or has aged-related illness

Referral Process:
- No formal process

GPs can refer via phone call or email

Geriatrician Outreach to GP **Service**

Geriatrician support for older patients with complex health needs, at risk of hospitalisation

To make a referral:
Hornsby and Ku-ring-gai Hospital (Monday to Friday)
T: 0478 784 215
E: NSLHD-HKHS-Geriatricianadvice@health.nsw.gov.au

Geriatrician Outreach to GP **Service**

Geriatrician support for older patients with complex health needs, at risk of hospitalisation

To make a referral:
Ryde Hospital (Monday to Friday)
T: 0451 829 527
E: NSLHD-Ryde-Geriatricianadvice@health.nsw.gov.au

Geriatrician Outreach to GP **Service**

Geriatrician support for older patients with complex health needs, at risk of hospitalisation

To make a referral:
Royal North Shore Hospital (Monday to Friday)
T: 0434 579 132
E: NSLHD-Geriatricianadvice@health.nsw.gov.au

NSW GOVERNMENT Northern Sydney Local Health District

phn NORTHERN SYDNEY An Australian Government Initiative

SYDNEY NORTH Health Network

9

SPEAKER INTRODUCTION

SYDNEY NORTH Health Network

Welcome to our speakers for Geriatrician Outreach to GP Service

- **Dr Alex Annesley**, Staff Specialist Geriatrician, Hornsby Ku-ring-gai Hospital, Geriatrician to GP
- **Dr Praveen Sivabalan**, Staff Specialist Geriatrician, Royal North Shore Hospital, Geriatrician to GP Service and Memory Clinic
- **Dr Linda Xu**, Staff Specialist Geriatrician and General Physician, Ryde Hospital, Geriatrician to GP Service

phn NORTHERN SYDNEY An Australian Government Initiative

NSW GOVERNMENT Health Northern Sydney Local Health District

www.snhn.org.au

10

Keeping Well and Independent Program

The Keeping Well and Independent Program (KWIP) assists GPs and practices to help complex, older patients access services which will help them to avoid hospitalisation. It is available to all practices within the Sydney North PHN.

Program eligibility:

- Patients aged 75 years or older, considered to be at high risk of preventable hospital admission, living in the community within the Northern Sydney region

Practices will be supported by the PHN, including:

- Payment for program sign-on and participant enrolment
- Additional funding via a Care Coordination grant, to support program activities
- Quarterly reviews, and assistance with hospitalisation data and patient selection

Services available to patients from participating practices include Geriatrician Outreach, Rapid Response, Hospital in the Home, GP Social Work service and Healthy Ageing Services (Community Transport and PACE)

NSW GOVERNMENT Northern Sydney Local Health District

phn NORTHERN SYDNEY

SYDNEY NORTH Health Network

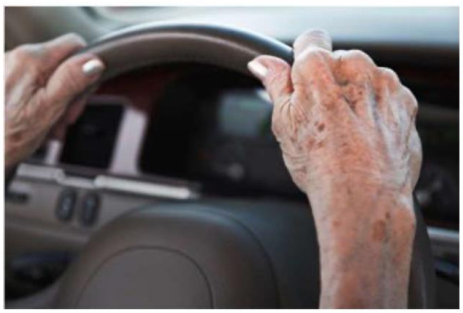
11

Dementia and Driving

Dr Alexandra Annesley

Geriatrician

Tuesday 6th February 2024



12

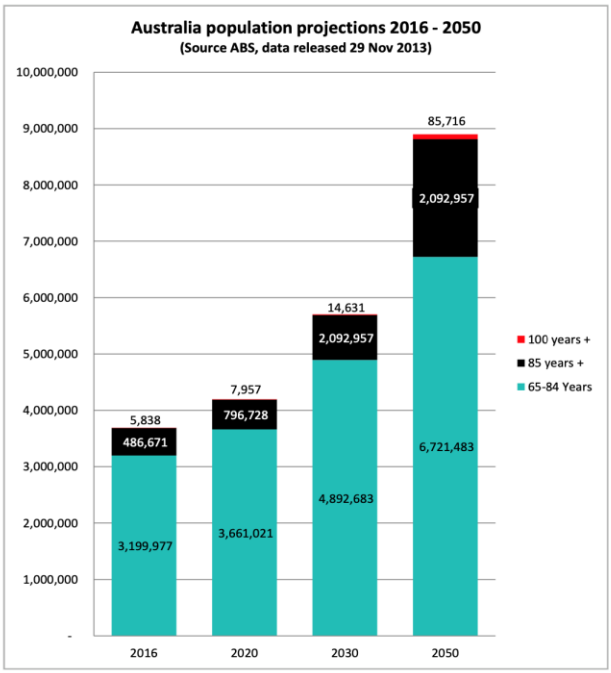
Mrs W

- 73 year old lady living with family on farm (7000 acres)
- Driving > 50km into town for shopping as well as using her ride-on mower around the land
- Diagnosed with Alzheimer's dementia early 2022
- Family concerned "judgement on the roads" not as good
- Mixed up local roads (despite knowing them well)
- **Daughter-in-law no longer allowed grandchildren in the car with her**
- RMS informed on diagnosis – on-road driving assessment FAILED
- Mrs W and family appealed – driving lessons and second test. FAILED again
- Struggling to accept decisions made - currently seeking a second Geriatric opinion…..
- Reportedly still driving ride-on mower around the farm….

13

We are an Ageing Population

- 1 in 6 Australians (3.9 million people or 15.9%) aged 65 years or older



14

Older Drivers

- Aged driving population increasing
- **Advanced age alone is not a barrier to driving**
- Functional ability and medical issues are main considerations
- Transport NSW requires medical assessment and older person testing
  - 75 years and above
    - annual fitness to drive medical assessment report
  - 85 years and above
    - annual FTD medical report AND a choice of
      - Restricted licence (10km from place of residence) OR
      - Older Driver Test with an accredited tester for Service NSW to obtain an unrestricted licence every 2 years

Institute of Driver Health

15

Driving is complex

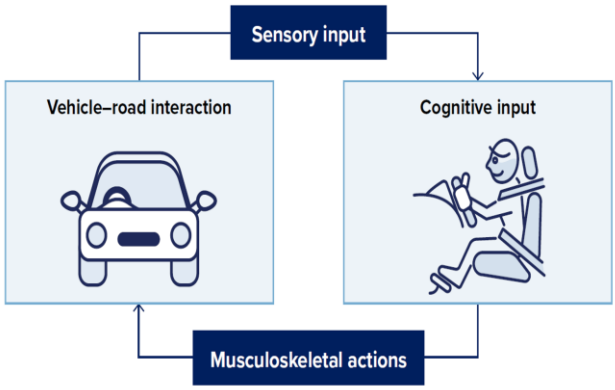


Figure 1. The driving task

This repeating sequence depends on:

- Sensory input
  - vision
  - visuospatial perception
  - hearing
  - proprioception
  - kinesthesia
- Motor function
  - muscle power
  - coordination
- Cognitive function
  - attention and concentration
  - comprehension
  - memory
  - insight
  - judgement
  - decision making
  - reaction time
  - sensation.

https://austroads.com.au/publications/assessing-fitness-to-drive: **Assessing fitness to drive for commercial and private vehicle drivers – 2022 edition. Medical standards for licensing and clinical management guidelines**

16

Driving is complex

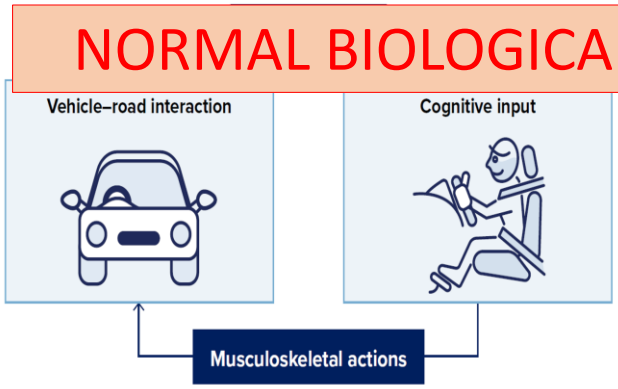


Figure 1. The driving task

This repeating sequence depends on:

- Sensory input
- al perception
- tion
  - kinesthesia
- Motor function
  - muscle power
  - coordination
- Cognitive function
  - attention and concentration
  - comprehension
  - memory
  - insight
  - judgement
  - decision making
  - reaction time
  - sensation.

NORMAL BIOLOGICAL CHANGES

https://austroads.com.au/publications/assessing-fitness-to-drive: **Assessing fitness to drive for commercial and private vehicle drivers – 2022 edition. Medical standards for licensing and clinical management guidelines**

17

Driving is complex

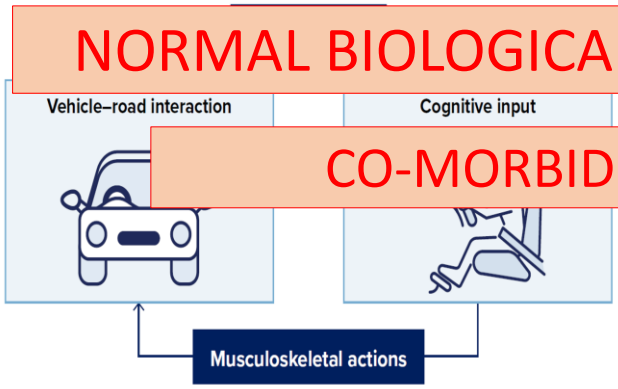


Figure 1. The driving task

This repeating sequence depends on:

- Sensory input
- al perception
- tion
  - kinesthesia
- on
- cle power
- rdination
- Cognitive function
  - attention and concentration
  - comprehension
  - memory
  - insight
  - judgement
  - decision making
  - reaction time
  - sensation.

NORMAL BIOLOGICAL CHANGES

CO-MORBIDITIES

https://austroads.com.au/publications/assessing-fitness-to-drive: **Assessing fitness to drive for commercial and private vehicle drivers – 2022 edition. Medical standards for licensing and clinical management guidelines**

18

Driving is complex

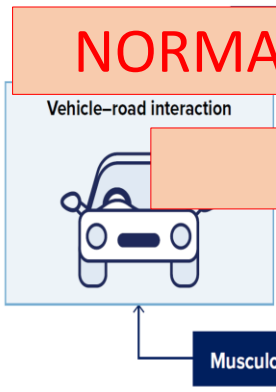


Figure 1. The driving task

This repeating sequence depends on:

- Sensory input
  - al perception
  - tion
  - kinesthesia
  - on
  - cle power
  - rdination
- Cognitive function
  - attention and concentration
  - judgement
  - decision making
  - reaction time
  - sensation.

NORMAL BIOLOGICAL CHANGES

CO-MORBIDITIES

MEDICATION SIDE EFFECTS

https://austroads.com.au/publications/assessing-fitness-to-drive: **Assessing fitness to drive for commercial and private vehicle drivers – 2022 edition. Medical standards for licensing and clinical management guidelines**

19

"It's not known exactly what happened or who was at fault. The prince told police officers at the scene that he was momentarily blinded by the sun while pulling onto a main thoroughfare."

NYTimes.com

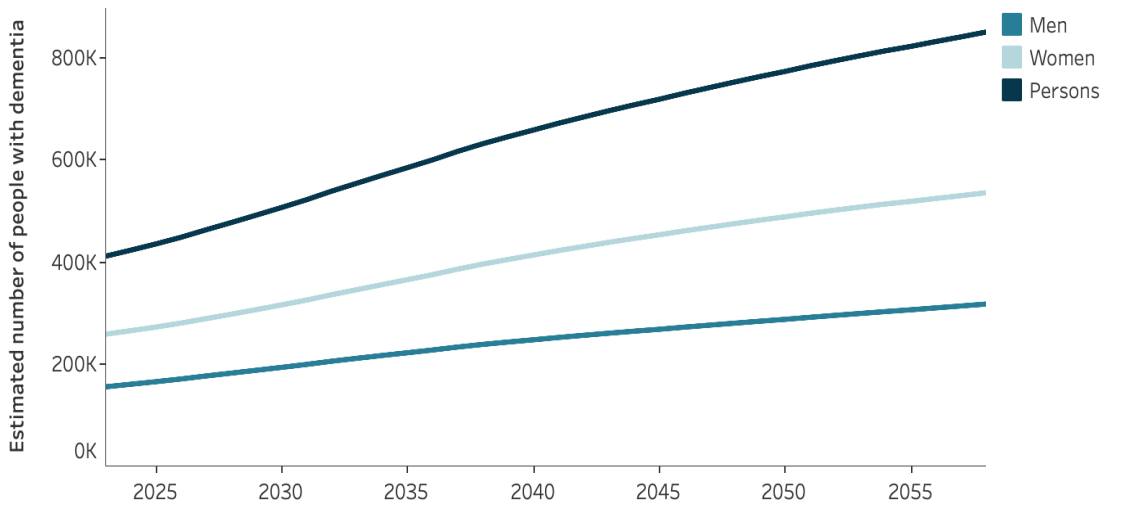
20

Where does Dementia fit in?

21

Figure 1: Australians living with dementia between 2023 and 2058: estimated number by sex and year

Figure 1 | Data table 1



https://www.aihw.gov.au/reports/dementia/dementia-in-aus

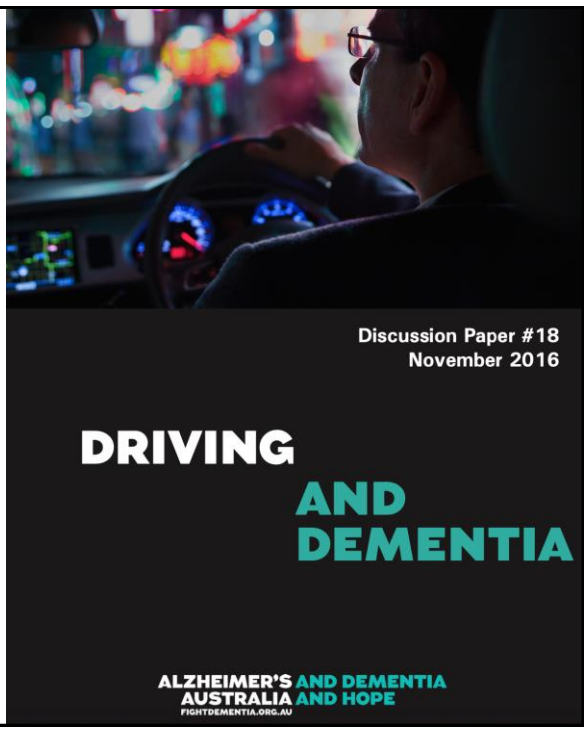
22

- **Over 40% of people with dementia drive**
  - **20% patients responsible for at least 1 accident between onset of symptoms and diagnosis**
    - **2-5 times greater accident risk than controls**
      - **10 x more likely to fail an on-road driving assessment**

Kim YJ et all. **An International Comparative Study on Driving Regulations on People with Dementia.** J Alzheimers Dis (2017);56(3):1007-1014.
Chee JN et al. Update on the risk of motor vehicle collision or driving impairment with dementia: A collaborative international systematic review and meta-analysis. *Am J Geriatr Psychiatry 2017* **25**, 1376-1390.

23

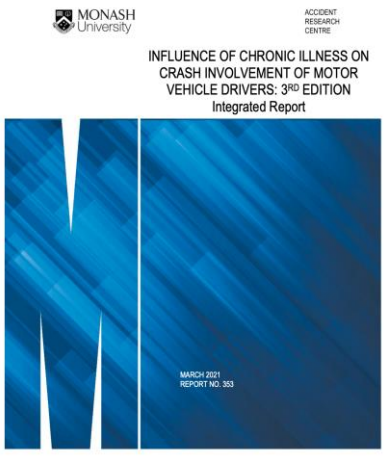
- The ability to drive safely is dependent on:
  - Decision-making capacity
  - Reaction time
  - Visuospatial perception and other sensory processing
  - Memory
  - Judgement
  - Attention and planning
- **All these attributes are eventually affected by dementia.**



24

Driving and dementia: the evidence

Monash University Accident Research Centre 2021



- Very comprehensive systematic review
- Examined crash risk with medical conditions
- "The risk associated with young drivers and alcohol impaired drivers … overwhelms all of the medical condition groups to such an extent that medical risks seem relatively minor"
- Seven medical conditions with relative risk for crash of **> 2**:
  - Alcohol use disorder
  - Epilepsy
  - Sleep
  - Vision
  - Multiple Medical Conditions (Diabetes with Neuropathy)
  - Dementia
  - Stroke

Courtesy of A/Prof Kurrle

25

What are the warning signs?

- Navigation – forgetting routes, getting lost in familiar surroundings
- Misjudging the distance between cars or speed of other cars
- Poor coordination
  - Difficulty choosing between the accelerator or brake pedals when stressed
  - Poor hand-eye coordination
- Not giving way at intersections or inappropriate stopping in traffic
- Slowed response time – difficulty multi-tasking
  - Requiring guidance from passengers
- Lacking insight and denying any deficits

Rapoport, M. J. et al. An international approach to enhancing a national guideline on driving and dementia. *Current Psychiatry Reports* vol. 20 (2018)

26

Dementia – when should driving cease?

- There is consensus that people with moderate or severe dementia are no longer fit to drive

Rapoport MJ et al. An international approach to enhancing a national guideline on driving and dementia. 2018. *Curr Psychiatry Rep* **20**, 16.

27

International Consensus Guidelines for Driving and Dementia

- Developed for Canadian Medical Association Driver's Guide
- Mainly consensus guidelines by an expert group including clinicians and driver assessors

#	Recommendation	Class of Evidence
1	Dementia often has a direct effect upon fitness to drive, and clinicians should address cognitive compromises that may impact fitness to drive.	C
2	Diagnosis of dementia alone is not sufficient to withdraw driving privileges.	A
3	Severe dementia is an absolute contraindication to driving.	C
4	It is unlikely that safe driving can be maintained in the presence of moderate dementia (e.g. the additional presence of basic ADL impairments) and is to be strongly discouraged. If the patient desires to drive, they should be formally assessed and monitored very carefully.	B

Rapoport 2018

28

But…….

- What about mild dementia?
- Does the type of dementia matter?
- What about mild cognitive impairment?

When is the right time to stop?

29

Mild dementia

30

Is driving feasible in early dementia?

***Australia and New Zealand Society for Geriatric Medicine* Position Statement: Driving and Dementia, 2022**

Driving capacity is
-task specific
-deserves individualised assessment
-on-road driving component by a suitably trained professional

It is not reasonable to justify licence suspension based solely on a diagnosis of mild dementia.

https://anzsgm.org/wp-content/uploads/2022/12/ANZSGM-Position-Statement-Driving-and-Dementia-FINAL.pdf

Courtesy of A/Prof Kurrle

31

Austroads Guidelines: Driving and Dementia (June 2022)

- **Conditional licence only for people with a diagnosis of dementia**
- **Person with dementia must notify driver licensing authority**
- At least annual review taking into account:
  - Nature of the driving task
  - Information about impairment and impact on driving
  - Results of **practical driver assessment**, if required
  - Opinion of an appropriate specialist may be considered

https://austroads.com.au/publications/assessing-fitness-to-drive/ap-g56

32

Is driving feasible in early dementia?

YES

- Conditional licence
- Regular reviews of fitness to drive
- Consider “on-road” driving assessment
- Begin transition to other forms of transport early
- When appropriate, encourage self limiting of driving and then surrendering of licence – “retiring” from driving, and obtain RMS photo ID card

Courtesy of A/Prof Kurrle

33

Dr S

- 80M retired obstetrician
- Diagnosed with Alzheimer’s disease 2022
- Keen cyclist with PROBUS and cycles weekly on road with friends
  - Losing way on familiar cycling routes and friends having to guide him
- Wife had no initial concerns re driving capability
  - RMS informed of diagnosis and passed on-road assessment

- Six months later moved house to a different suburb…
- Drove around new local area and became lost. Had to walk 2km to get home in the middle of Summer. Forgot his phone and wife couldn’t get in touch with him. Has struggled to learn new routes and wife worried he is making errors.
- Decided himself to stop driving indefinitely. Now looking into alternative community transport
- On-road cycling now also stopped

34

Does the type of dementia matter?

35

- Strongest predictors of accident risk: visuo-spatial attention and spatial judgement deficits
- Non-ADD patients likely to fail on-road assessments earlier

JAGS October 2019 Vol 67(10) Toepper; Driving Fitness in Different Forms of Dementia

36

Risk evaluation for driving safety depending on severity and type of different dementia syndromes

Etiology	MCI	Mild Dementia	Moderate Dementia	Severe Dementia
ADD	Slightly Increased	Moderate	Very High	
VaD	Increased	High		
FTD				
DLB				
PDD				

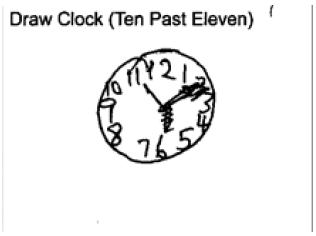
ADD: Alzheimer disease dementia
DLB: dementia with Lewy bodies
FTD: frontotemporal dementia
MCI: mild cognitive impairment
PDD: Parkinson disease dementia
VaD: vascular dementia.

Driving Fitness in Different Forms of Dementia: An Update. Toepper et al. Journal of the American Geriatrics Society October 2019, Volume 67 (10), p 2186–2192

37

Mr L

- 80M
- Diagnosis of DLB
- Intermittent visual hallucinations, restless legs, REM sleep disturbance
- Visuospatial and processing speed deficits
  - Wife reports "veering outside lane at times"
  - Hit a wall reversing out of driveway
- Commenced on rivastigmine
- Advised to inform RMS



- 6 Months later had not informed RMS and still driving…
- Cognitive screening scores stable
- Second discussion regarding informing RMS and he consented to me writing a letter on his behalf….now awaiting on-road driving assessment

38

What about Mild Cognitive Impairment?

39

Driving and MCI

- Limited evidence of increased driving error rates, concluding that MCI **does not** significantly impair driving
- Where there is impairment across multiple cognitive domains such as visuospatial, attention and executive functions, it may be appropriate to consider the driver's fitness to drive and perform an assessment
- Among safe drivers, MCI and CN drivers exhibit similar on-road error profiles, suggesting driver restrictions based on MCI status alone are unwarranted

Austroads.com

On-Road Behavior in Older Drivers With Mild Cognitive Impairment. Eramudugolla R et all, J Am Med Dir Assoc 2021 Feb;22(2):399-405

Assessment of Driving Safety in Older Adults with Mild Cognitive Impairment, Anstey KJ et al. J Alzheimers Dis. 2017; 57(4): 1197–1205.

40

Road bikes/ride on mowers…..

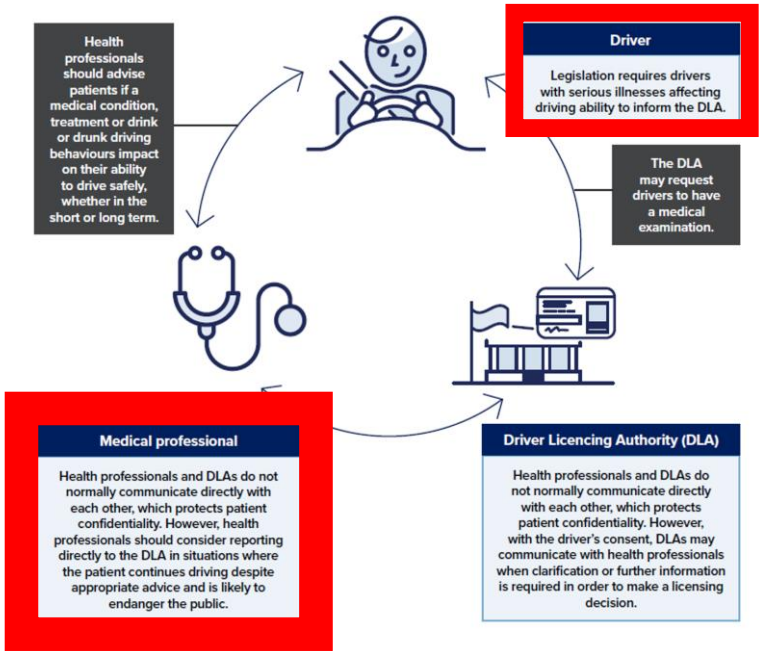
- NSW Road Rules: a bicycle is considered a vehicle and has the same road rules as other vehicles
  - However no formal licencing required…….
- Car (Class C) licence required to drive a ride-on mower

https://www.nsw.gov.au/driving-boating-and-transport/vehicle-registration/conditional-and-seasonal/vehicle-sheets/mower
https://legislation.nsw.gov.au/view/html/inforce/current/sl-2014-0758#pt.15

41

Where do we, as health professionals, fit in?

42



"Responsibility for licence issuing lies ultimately with the DLA"

Austroads 2022

"Multifaceted, interdisciplinary approach to driving cessation"

Alzheimer's Australia 2016

Alzheimer's Australia NSW, November 2016. Driving and Dementia. Discussion Paper #18 https://austroads.com.au/publications/assessing-fitness-to-drive

43

Useful Resources

Medical Professionals

- Dementia and Driving pathway: for clinicians and healthcare professionals
- https://www.fightdementia.org.au/sites/default/files/VIC/documents/HP%20QUICK%20REFERENCECARD_FINAL.pdf
- Conversations about Dementia and Driving: for health professionals and clinicians https://www.fightdementia.org.au/sites/default/files/VIC/D&DHelp%20Sheet_2015_FINAL.pdf
- Dementia and Driving: GP's Toolkit (Video) https://www.youtube.com/watch?v=zJ0N12dC_Io

People with dementia and carers

- Alzheimer's Australia Help sheet 4: Information for people with dementia – Driving
- https://www.fightdementia.org.au/sites/default/files/helpsheets/Helpsheet- InformationForPeopleWithDementia04-DrivingAndDementia_english.pdf
- Alzheimer's Australian Help sheet 7: Caring for someone with dementia – Driving
- https://www.fightdementia.org.au/sites/default/files/helpsheets/Helpsheet-CaringForSomeone07- Driving_english.pdf
- Changed conditions ahead: Dementia and Driving Guide for Families and Carers https://vic.fightdementia.org.au/files/VIC/documents/Dementia-and-Driving-guide-for-family-carers.pdf
- Staying on the Move with Dementia https://nsw.fightdementia.org.au/sites/default/files/NSW-Staying-on-th-move-with-dementia-booklet.pdf
- On the road 65plus http://roadsafety.transport.nsw.gov.au/downloads/65plus.pdf
- Dementia and Driving: A decision Aid http://smah.uow.edu.au/content/groups/public/@web/@smah/@nmih/documents/doc/uow179550.pdf

Alzheimer's Australia NSW, November 2016. Driving and Dementia. Discussion Paper #18

44

Thankyou

45

Trippin' on Drugs

- A Geriatrician's Perspective

Dr Praveenan Sivabalan

FRACP, MBBS (Hons)

Staff Specialist Geriatrician

Royal North Shore Hospital

- Geriatrician Outreach for General Practitioners

46

FALLS, POLYPHARMACY & DEPRESCRIBING

47

FALLS

48

Risk Factors

- **Drugs**
  - Psychotropic medications
    - Antidepressants, mood stabilisers, neuroleptics, benzodiazepines
      - Sedation and orthostatic hypotension
  - Alcohol/Sedatives
  - Polypharmacy
    - Antihypertensive
- **Underlying condition**
  - **Mental health**
    - Psychosis, mania/bipolar, depression, anxiety, delirium, dementia with BPSD
      - Changed behaviour + increased risk taking
    - Electroconvulsive therapy
  - **Multimorbidity**
    - Cardiovascular disorders – orthostatic hypotension, arrhythmias
    - Parkinson's disease, dementia, strokes, vertigo,
  - Nutrition – malnutrition, loss of appetite, poor eating habits, dehydration
  - Gait, vision, mobility & sleep disturbance
  - Bladder control problems

Blair & Gruman (2005) *JAPNA*, McMinn et al. (2016) *HealthTimes,* Heslop et al. (2012) *Int J Ment Health Nurs,* Bunn et al (2014) *BMC Nurs,* Carpels et al. (2022) *Alpha Psychiatry* Seeherunwong et al (2022) *Int J Ment Health Syst,* Montero-Odasso et al. (2022) *Age and Ageing,*

49

'It takes a child one year to acquire independent movement and ten years to acquire independent mobility. An old person can lose both in a day'

Professor Bernard Isaacs (1924–1995)

50

Falls Prevention

- Evidence mixed + varied study quality
  - Inconsistent – intervention, setting, cognitive impairment
- Multifactorial + multidisciplinary interventions
  - **Exercise**
  - **Medication review** – psychotropic medication + polypharmacy
  - Conflicting data
    - Increasing staff awareness, monitoring and supervision
    - Patient education – less effective with cognitive impairment
    - Safe wandering areas, footwear and flooring (fall injuries)
    - Sensory interventions (vision, hearing)
      - Home safety assessment – OT

Bunn et al (2014) *BMC Nurs* , Savage & Matheis-Kraft (2001) *J Geront* Nurs, McMinn et al. (2016) *HealthTimes,* Seeherunwong et al (2022) *Int J Ment Health Syst*, Gillespie et al. (2012) *Cochrane,* Cameron et al. (2012) *Cochrane,* Montero-Odasso et al. (2022) *Age and Ageing,*

51

EXERCISE

52

Cochrane Library

Cochrane Database of Systematic Reviews

Interventions for preventing falls in older people living in the community (Review)

Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson L, Lamb SE

Cochrane Library

Cochrane Database of Systematic Reviews

Exercise for preventing falls in older people living in the community (Review)

Sherrington C, Fairhall NJ, Wallbank GK, Tiedemann A, Michaleff ZA, Howard K, Clemson L, Hopewell S, Lamb SE

GUIDELINE

World guidelines for falls prevention and management for older adults: a global initiative

ORIGINAL INVESTIGATION

Exercise Effects on Bone Mineral Density, Falls, Coronary Risk Factors, and Health Care Costs in Older Women

The Randomized Controlled Senior Fitness and Prevention (SEFIP) Study

Wolfgang Kemmler, PhD; Simon von Stengel, PhD; Klaus Engelke, PhD; Lothar Häberle, PhD; Willi A. Kalender, PhD, MD

Cochrane Library

Cochrane Database of Systematic Reviews

Interventions for preventing falls in older people in care facilities and hospitals (Review)

Cameron ID, Gillespie LD, Robertson MC, Murray GR, Hill KD, Cumming RG, Kerse N

Sherrington *et al. International Journal of Behavioral Nutrition and Physical Activity* (2020) 17:144 https://doi.org/10.1186/s12966-020-01041-3

International Journal of Behavioral Nutrition and Physical Activity

REVIEW Open Access

Evidence on physical activity and falls prevention for people aged 65+ years: systematic review to inform the WHO guidelines on physical activity and sedentary behaviour

Catherine Sherrington[1,2*], Nicola Fairhall[1,2], Wing Kwok[1,2], Geraldine Wallbank[1,2], Anne Tiedemann[1,2], Zoe A. Michaleff[1,3], Christopher A. C. M. Ng[4] and Adrian Bauman[5]

53

Exercise – Community

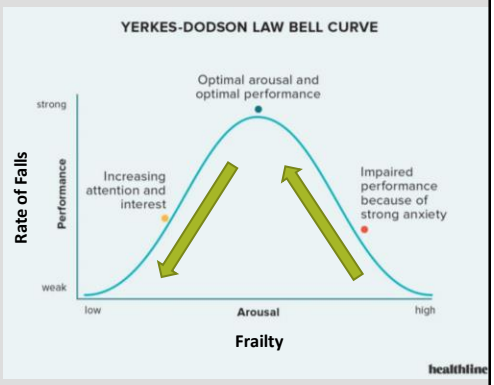
- **High certainty evidence** – reduces rate of falls by 25% + number of people falling by 15%
- Types
  - **Multicomponent** (group or home based)
    - Balance + functional – 24% reduction
    - Multiple types – balance + functional + resistance – 34% reduction
    - Tai chi – 19% reduction
  - **High intensity** with **progression**
  - Uncertain benefit – resistance, dance, walking alone
- Reduced risk of **fall-related fracture** – 27%
  - Improved bone mineral density
  - Decreased fall rate
- Reduced **fear of falling**

Gillespie et al. (2012) *Cochrane,* Kemmler et al. (2010) *Arch Int Med*, Cameron et al. (2012) *Cochrane,* Sherrington et al.(2019) *Cochrane,* Montero-Odasso et al. (2022) *Age and Ageing* Sherrington et al (2020) *IJBNPA*

54

Exercise – Care Facilities

- Inconsistent evidence
  - Increased falls in frail residents
    - High level nursing care
      - No strength to mobilise/stand
  - Reduced falls in less frail residents
    - Intermediate level nursing care



Cameron et al. (2012) *Cochrane*

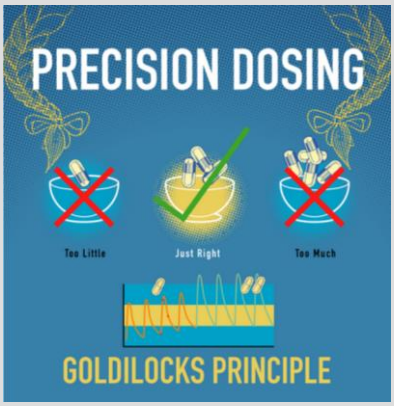
55

POLYPHARMACY

56

Prescribing

- Good prescribing
  - Right medicine at the right dose
    - Meet an individual's therapeutic needs
  - Appropriate duration
  - Reassessment & monitoring
    - Risk-benefit profile is constantly shifting
      - Especially in older people with multimorbidity

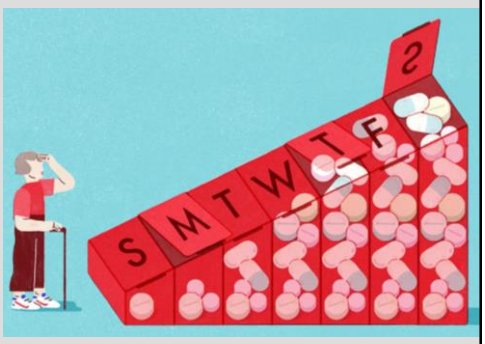


Quek et al. (2023) *AJGP*, Reeve et al (2018) *Expert Opinion on Drug Safety*

57

Prescribing cascades

- Drug related adverse reaction
  - Misinterpreted as a new medical condition
    - 2nd medication used to manage the symptoms
      - Examples
        - Loop diuretics for ankle oedema (calcium channel blocker).
        - Steroids → PPI → magnesium → calcium
          - Osteoporosis → falls → fracture



Quek et al. (2023) *AJGP*

58

DEPRESCRIBING

59

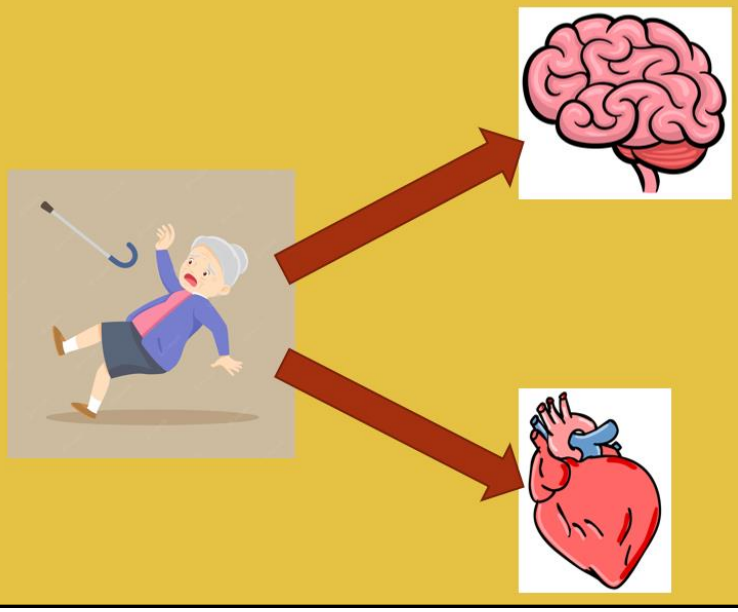
Deprescribing

- Planned withdrawal of medicines
  - Causing harm or not helping an individual
- Reactive vs Proactive
  - Mostly reactive
    - Adverse drug reaction
    - Therapeutic failure
  - Should be more proactive

Quek et al. (2023) *AJGP,* Montero-Odasso et al. (2022) *Age and Ageing,* Varghese, Ishida & Koya (2022) *StatPearls,* O'Donnel & Ibrahim (2022) *BMC Geriatrics,* Mach et al. (2021) *J Gerontol A Biol Sci Med Sci* Reeve et al (2018) *Expert Opinion on Drug Safety*

60

Deprescribing Targets in Falls



61

EXAMPLES

62

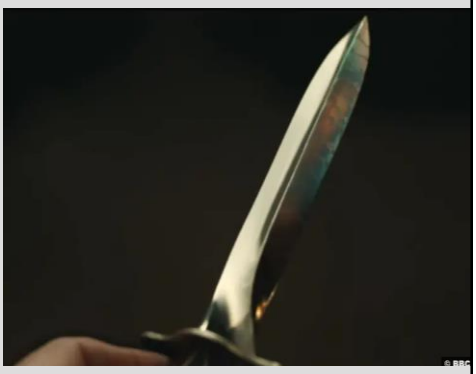
63

ANTIPSYCHOTICS
ANTIDEPRESSANTS
BENZODIAZEPINES

64

General Principles

- Treating underlying psychiatric illness – may indirectly improve falls risk
  - Untreated depression – 37% increased risk of falls
- Psychotropics – strongest predictors of falls
  - Increase frailty, cognitive impairment, hip fractures
- Options
  - Can it be stopped?
    - Lowest possible dose
  - Alternatives
  - Can other CNS medication be reduced?
  - Prescribe exercise



Carpels et al. (2022) *Alpha Psychiatry,* Seeherunwong et al (2022) *Int J Ment Health Syst,* Montero-Odasso et al. (2022) *Age and Ageing,* AGS Beer Criteria Update Expert Panel (2023) *JAGS* Seppala et al. (2018) *JAMDA*

65

Antidepressants

- Rising prescription of antidepressants
  - Long-term use (>12 months) > new diagnoses
    - Average duration of use – 4 years (6-12 month recommended)
- 30-50% of patients continue treatment without any benefit
- Consider >6 months after recovery of depressive episode

Lee et al. (2023) *The Permanente Journal*, Steinman & Reeve (2023) *UptoDate,* NSWTAG, Keks, Hope & Keogh (2016) *Aust Prescr*, Coe et al (2023) *Prim Health Care Res Dev*, Wallis, Donald & Moncrieff (2021) *AJGP*

66

Antidepressants

- Monitor:
  - Withdrawal – antidepressant discontinuation syndrome
    - Generally resolves within 1-2 weeks (sometimes > 12weeks)
  - Relapse
    - Generally occurs >4-8 weeks after stopping
    - Risk of recurrence after stopping 2 years maintenance therapy
      - 60% over 2 years
- Alternative therapy
  - Exercise
  - Psychologist – cognitive behavioural therapy
  - Apps – Calm
- Involve Psychiatrist

Table 3:

Pneumonic device FINISH for antidepressant discontinuation syndrome signs and symptoms

FINISH
Flu-like symptoms (fatigue, lethargy, general malaise, muscle aches/headaches, diarrhea)
Insomnia
Nausea
Imbalance (gait instability, dizziness/lightheadedness, vertigo)
Sensory disturbances (paresthesia, "electric shock" sensations, visual disturbances)
Hyperarousal (anxiety/agitation)

Lee et al. (2023) *The Permanente Journal*, Steinman & Reeve (2023) *UptoDate*, NSWTAG, Keks, Hope & Keogh (2016) *Aust Prescr*, Coe et al (2023) *Prim Health Care Res Dev*, Wallis, Donald & Moncrieff (2021) *AJGP*

67

Antipsychotics – BPSD

- Increased risk of mortality in elderly patients with dementia
- Behaviours in dementia change over time as the disease progresses
- Plan for deprescribing should come with prescribing
  - Consider (3 months) when:
    - Symptoms stabilised
    - Symptoms did not improve

Considerations

For every 5 to 11 patients with dementia, without psychosis, 1 will have a reduction in their behavioural or psychological symptoms from taking an antipsychotic for around 12 weeks. 4 to 10 will not.

- One death is prevented for every 6 dementia patients who have long term antipsychotic discontinued before it is taken for more than 1 year.
- One death is prevented for every 22 dementia patients who have short term antipsychotics discontinued after around 12 weeks.
- One death will be prevented for every 100 patients with dementia who avoid antipsychotic treatment for behavioural or psychological symptoms.
- One stroke is prevented for every 37 patients with dementia who avoid 8 - 12 weeks of antipsychotic treatment for behavioural or psychological symptoms.

Steinman & Reeve (2023) *UptoDate*, Bjerre et al. (2018) *Can Fam Physician*, McFarlane & Cunningham (2021) *Aust Prescr*

68

Antipsychotics – BPSD

- Monitor
  - Withdrawal
  - Recurrence of behaviours – restart lowest possible dose
    - Retrial deprescribing in a few months
- Non-pharmacological strategies – DSA
- Alternatives
  - Analgesia
  - Dementia medications – acetylcholinesterase inhibitors, memantine
  - Antidepressants

Steinman & Reeve (2023) *UptoDate*, Bjerre et al. (2018) *Can Fam Physician*, McFarlane & Cunningham (2021) *Aust Prescr*

69

Benzodiazepines – insomnia

- Plan for deprescribing should come with prescribing
  - Benefits decrease over time – 25 minutes of extra sleep
- Slow taper
  - 25-50% dose reduction – every 2 weeks (slower if long term users - > 1 year)
    - Consider 12.5% reduction end of taper or drug free days.
  - Consider substitution to longer acting benzodiazepines (e.g. diazepam, oxazepam) – diminished withdrawal
- Monitor
  - Withdrawal
    - 1-3 days (short acting agents) vs 5-10 days (longer acting agents)
    - Can last 6-8 weeks
  - Recurrence – 1-2 weeks
    - Retrial weaning at 6-12 weeks
- Alternative therapy
  - Exercise during day – avoid at night
  - CBT-Insomnia
  - Sleep hygiene
  - Avoid nicotine, caffeine & alcohol

Steinman & Reeve (2023) *UptoDate*, NSWTAG, Cheung et al (2023) *The Lancet*, Scrandis & Duarte (2019) *The Nurse Practitioner,* Pishock (2022) *Nur Primary* Care, Croke (2019) *Am Fam Physician*,

70

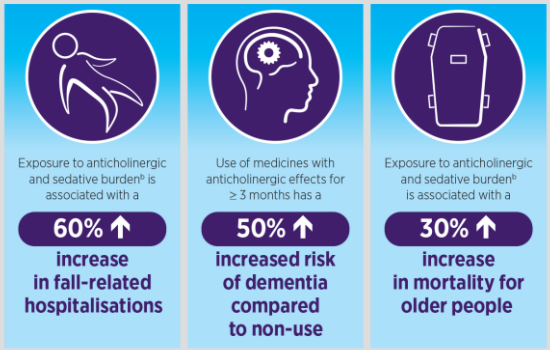
ANTICHOLINERGICS

71

Anticholinergics – Urological

- Oxybutynin, Solifenacin
- Associated with
  - Mortality
  - Impaired cognitive function – dementia, delirium
    - Brain atrophy
  - Impaired physical function + falls
  - Increased frailty
  - Urinary retention (worse with BPH)
  - Reduced appetite, dry mouth (poor dentition), constipation
- Consider other drug causes – diuretics, prazosin, AChE-I
- Alternatives – untreated urinary urge/incontinence → falls
  - Non-pharmacological
    - Regular toileting
    - Limiting alcohol/caffeine
    - Limiting fluid intake – prior to bed
    - Continence pads
  - Mirabegron, vaginal oestrogen
  - Urologist – urodynamics, percutaneous tibial nerve stimulation
- Risks
  - Recurrence of symptoms – within 2 weeks
  - Anticholinergic discontinuation syndrome (withdrawal) – 1-3 days (last up to 8 weeks)
    - Dose reduction

Figure 2: Impact on patient outcomes



[b] Based on the Drug Burden Index (DBI), which measures cumulative exposure to medicines with anticholinergic and sedative effects

Seppala et al. (2018) *JAMDA,* Quek et al. (2023) *AJGP,* AGS Beer Criteria Update Expert Panel (2023) *JAGS,* NPS (2021) *NPS MedicineWise,* O'Donnell et al. (2017) *JPPR,* Ilhan et al. (2023) *European Geriatric Med*

72

PREGABALIN

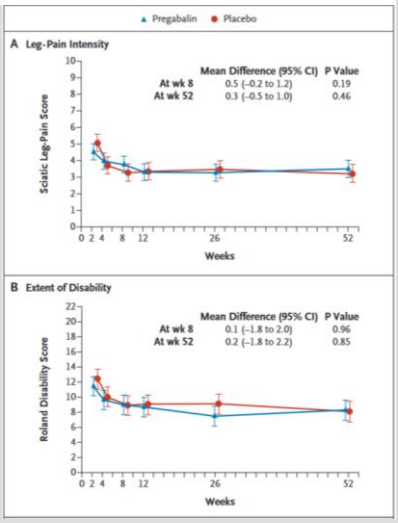
73

ORIGINAL ARTICLE

Trial of Pregabalin for Acute and Chronic Sciatica

Stephanie Mathieson, M.Chiro., Christopher G. Maher, Ph.D., Andrew J. McLachlan, Ph.D., Jane Latimer, Ph.D., Bart W. Koes, Ph.D., Mark J. Hancock, Ph.D., Ian Harris, Ph.D., Richard O. Day, M.B., B.S., M.D., Laurent Billot, M.Sc., M.Res., Justin Pik, M.B., B.S., Stephen Jan, Ph.D., and C.-W. Christine Lin, Ph.D.

- 2017 – Randomised, double blind, placebo controlled trial – NEGATIVE
- 209 patients
- Pregabalin 150-600mg/day vs placebo
- Primary outcome – Leg pain intensity score – 8 & 52 weeks
  - Secondary outcomes – extent of disability, back pain intensity, QOL measures
- Result
  - No significant improvement in primary or secondary outcomes.
  - Adverse events – significantly higher with pregabalin
    - Dizziness
- Limitations
  - Acute back pain/sciatica – tends to be self limiting
  - Nociceptive vs neuropathic pain
    - Majority had nociceptive pain – less responsive to pregabalin

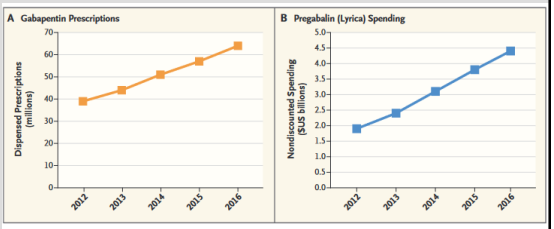


Mathieson et al. (2017) *NEJM,* Quek et al. (2023) *AJGP,* AGS Beer Criteria Update Expert Panel (2023) *JAGS,*

74

Pregabalin

- Evidence of benefit for some types of neuropathic pain
  - Post-herpetic neuralgia
  - Diabetic peripheral neuropathy
  - Fibromyalgia
  - Stroke/trauma – low quality
- Pregabalin/Gabapentin – increased community prescription
  - No benefit over placebo for chronic low back pain/sciatica
- Risks
  - Sedation
    - Caution with opioids.
  - Ataxia
  - Falls



Dispensed Prescriptions for Gabapentin and Nondiscounted Spending for Pregabalin, 2012–2016.
Data are from IMS Health.

Mathieson et al. (2017) *NEJM*, Attal & Barrot (2017) *NEJM*, Baron et al (2010) *Pain*, Goodman & Brett (2017) *NEJM*, Derry et al (2019) *Cochrane*

75

ANTIHYPERTENSIVES

76

Hypertension in the Elderly – Guidelines Differ

- America
  - ACC
    - BP <130/80mmHg
  - ACP/AAFP
    - SBP < 150mmHg
- Europe
  - ESC/ESH
    - SBP 130-139mmHg, DBP 70-79mmHg
  - NICE
    - Age < 80 years – SBP < 140/90mmHg
    - Age >80 years – SBP < 150/90mmHg
- Australia
  - General – <140/90mmHg
  - Older age (>75) – SBP< 120mmHg
- Korea
  - SBP < 140mmHg
- Canada
  - SBP < 120mmHg

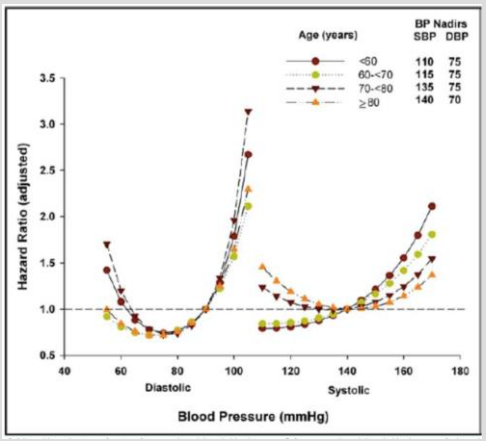
	ACC/AHA 2017	ACP/AAFP 2017	ESC/ESH 2018
Definition of Older Patients	≥65 years	≥60 years	Elderly 65-79 years Very Old ≥80 years
BP Threshold for Initiation of Pharmacotherapy	≥130/80 mmHg	SBP ≥150 mmHg	Elderly ≥140/90 mmHg Very Old ≥160/90 mmHg
Blood Pressure Target	<130/80 mmHg	SBP <150 mmHg	SBP 130-139 mmHg DBP 70-79mmHg

Kulkarni et al. (2020) *American College of Cardiology*, Masoli et al. (2020) *Age and Ageing*, Shin & Kim (2022) *Clinical Hypertension*

77

Hypertension in the Elderly - Frailty + Age matters

- **Non-Frail – RCT**
  - SPRINT Trial (2015)
    - Intensive control (SBP < 120) improved
      - Cardiovascular outcomes – IHD, stroke, heart failure
      - Mortality
    - U shaped association for DBP and CV risk
    - Higher AKI + syncope
- **Frail – observational studies**
  - Cardiovascular risk increases with SBP > 150mmHg
  - Increased mortality – SBP<130mmHg, DBP < 80mmHg
  - Lowest Mortality risk – Age ≥ 75 years
    - SBP 140-160mmHg
    - DBP 80-90mmHg
  - No increased mortality risk with hypertension
    - >75 years + moderate to severe frailty
    - >85 years

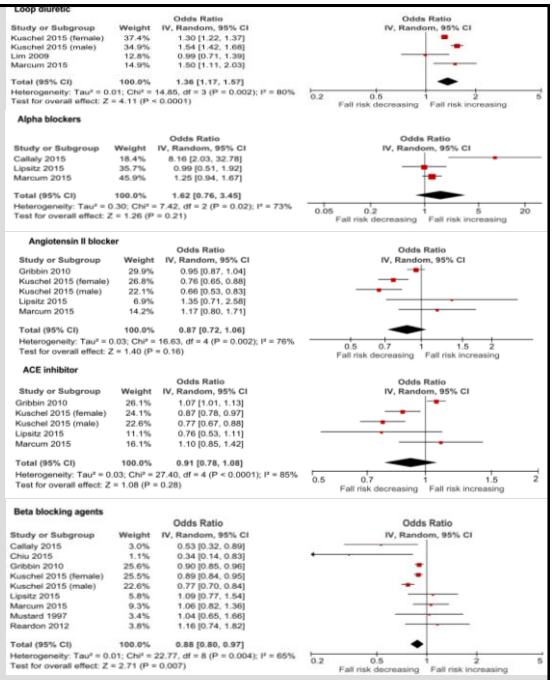


Kulkarni et al. (2020) *American College of Cardiology*, Masoli et al. (2020) *Age and Ageing*, Atkins & Perkovic (2019) *Aust Prescr*, Benetos, Petrovic & Strandberg (2019) *Circulation Research*

78

Antihypertensives

- Deprescribing
  - Orthostatic hypotension
  - Falls
  - Reduced life expectancy
- Prioritise cardioprotective anti-hypertensives
  - Beta-blockers – selective
    - Decreased falls risk (e.g. cardioprotective effects)
      - Non-selective – may increase falls
  - Loop diuretics
    - Increased falls risk
  - Alpha-blockers (e.g. prazosin)
    - Orthostatic hypotension
  - Central alpha agonist (e.g. Clonidine)
    - CNS effects, bradycardia, orthostatic hypotension
  - Nifedipine
    - Risk of myocardial ischaemia, hypotension
- Consider other medications – steroids, NSAIDs, HRT



Quek et al. (2023) *AJGP,* O'Donnel & Ibrahim (2022) *BMC Geriatrics,* AGS Beer Criteria Update Expert Panel (2023) *JAGS,* Reeve et al (2018) *Expert Opinion on Drug Safety*, de Vries et al (2018) *JAMDA* Benetos, Petrovic & Strandberg (2019) *Circulation Research*

79

Antihypertensives

- Recurrence – within 3-4 months
  - Normotensive – 40% at 1 year, 26% at 2 years
  - Recovered dilated cardiomyopathy – 40% of patients relapsed at 6 months
- Non-pharmacological approaches
  - Exercise
  - Reduced dietary sodium
  - Smoking cessation

Reeve et al (2018) *Expert Opinion on Drug Safety*, de Vries et al (2018) *JAMDA,* Reeve et al. (2020) *Cochrane*

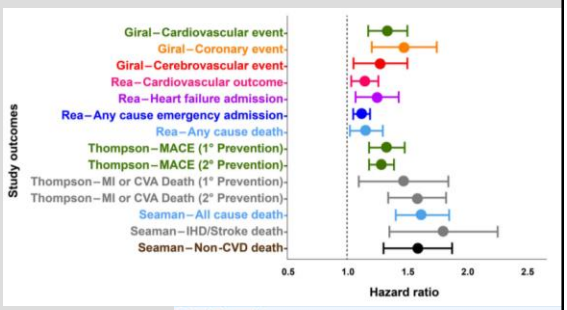
80

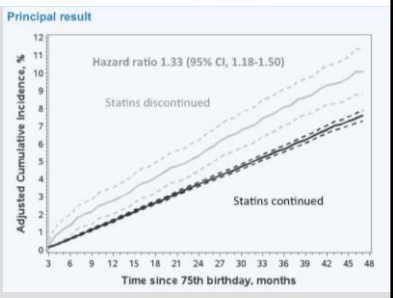
STATINS

81

Statin Discontinuation

- Associated with increased
  - Adverse cardiovascular outcomes
  - Emergency admissions
  - Mortality
- Primary prophylaxis
  - 33% increased risk of admission for cardiovascular event
  - Per 1000 post discontinuation patient years
    - 9 more major adverse cardiovascular event (MACE)
    - 2 deaths
- Secondary prophylaxis – worse
  - Per 1000 post discontinuation patient years
    - 11 more major adverse cardiovascular event (MACE)
    - 6 deaths
- All observational studies – need RCT
  - Statins in the Elderly (SITE)
  - STAtin therapy for Reducing Events in the Elderly (STAREE)

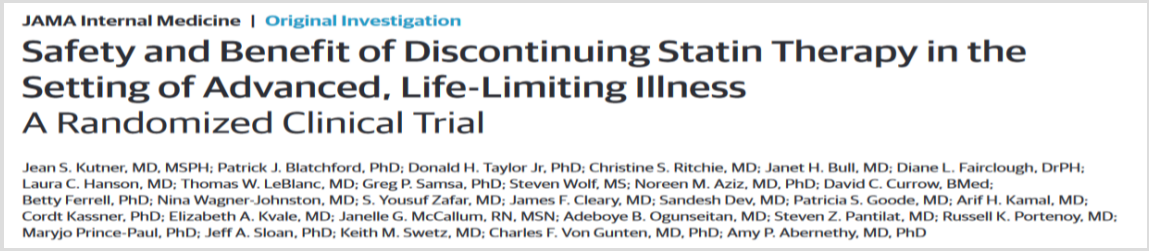




Giral et al (2019) *European Heart Journal*, Thompson et al (2021) *JAMA Network Open*, Rea et al (2021) *JAMA Network Open,* Thomas, Ellison & Taffet (2023) *JAGS*

82

- Many guidelines refer to statins as inappropriate for patients:
  - Life expectancy < 2 years
  - Advanced dementia
- RCT – 381 patients
  - Improved QOL
  - Deprescribing safe – no statistically significant difference in mortality + few cardiovascular events
    - Trend towards mortality in statin discontinuation - ? underpowered
  - Continuing statin – not likely to be harmful



JAMA Internal Medicine | Original Investigation

Safety and Benefit of Discontinuing Statin Therapy in the Setting of Advanced, Life-Limiting Illness
A Randomized Clinical Trial

Jean S. Kutner, MD, MSPH; Patrick J. Blatchford, PhD; Donald H. Taylor Jr, PhD; Christine S. Ritchie, MD; Janet H. Bull, MD; Diane L. Fairclough, DrPH; Laura C. Hanson, MD; Thomas W. LeBlanc, MD; Greg P. Samsa, PhD; Steven Wolf, MS; Noreen M. Aziz, MD, PhD; David C. Currow, BMed; Betty Ferrell, PhD; Nina Wagner-Johnston, MD; S. Yousuf Zafar, MD; James F. Cleary, MD; Sandesh Dev, MD; Patricia S. Goode, MD; Arif H. Kamal, MD; Cordt Kassner, PhD; Elizabeth A. Kvale, MD; Janelle G. McCallum, RN, MSN; Adeboye B. Ogunseitan, MD; Steven Z. Pantilat, MD; Russell K. Portenoy, MD; Maryjo Prince-Paul, PhD; Jeff A. Sloan, PhD; Keith M. Swetz, MD; Charles F. Von Gunten, MD, PhD; Amy P. Abernethy, MD, PhD

Kutner et al (2015) *JAMA Intern Med,* Quek et al. (2023) *AJGP,* de Vries et al (2018) *JAMDA*

83

ASPIRIN

84

ORIGINAL ARTICLE

Effect of Aspirin on All-Cause Mortality in the Healthy Elderly

John J. McNeil, M.B., B.S., Ph.D., Mark R. Nelson, M.B., B.S., Ph.D., Robyn L. Woods, Ph.D., Jessica E. Lockery, M.B., B.S., Rory Wolfe, Ph.D., Christopher M. Reid, Ph.D., M.P.H., Brenda Kirpach, C.C.R.A., Raj C. Shah, M.D., Diane G. Ives, M.P.H., Elsdon Storey, M.B., B.S., D.Phil., Joanne Ryan, Ph.D., Andrew M. Tonkin, M.B., B.S., M.D., et al., for the ASPREE Investigator Group*

- ASPREE Trial – 2018
  - 19,114 patients (Australia + USA)
- Primary Prophylaxis
  - No benefit – disability free survival, cardiovascular disease
    - Also seen in ARRIVE TRIAL
  - Potential for harm
    - Increased GI bleeding – increases with age
    - Increased mortality (cancer related – GI) – Australian patients
      - 1.6 excess deaths per 1000 person years
- Secondary prophylaxis
  - Indicated

McNeil et al. (2018) *NEJM,* Gaziano et al. (2018) The Lancet, Quek et al. (2023) *AJGP,* AGS Beer Criteria Update Expert Panel (2023) *JAGS*

85

ANTICOAGULATION

86

Anticoagulation, AF and falls

- Anticoagulation is **underprescribed** (50% of elderly patients) – due to falls risk and bleeding
- **"Fear the clot, not the bleed"** – Benefits of anticoagulation outweigh risk
  - Ischaemic strokes tend to be more devastating/permanent than anticoagulation associated haemorrhage
  - Risk of ischaemic stroke 9x higher than risk of ICH in patients with AF (regardless of anticoagulation status)
  - Anticoagulation reduces risk of stroke by 2/3
    - Oldest patients derived greatest benefit
- **"295 falls in 1 year"** for the risk of falls related haemorrhage outweigh benefit of warfarin for stroke
  - Consider the type of falls + injuries
    - Mitigate falls risk
- AF + high risk of falls → 1.9 x higher risk of intracranial haemorrhage
  - No difference between warfarin, aspirin, no antithrombotic therapy
    - 30 day mortality higher with warfarin (51.8% vs 33.6%) for ICH

Hagerty & Rich (2017) *Cleveland Clinical Journal of Medicine*, Shanah et al. (2020) *Cureus*

87

Anticoagulation – Non-valvular AF + VTE

- Warfarin vs DOACs (non-valvular AF + VTE)
  - Higher risk of major bleeding (esp intracranial haemorrhage) with warfarin
  - Consider continuing if long term use and well controlled INRs
- Dabigatran vs Apixaban
  - Higher risk of major bleeding + GI bleeding in older adults
- Rivaroxaban vs Apixaban
  - Higher risk of major bleeding + GI bleeding in older adults
  - Indications for Rivaroxaban
    - Once daily dosing preferred
    - ?Reduced creatinine clearance - > 15mL/min +/- dialysis (reduced dose 10mg daily)
      - Emerging evidence that Apixaban is safe in end stage renal failure (RENAL-AF)

AGS Beer Criteria Update Expert Panel (2023) *JAGS,* Benz & Eikelboom (2022) *Circulation,* Tseng et al. (2023) *EJHaem*, Noseworthy et al. (2016) *Chest,* Jaksa et al (2022) *BMJ Open*

88

Circulation

AHA Journals | Journal Information | All Issues | Subjects | Features | Resources

Home > Circulation > Vol. 149, No. 4 > Safety of Switching From a Vitamin K Antagonist to a Non–Vitamin K Antagonist Oral Anticoagulant in Frail Older P

FREE ACCESS
RESEARCH ARTICLE

PDF/EPUB

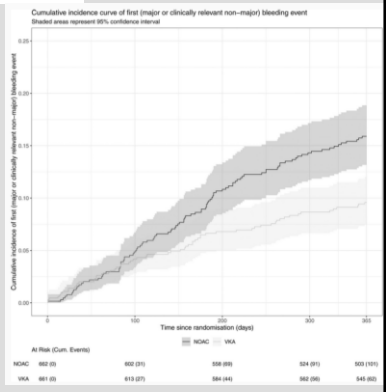
Tools Share

Safety of Switching From a Vitamin K Antagonist to a Non–Vitamin K Antagonist Oral Anticoagulant in Frail Older Patients With Atrial Fibrillation: Results of the FRAIL-AF Randomized Controlled Trial

Linda P.T. Joosten, Sander van Doorn, Peter M. van de Ven, Bart T.G. Köhlen, Melchior C. Nierman, Huiberdina L. Koek, Martin E.W. Hemels, Menno V. Huisman, Marieke Kruip, Laura M. Faber, Nynke M. Wiersma, Wim F. Buding, Rob Fijnheer, Henk J. Adriaansen, Kit C. Roes, Arno W. Hoes, Frans H. Rutten and Geert-Jan Geersing

Originally published 27 Aug 2023 | https://doi.org/10.1161/CIRCULATIONAHA.123.066485 | Circulation. 2024;149:279–289

- Evidence changes
- Multicentre RCT – Netherlands
- Older patients with AF living with frailty
  - 1323 patients
- Vitamin K antagonist → DOACs (non-valvular AF)
  - Increased bleeding complications (HR 1.69, p = 0.00112) – worse after 100 days
    - Gastrointestinal + urogenital bleeds
  - No reduction in thromboembolic complications or mortality
- Limitations
  - Study stopped early for futility – mean follow up 344 days
  - Frequent INR monitoring



Joosten et al. (2023) *Circulation*

89

PROTON PUMP INHIBITORS

90

Proton pump inhibitors

- Risks
  - Falls and fractures
  - C. difficile infection
  - Chronic kidney disease
  - Altered absorption of nutrients
    - B12 deficiency
    - Hypomagnesaemia
      - Hypocalcaemia
- Avoid scheduled use > 8 weeks
- Clarify **Indication** – High risks for deprescribing:
  - Chronic NSAID use + Corticosteroids
  - Barrett's/erosive/eosinophilic oesophagitis
  - Peptic strictures
  - Pathologic hypersecretory syndrome
  - Prior bleeding gastric ulcer/High bleeding risk – liaise with gastroenterologist
  - Failure of drug discontinuation

Targownik, Fisher & Saini (2022) *Gastroenterology,* Quek et al. (2023) *AJGP,* AGS Beer Criteria Update Expert Panel (2023) *JAGS,* Reeve et al (2018) *Expert Opinion on Drug Safety* AlHarkan et al (2023) *BMC Geriatrics,* Seppala et al. (2018) *JAMDA,* NSWTAG, Boghossain et al (2017) *Cochrane,* Steinman & Reeve (2023) *UptoDate*

91

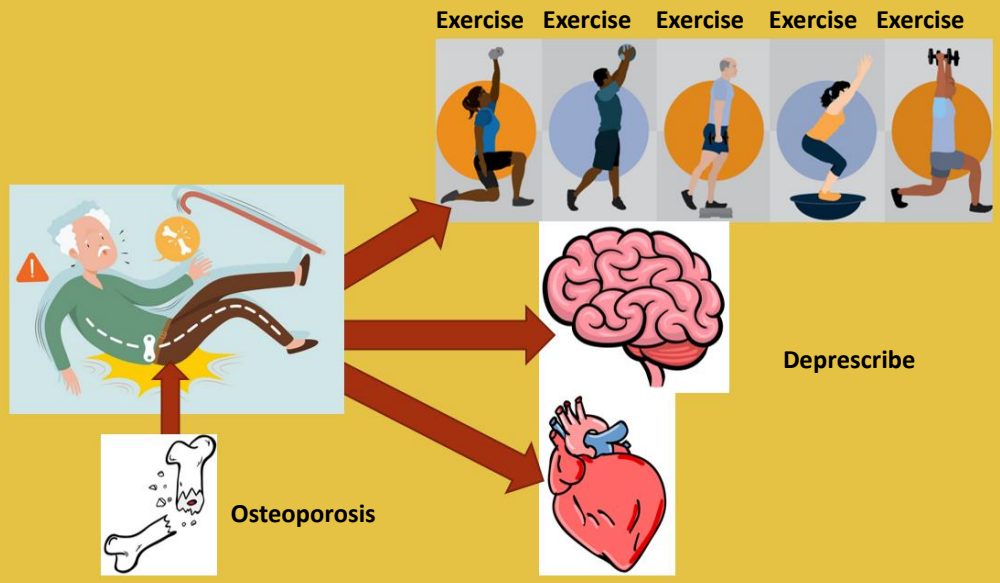
Proton pump inhibitors

- Recurrence of symptoms requiring resumption of long term PPI
  - GORD, dyspepsia, unknown – 30-70% over 12 months
    - Halved by intermittent use of alternative therapies (H2 antagonists, antacids)
  - Rebound hypersecretion – within 4 weeks
    - PRN or tapered PPI
- Lifestyle modifications – diet, weight, smoking

Targownik, Fisher & Saini (2022) *Gastroenterology,* Quek et al. (2023) *AJGP,* AGS Beer Criteria Update Expert Panel (2023) *JAGS,* Reeve et al (2018) *Expert Opinion on Drug Safety* AlHarkan et al (2023) *BMC Geriatrics,* Seppala et al. (2018) *JAMDA,* NSWTAG, Boghossain et al (2017) *Cochrane,* Steinman & Reeve (2023) *UptoDate*

92

Summary – Falls in the Elderly



93

References

- Quek, H. W., Page, A., Potter, K., & Etherton-Beer, C. (2023) Deprescribing considerations for older people in general practice. *Australian Journal of General Practice,* 52(4), p173-180.
- Carpels, A., de Smet, L., Desplenter, S., & de Hert, M. (2022) Falls among psychiatric inpatients: a systematic review of literature. *Alpha Psychiatry,* 23(5), p217-222.
- Blair, E., & Gruman, C. (2005) Fall in an Inpatient Geriatric Psychiatric Population. *Journal of the American Psychiatric Nurses Association,* 11(6), p351-354.
- McMinn, B. et al. (2016) Falls and fall injury in mental health inpatient units for older people, *HealthTimes. https://healthtimes.com.au/hub/aged-care/2/practice/nc1/falls-and-fall-injury-in-mental-health-inpatient-units-for-older-people/2093/*
- Finkelstein, E., Prabhu, M., & Chen, H. (2007) Increased prevalence of falls among elderly individuals with mental health and substance abuse conditions. *The American Journal of Geriatric Psychiatry,* 15(7), p611-619.
- Heslop, K. et al. (2012) Assessing falls risk in older adult mental health patients: A Western Australian review. *International Journal of Mental Health Nursing,* 21(6), p567-575.
- Savage, T. & Matheis-Kraft, C. (2001). Fall occurrence in geriatric psychiatry setting before and after a fall prevention program. *Journal of Gerontological Nursing,* 27(10), p49-53.
- Bunn, F. et al. (2014) Preventing falls among older people with mental health problems: a systematic review. *BMC Nursing,* 13(4), https://doi.org/10.1186/1472-6955-13-4
- Seppala, L. J. et al. (2018) Fall-Risk-Increasing Drugs: A Systematic Review and Meta-Analysis: II. Psychotropics. *JAMDA*, 371, e11-e17
- Seppala, L. J. et al. (2018) Fall-Risk-Increasing Drugs: A Systematic Review and Meta-Analysis: III. Others. *JAMDA*, 372, e1-e8
- de Vries, M. et al. (2018) Fall-Risk-Increasing Drugs: A Systematic Review and Meta-Analysis: I. Cardiovascular Drugs. *JAMDA*, 371, e1-e9
- Shanah, L. et al. (2020) Use of Anticoagulants in Patients With Non-Valvular Atrial Fibrillation Who Are at Risk of Falls. *Cureus*, 12(9), e10336. doi:10.7759/cureus.10336
- Bjerre, L. M. et al. (2018) Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia. *Canadian Family Physician*, 64(1), 17-27.
- McFarlane, S. & Cunningham, C. (2021). Limiting antipsychotic drugs in dementia. *Australian Prescriber*, 44, 8-11.

94

References

- Bunn, F. et al. (2014) Preventing falls among older people with mental health problems: a systematic review. *BMC Nursing,* 13(4), https://doi.org/10.1186/1472-6955-13-4
- Seeherunwong, A. et al. (2022) Staffing and patient-related factors affecting inpatient falls in a psychiatric hospital: a 5-year retrospective matched case–control study. *International Journal of Mental Health Systems*, 16(3), https://doi.org/10.1186/s13033-022-00514-1
- Gillespie, L.D. et al. (2012) Interventions for preventing falls in older people living in the community. *Cochrane Database of Systematic Reviews*, Issue 9(CD007146), https://doi.org/10.1002/14651858.CD007146.pub3
- Kemmler, W. et al. (2010) Exercise Effects on Bone Mineral Density, Falls, Coronary Risk Factors, and Health Care Costs in Older Women The Randomized Controlled Senior Fitness and Prevention (SEFIP) Study. *Archives of Internal Medicine, 170(2),* p179-185.
- Cameron, I. D. et al. (2012) Interventions for preventing falls in older people in care facilities and hospitals. *Cochrane Database of Systematic Reviews,* Issue 12(CD005465), DOI: 10.1002/14651858.CD005465.pub3
- Sherrington, C. et al. (2019) Exercise for preventing falls in older people living in the community. *Cochrane Database of Systematic Reviews,* Issue 1(CD012424), DOI: 10.1002/14651858.CD012424.pub2
- Veddeng, S. et al. (2022) Association between statin use and physical performance in home-dwelling older patients receiving polypharmacy: cross-sectional study. *BMC Geriatrics*, 22(242), https://doi.org/10.1186/s12877-022-02942-7
- Montero-Odasso, M. et al. (2022) World guidelines for falls prevention and management for older adults: a global initiative. *Age and Ageing*, 51, p1-36
- Sherrington, C. et al. (2020) Evidence on physical activity and falls prevention for people aged 65+ years: systematic review to inform the WHO guidelines on physical activity and sedentary behaviour. *International Journal of Behavioural Nutrition and Physical Activity,* 17(144), https://doi.org/10.1186/s12966-020-01041-3
- Kutner, J. S. et al. (2015) Safety and Benefit of Discontinuing Statin Therapy in the Setting of Advanced, Life-Limiting Illness: A Randomized Clinical Trial. *JAMA Internal Medicine*, 175(5), p691-700
- Thompson, W. et al. (2021) Statin Discontinuation and Cardiovascular Events Among Older People in Denmark. *JAMA Network Open*, 4(12), e2136802. doi:10.1001/jamanetworkopen.2021.36802
- Wallis, K.A., Donald, M. & Moncrieff, J. (2021). Antidepressant prescribing in general practice: A call to action. *Australian Journal of General Practice*, 50 (12), doi: 10.31128/AJGP-02-21-5828.

95

References

- Varghese, D., Ishibda, C. & Koya, H.H. (2022) Polypharmacy. *StatPearls.* https://www.ncbi.nlm.nih.gov/books/NBK532953/
- Delara, M. et al. (2022) Prevalence and factors associated with polypharmacy: a systematic review and meta-analysis. *BMC Geriatrics*, 22(601), https://doi.org/10.1186/s12877-022-03279-x
- O'Donnell, L.K. & Ibrahim, K. (2022) Polypharmacy and deprescribing: challenging the old and embracing the new. *BMC Geriatrics,* 22(734), https://doi.org/10.1186/s12877-022-03408-6
- American Geriatric Society Beers Criteria Update Expert Panel. (2023) American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. *Journal of the American Geriatric Society,* https://doi.org/10.1111/jgs.18372
- Xue, L. et al. (2021) Persistent polypharmacy and fall injury risk:the Health, Aging and Body Composition Study. *BMC Geriatrics*, 21(710), https://doi.org/10.1186/s12877-021-02695-9
- AlHarkan, K. S. et al. (2023) Associations between polypharmacyand potentially inappropriate medications with risk of falls among the elderly in Saudi Arabia. *BMC Geriatrics*, 23(222), https://doi.org/10.1186/s12877-023-03852-y
- Benz, A.P. & Eikelboom, J. W. (2022) Apixaban Compared With Warfarin in Patients With Atrial Fibrillation and End-Stage Renal Disease: Lessons Learned. *Circulation*, 146(23), p1746-1748
- Tseng, C.I. et al. (2023) Safety and pharmacokinetic profile of apixaban in end-stage renal disease: A real-world analysis. *EJHaem*, 4(1), p291-293
- Mach, J. et al. (2021) Chronic polypharmacy with increasing Drug Burden Index exacerbates frailty and impairs physical function, with effects attenuated by deprescribing, in aged mice. *Journals of Gerontology: Biological Sciences*, 76(6), p1010-1018
- Reeve, E. et al (2018) Narrative review of the safety concerns of deprescribing in older adults and strategies to mitigate potential harms. *Expert Opinion on Drug Safety,* 17(1), p39-49
- Le Bosquet, K., Barnett, N. & Minshull, J. (2019) Deprescribing: Practical Ways to Support Person-Centred, Evidence-Based Deprescribing. *Pharmacy,* 7(3), p129
- Rea, F. et al. (2021) Cardiovascular Outcomes and Mortality Associated With Discontinuing Statins in Older Patients Receiving Polypharmacy. *JAMA Network Open*, 4(6), e2113186. doi:10.1001/jamanetworkopen.2021.13186

96

References

- NPS (2021) Focus on Anticholinergic Burden. *NPS MedicineWide*, https://www.nps.org.au/professionals/anticholinergic-burden/focus-on-anticholinergic-burden
- O'Donnell, L. K. et al. (2017) Anticholinergic burden: considerations for older adults. *Journal of Pharmacy Practice and Research*, 47(1), p67-77
- Ilhan, B. et al. (2023) Management of use of urinary antimuscarinics and alpha blockers for benign prostatic hyperplasia in older adults at risk of falls: a clinical review. *European Geriatric Medicine*, https://doi.org/10.1007/s41999-023-00798-7
- Mathieson, S. et al. (2017) Trial of Pregabalin for Acute and Chronic Sciatica. *New England Journal of Medicine,* 376, p1111-1120
- Attal, N. & Barrot, M. (2017) Is Pregabalin Ineffective in Acute or Chronic Sciatica? *New England Journal of Medicine,* 376, p1169-1170
- Baron, R. et al. (2010) The efficacy and safety of pregabalin in the treatment of neuropathic pain associated with chronic lumbosacral radiculopathy. *Pain*, 150(3), p420-427
- Goodman, C.W. & Brett, A. S. (2017) Gabapentin and Pregabalin for Pain — Is Increased Prescribing a Cause for Concern? *New England Journal of Medicine*, 377, p411-414
- Nagai, S. et al. (2023) Efficacy of surgical treatment on polypharmacy of elderly patients with lumbar spinal canal stenosis: retrospective exploratory research. *BMC Geriatrics, 23 (169),* https://doi.org/10.1186/s12877-023-03853-x
- Gaziano, J.M. et al. (2018) Use of aspirin to reduce risk of initial vascular events in patients at moderate risk of cardiovascular disease (ARRIVE): a randomised, double-blind, placebo-controlled trial. *The Lancet*, 392(10152),p 1036-1046
- McNeil, J.J. et al. (2018) Effect of Aspirin on All-Cause Mortality in the Healthy Elderly. *New England Journal of Medicine,* 379, p1519-1528
- Hagerty, T. & Rich, M. W. (2017) Fall risk and anticoagulation for atrial fibrillation in the elderly: A delicate balance. *Cleveland Clinic Journal of Medicine*, 84(1), p35-40.
- Lee et al. (2023) An Approach to Deprescribe Antidepressants for Depression in Older Adults: Consensus, Multidisciplinary Practice Recommendations. *The Permanente Journal*, 27 (2), 1-8.
- Steinman, M. & Reeve, E. (2023) Deprescribing. *UpToDate*, https://www.uptodate.com/contents/deprescribing.
- Keks, N. Hope, J. & Keogh, S. (2016) Switching and stopping antidepressants. *Australian Prescriber*, 39, 76-83.

97

References

- Noseworthy, P.A. et al. (2016) Direct Comparison of Dabigatran, Rivaroxaban, and Apixaban for Effectiveness and Safety in Nonvalvular Atrial Fibrillation. *Chest*, 150(6), p1302-1312
- Jaksa, A. et al. (2022) Using primary care data to assess comparative effectiveness and safety of apixaban and rivaroxaban in patients with nonvalvular atrial fibrillation in the UK: an observational cohort study. *BMJ Open*, 12, e064662, doi:10.1136/bmjopen-2022-064662
- Kulkarni, A. et al. (2020) Older Adults and Hypertension: Beyond the 2017 Guideline for Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults. *American College of Cardiology*, https://www.acc.org/latest-in-cardiology/articles/2020/02/26/06/24/older-adults-and-hypertension
- Masoli, J.A.H et al. (2020) Blood pressure in frail older adults: associations with cardiovascular outcomes and all-cause mortality. *Age and Ageing*, 49(5), p807-813
- Shin, J. & Kim, K. (2022) A clinical algorithm to determine target blood pressure in the elderly: evidence and limitations from a clinical perspective. *Clinical Hypertension*, 28(17), https://doi.org/10.1186/s40885-022-00202-9
- Atkins, E.R. & Perkovic, V. (2019) Blood pressure: at what level is treatment worthwhile? *Australian Prescriber*, 42, p127-130
- Benetos, A., Petrovic, M. & Strandberg, T. (2019) Hypertension Management in Older and Frail Older Patients. *Circulation Research,* 124, p1045-1060
- Reeve, E. et al. (2020) Withdrawal of antihypertensive drugs in older people. *Cochrane Reviews*, 6(CD012572), DOI: 10.1002/14651858.CD012572.pub2.
- Targownik, L.E., Fisher, D.A., & Saini, S.D. (2022) AGA Clinical Practice Update on De-Prescribing of Proton Pump Inhibitors: Expert Review. *Gastroenterology*, 162(4), p1334-1342
- Boghossain, T. A. et al. (2017) Deprescribing versus continuation of chronic proton pump inhibitor use in adults. *Cochrane Reviews*, 3(CD011969) DOI: 10.1002/14651858.CD011969.pub2.
- Giral, P. et al. (2019). Cardiovascular effect of discontinuing statins for primary prevention at the age of 75 years: a nationwide population-based cohort study in France. *European Heart Journal*, 40(43), p3516-3525.
- Coe, A. et al. (2023) Self-reported reasons for reducing or stopping antidepressant medications in primary care: thematic analysis of the *diamond* longitudinal study. *Primary Health Care Research and Development*, 24, e6.

98

References

- Cheung, J.M.Y. et al. (2023) Deprescribing benzodiazepine receptor agonists for insomnia in older adults – Authors' reply. *The Lancet*, 402 (10411), 1422.
- Scrandis, D.A. & Duarte, A.C. (2019) Deprescribing Benzodiazepines. *The Nurse Practitioner*, 44(2), 12-14.
- Croke, L. (2019) Deprescribing Benzodiazepine Receptor Agonists for Insomnia in Adults. *American Family Physician*, 99(1), 57-58.
- Pishock, R.A. (2022) Deprescribing Benzodiazepines in Older Adults. *Nursing & Primary Care*, 6(3), 1-24.
- Joosten, L.P.T. (2023) Safety of Switching From a Vitamin K Antagonist to a Non–Vitamin K Antagonist Oral Anticoagulant in Frail Older Patients With Atrial Fibrillation: Results of the FRAIL-AF Randomized Controlled Trial. *Circulation*, 149(4), 279-289.
- Derry, S., et al. (2019). Pregabalin for chronic neuropathic pain in adults. *Cochrane Database of Systematic Reviews*, Issue 1. Art. No.: CD007076. DOI: 10.1002/14651858.CD007076.pub3.

99

To de or not to de(frail)- that is the question

- Dr Linda Xu
- Ryde Hospital Geriatrician/ General Physician

100

Declarations

- Sponsored attendance by Abbott at Muscle Health in GP Roundtable Meeting July 2023 as NSW Council Member of Australia and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR)
- Consultative role in Estia Health Clinical Governance Committee
- NSW Council Member of ANZSSFR
- NSW Aged Care Roundtable
- ANZSGM NSW Secretary
- ACI RACF Outreach Community of Practice
- ANZSGM Out of Hospital Special Interest Group
- Northern Sydney Healthy Ageing and Palliative Care Advisory Group

101

84yo Ms T referred to G2G

- 6 months of lightheadedness/weakness and fatigue
- Known to have postural drops in BP up to 25mmHg
- Seen by two cardiologists
- Intermittent nausea, poor appetite and lost 4kg
- Cancer screen – FOBT, mammogram, CXR and CT abdomen
- CT- ?Intraductal papillary mucinous neoplasm in pancreatic ducts. Unchanged infrarenal AAA 4.8cm diam.
- Sleep apnoea and new CPAP machine- ?cause of fatigue

102

Medical background

- OSA
- Type 2 Diabetes Mellitus
- CABG 1993 and coronary stents (RCA: DES)
- TIA 2019- expressive dysphasia
- PPM 2019
- Atrial tachycardia with 2:1 block 2022
- Carotid endarterectomy bilateral
- Hyperlipidaemia
- Hypertension
- Hysterectomy
- Stress incontinence- sling operation
- Diverticular disease
- Bilateral cataracts and ?macular degeneration- on 10 weekly injection
- Anxiety and depression
- Atrial fibrillation
- Subarachnoid haemorrhage
- Aortic aneurysm- abdominal- 5.1cm on u/s August 2023

103

Medications

- Aspirin 100mg daily
- Linagliptin/metformin 2.5/500mg BD
- Diamicron MR 120mg nocte
- Optisulin solostar 16 units predinner
- Digoxin 62.5mcg nocte
- Flecanide 50mg as needed
- Sotalol 40mg BD
- Methanamine Hippurate 1g BD
- Omeprazole 20mg nocte
- GTN spray 400mcg PRN
- Colecalciferol 1000 units daily
- Ezetimibe/ rosuvastatin 10/40mg daily
- Fenofibrate 48mg daily

104

FRAIL Scale

- Morley 2012

	Question	Scoring
F	FATIGUE How much of the time during the past 4 weeks did you feel tired? A= All or most of the time B= Some, a little or none of the time	A = 1 B = 0
R	RESISTANCE In the last 4 weeks by yourself and not using aids, do you have any difficulty walking up 10 steps without resting?	Yes = 1 No = 0
A	AMBULATION In the last 4 weeks by yourself and not using aids, do you have any difficulty walking 300 metres OR one block?	Yes = 1 No = 0
I	ILLNESS Did your Doctor ever tell you that you have? o Hypertension o Diabetes o Cancer (not a minor skin cancer) o Chronic lung disease o Heart attack o Congestive heart failure o Angina o Asthma o Arthritis o Kidney disease	0 – 4 answers = 0 5 – 11 answers = 1
L	LOSS OF WEIGHT Have you lost more than 5kg or 5% of your body weight in the past year?	Yes = 1 No = 0

105

- Dizziness resolved after review with sleep physician and compliant with CPAP
- **F** atigue most of time. Last feel fine 18 months ago. GDS 8
- **R** esistance- able to do 10 steps
- **A** mbulation- use to do 5 mins on treadmill >1mth prior
- **I** llness- multiple
- **L** oss of weight- 6kg

- FRAIL scale 4/5 (= frail)

106

Issues

- Frailty and sarcopenia with unintentional weight loss
- Depression
- Needing services- transport, shopping (as physical aspects of this difficult), cleaning

107

Management plan

- Referral to CAReS (Ryde Hospital outpatient)
  - Social worker
  - Dietitian
  - Physiotherapy
- Carer Gateway info
- RAS info
- Consideration of antidepressant if mood does not improve with exercise
- Home exercises- sit to stand
- 6 month review

108

John and Dorothy

- John- 85yo
- Increasingly unsteady gait
- Referred to the Community Aged Care and Rehab Services (CAReS) at Ryde Hospital for opinion and management in regard to mobility and falls risk

109

Medical background

- Asthma
- Siatica
- BPH
- Hypertension
- OA
- THR 2022
- Renal impairment

110

Medications

- Dutasteride/ tamsulosin
- Budesonide 400mcg 2 BD
- Telmisartan 80mg daily
- Oxycodone 2.5mg TS and PRN
- Pregabalin 25mg mane, 75mg nocte
- Allopurinol 150mg daily
- Pantoprazole 20mg daily
- Ventolin PRN
- Rivaroxaban 10mg daily

111

- Active and healthy life in NSW Police force for over 40 years rising to rank of Superintendent
- Member of local surf club, played golf and lawn bowls
- No longer bowling after knee operation and mobility decline
- Mobility: w/s and fatigue easily
- Many near misses and trips

112

John's FRAIL score

- How much of the time during the past 4 weeks did you feel tired? : A = All or most of the time
- In the last 4 weeks by yourself and not using aids, do you have any difficulty walking up 10 steps without resting? : Yes
- In the last 4 weeks by your self and not using aids, do you have any difficulty walking 300 metres? : Yes
- Did your Doctor ever tell you that you have: : Hypertension, Cancer (not a minor skin cancer), Asthma, Arthritis, Kidney Disease
- Frail:Illness interp : 1
- Have you lost more than 5kg or 5% of your body weight in the past year? : Yes
- Total Score: : 5
- Frail total interp : Frail

113

- Fit and Strong 6 week fitness program
  - target frail and pre-frail people
  - focus on strength, balance, endurance
  - teach clients how to exercise safely
- 1:1 sessions and group class and met other "gym buddies".
- Dietitian
- Speech path including FESS (video fluoroscopy)
- Social worker- accessing and managing services to support
- OT- Home safety assessment
  - Number of aids implemented- grab rails near external doors, ramps, rail in shower and toilet
- Geriatrician for medication review

114

Result

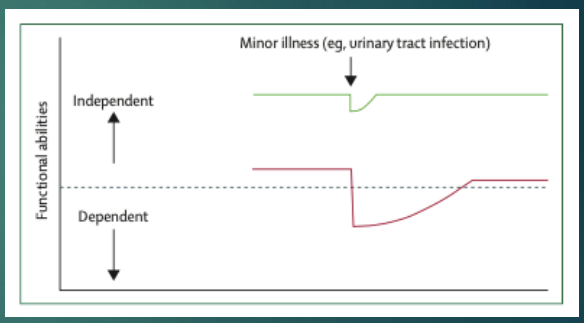
- Pre-program- walking stick and short distances. Few falls in home
- Post program- no walking stick around home and yard
- FRAIL scale 2/5 (pre-frail) 3 months later

115

"Frailty is a state of increased vulnerability to poor resolution of homoeostasis after a stressor event, which increases the risk of adverse outcomes, including falls, delirium, and disability. " Clegg et al. Lancet 2013.

ACI Acute Care Taskforce working definition:

"***A predominantly age-related state of patient fragility or increased vulnerability that results from a compromised ability to maintain homeostasis and limited functional reserves across multiple physiologic systems."***



116

Frailty

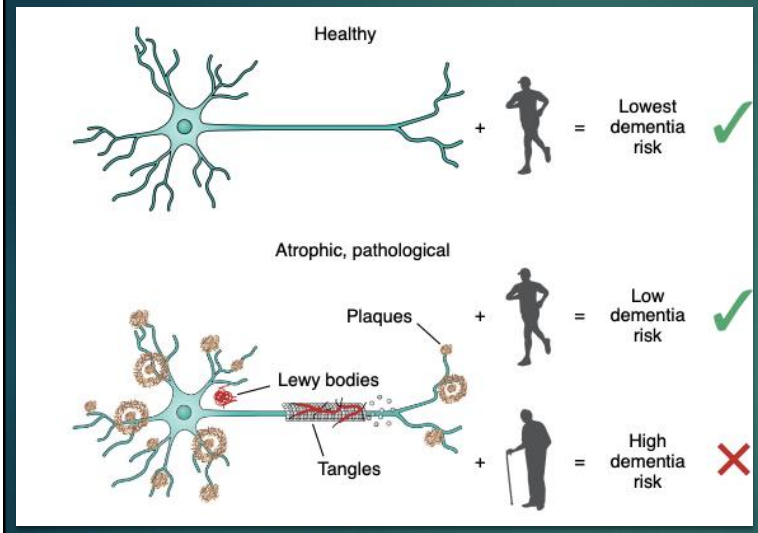
- **Reduced physiological reserve resulting in poor physical function.**
- Increases individual's risk of functional dependence, institutionalisation, death
- Studies indicate people who have both cognitive impairment and slow walking speed 5x more likely to develop dementia

117

Prevalence of frailty

- NZ acute hospital adult inpatients: 49%
- Australian community over 65 yo: 21% frail, 48% pre-frail
- European community over 65yo: 17%
- Australian acute hospital medical inpatients over 75 yo: 55%

118



"Frailty is not a disease, but profoundly influences disease expression"

Howlett, S.E., Rutenberg, A.D. & Rockwood, K. The degree of frailty as a translational measure of health in aging. *Nat Aging* **1**, 651–665 (2021).

119

Frailty Clinical Practice Guidelines

The Asia-Pacific Clinical Practice Guidelines for the Management of Frailty

Recommendations:

- **Strong:**
  - Use a validated measurement tool to **identify frailty**
  - Prescribe **physical activity** with a resistance training component
  - Address **polypharmacy**
- **Conditional**
  - Screen for, and address, **fatigue**
  - Address **weight loss** with **protein/calorie** supplementation if appropriate
  - Prescribe **Vit D** if Vit D deficient

Dent 2017

120

FRAILTY MANAGEMENT/ DECISION TOOL

	Assessment Score	Intervention	Referral/ Follow up
	FRAIL scale 0 = robust	• Encourage ongoing activity levels • Provide Staying Active and on your feet and Eating Well resource	• Re-do FRAIL scale in 12 months • Community exercise with balance/resistance component. Try NSLHD Stepping On and Healthy Lifestyle classes. • Example of exercises in Staying Active and On Your Feet booklet and NSW exercise venues: ww.activeandhealthy.nsw.gov.au
	FRAIL scale 1-2 = Pre-frail FRAIL scale >3 = Frail	**If Frailty Score is positive, address underlying causes as suggested below**	
F	**Feeling fatigued most or all of the time**	• Consider screening for reversible causes of fatigue (sleep apnoea, depression, anaemia, hypotension, hypothyroidism, B12 deficiency) • Use EPWORTH scale, K10 or Geriatric Depression scale in Health Assessment	• Consider referral to Geriatrician / Specialist for complex care patients • Consider referral to Occupational Therapy for functional and home review • Consider referral Psychologist using Mental Health Care Plan • Consider referral to Aged Care organisation for loneliness support (isolation can be a cause of fatigue!)
R	**Resistance against gravity - Difficulty walking up 10 steps without resting**	• Consider referring to an individualised progressive exercise program with resistance and strength component	• Physiotherapy or Exercise Physiologist for exercise prescription • If has diabetes-> group session Medicare funded ex. physiologist • Healthy Lifestyle for group exercise prescription and/or Stepping On • Get Healthy for free telephone-based health coaching • NSHNS Safe and Steady program
A	**Ambulation- Difficulty walking 300 metres unaided**	• Consider referring to an Individualised progressive exercise program with resistance and strength component	• Physiotherapy or Exercise Physiologist for exercise prescription • Healthy Lifestyle for group exercise prescription and/or Stepping On • Get Healthy for free telephone-based health coaching • Exercise options https://www.activeandhealthy.nsw.gov.au
I	**Having 5 or more Illnesses**	• Review indication, side effects and use of medication (evidence for use of some medicines changes after 75!) • Consider discussing with pharmacist • Consider reducing/de-prescribing superfluous medication	• Pharmacist for comprehensive medication review, (HMR item 900) • Occupational Therapy for functional and home safety review • Self-management support from aged care org volunteer
L	**Loss of > 5% weight in 12 months**	• Consider screening for reversible causes of weight loss and consider • Protein and caloric supplementation/ food fortification (75mg protein per day required- range of products available at pharmacy) • Advice and encourage healthy eating; provide "Eating Well" resource	• Weigh and assess BMI – record in patient record • Dietician for diet review and management • Add Sustagen • Meal Delivery Services • Speech pathologist for swallowing review • Dentist for dental review (pain/infection/ill fitting dentures) • Occupational Therapy for functional and home cooking ability review

121

122

SPEAKER INTRODUCTION

Welcome to our speakers for Keeping Well and Independent Program

SYDNEY NORTH Health Network

- **Dr Charbel Badr**, General Practitioner (FRACGP)

- Hunters Hills Medical Practice

phn NORTHERN SYDNEY An Australian Government Initiative

NSW GOVERNMENT Health Northern Sydney Local Health District

www.snhn.org.au

123

HH MP medical practice

150 Years of Medical Excellence

124

Clinic Medical Team

Allied health

- Physiotherapy
- Dietitian
- Psychology

On site medical Specialists

- Cardiology
- Respiratory
- Endocrine
- Gastroenterology
- Geriatrician
- Nephrology

GPs

- Audiology
- Podiatry
- Pathology collection

On site surgical specialists

- General / Colorectal
- Orthopaedic
- Vascular
- plastics
- Urology
- Gynaecology

GP TEAM

Medical Director

15 GPs (M & F)

Care Coordinator

4 Nurses

KWIP Coordinator (intake + flow)

125

KWIP program

- Multiple services based on patient need
- Nurse case management / care coordination and follow up
- Long term GPs, working as a team, home and aged care visits
- Co-located allied health and specialist services as needed
- Good relationships with local pharmacies for medication reviews
- Access to geriatrician at Ryde or upstairs as needed

126

VIP services for KWIP program patients

- Phone call review and Triage by RN when needed
- Nurse appointment at the practice within 4 hours or 1st in AM
- Nurse case management, phone calls, assistance with bookings etc
- Seen by a practice Dr if required same day or next day at latest
- Fit in with their own Dr the next day that Dr is in the practice
- Priority for home visits with the Dr or an RN check in if appropriate

127

Program Design

Intake	Follow up
Health Assessment	4/12 care plan review
Or	Or
Care Plan	3-4/12 Nurse phone call
Or	Or
Care Plan review	GP consult / Nurse review
	Or
+	Medication Review
Frail score	Or
EQ5D5L	Geriatrics Consult

phn NORTHERN SYDNEY An Australian Government Initiative

SYDNEY NORTH Health Network

NSW GOVERNMENT Northern Sydney Local Health District

128

Program workflow

			year 1																
Lead Nurse	Intake Date		0	0	Name	Surname	Other visits	0	0	1	1	2	3	4	5	6	7	
	Intake form	Intake flyer provided	Intake: EQ5D5L	Intake: Frail scale			Since 1/7/23	Health Ass / Obs 703/705/707	HMR ref	10997 RN R/V	Care Plan 721/723	Ph Call		CP R/V 732	Gerries Ref	Ph Call		CP R/V
ynda	3/10/2023	Yes	Completed	0	Paul		12	18/07/2023		now	6/02/2023	3/12/2023		21/11/2023		3/02/2024		
ynda	3/10/2023	Yes	Completed	3	Nola		12	18/07/2023		now	1/11/2022	3/12/2023		21/11/2023		3/02/2024		
ynda	3/10/2023	Yes	Completed	2	Sam		1	4/10/2024		now	14/11/2023	3/12/2023		15/11/2024		14/02/2024		
ashley	19/09/2023	Yes	Completed	0	Robi		7	10/02/2023		now	12/01/2024	19/11/2023		19/09/2023		19/01/2024		
ashley	25/09/2023	Yes	Completed	2	Diar		10	16/12/2023		8/08/2023		25/11/2023				25/01/2024		
ynda	16/10/2023	Yes	Completed	1	Mich		3	17/10/2024		now	22/12/2023	16/12/2023		22/06/2024		16/02/2024		
ynda	16/10/2023	Yes	Completed	3	Rosa		4	17/10/2024		now	22/12/2023	16/12/2023		22/06/2024		16/02/2024		
ashley	18/09/2023	Yes	Completed	1	Ann		20	25/04/2024			18/09/2023	18/11/2023		now		18/02/2024		
ashley	17/10/2023	Yes	Completed	3	Alice		15	15/02/2024		17/10/2023		17/12/2023				17/02/2024		
ynda	10/10/2023	Yes	Completed	2	Judt		7	6/04/2023		now		10/12/2023				10/02/2024		
ynda	10/10/2023	Yes	Completed	2	Barr		7	6/04/2023		now		10/12/2023				10/02/2024		
ynda	17/10/2023	Yes	Completed	3	GUS		3	17/12/2023		now	11/03/2024	17/12/2023		4/12/2023		17/02/2024		
ynda	17/10/2023	Yes	Completed	3	Lois		5	17/12/2023		now	3/04/2023	17/12/2023		4/12/2023		17/02/2024		
ashley	17/10/2023	Yes	Completed	3	Beth		12	not eligible		17/10/2023	21/01/2025	17/12/2023		24/10/2023		17/02/2024		
ynda	20/10/2023	Yes	Completed	3	Colin		30	eligible		now	24/10/2023	20/12/2023		24/04/2024		20/02/2024		
ynda	31/10/2023	Yes	Completed	4	Bruc		5	eligible		now	31/10/2023	31/12/2023		31/04/2024		31/02/2024		
ynda	6/11/2023	Yes	Completed	1	Conr		30	9/05/2024		6/11/2023	29/03/2024	27/01/2024		29/06/2024		29/08/2024		
ynda	6/11/2023	Yes	Completed	3	June		6	7/11/2024		now	24/07/2023	6/01/2024		24/01/2024		24/03/2024		
ynda	21/11/2023	Yes	Completed	2	Ron		15	22/11/2024		now	4/08/2023	6/01/2024		now		22/02/2024		
ashley	12/12/2023	Yes	Completed	4	Virg		6	2/03/2024		12/12/2023								
ntake JAN 2024					Pam			Due Jan 2024										
ntake JAN 2024					Joyc			Due Jan 2024										
ynda	2/01/2024				Nery			19/04/2024										
ntake JAN 2024					Mara													

Repeat EQ5D5L and Frail scores at the 12 month care plan review

129

Example patient – MRS DL

721 GP MANAGEMENT PLAN and 723 TEAM CARE ARRANGEMENTS (if applicable) *(once per 2 years)*

Patient problems / needs / relevant conditions	Goals - changes to be achieved	Required treatments and services (including patient actions)	Arrangements for treatments/services
Polymyalgia Rheumatica/Giant Cell Arteritis	Maintain active lifestyle Reduce pain and swelling Minimise inconvenience of PMR Minimise headaches Maintain bone health, strength and integrity	Regular assessment of pain and management at GP visits Early recognition and presentation with headaches or other red flags Regular review and treatment by Rheumatologist and Neurosurgeon Regular assessment and treatment by Chiropractor Compliant and prescribed use of anti-inflammatory medication Maintain regular exercise regime Screening dexa/BMD when indicated	Dr Charbel Badr - GP Dr David Massasso - Rheumatologist Dr Vanessa Sammons - Neurosurgeon Dr Matt - Orthopaedic Surgeon Chi Huang - Chiropractor - **TCA - 5 visits** Patient
GORD	Maintain optimal GUT health Prevent reflux and symptoms of same	Compliant and prescribed use of anti reflux medication Assessment and treatment by Gastroenterologist if indicated	Dr Charbel Badr Patient
Eye Health	Maintain optimal vision, lens, macular and retinal health	Regular assessment by optometrist/Opthalmologist Compliant and prescribed use of eye medication Screening eye assessment for driver's license when indicated	Dr Charbel Badr Domenic Caristo - Optometrist
Cardiac Health	Maintain optimal cardiac function Maintain target BP< 140/70mmHg	Regular BP checks at GP visits Regular screening of Cholesterol and other	Dr Charbel Badr
	Maintain recommended target cholesterol levels Minimise risk of stroke and cardiac complications	cardiac blood markers Assessment and treatment by Cardiologist Compliant and prescribed use of antihypertensive, Cholesterol lowering and anti-platelet medication Early recognition and action on suspicious cardiac episodes	Patient
Preventative health	Access and maintain all services available to patient	Yearly Flu Vaccination Covid booster when indicated Scheduled screening FOBT when indicated Yearly 75+ Health Assessment Regular GPMP reviews	Dr Charbel Badr Care Co-ordinator - HHMP
Copy offered to patient? **Copy added to the patient's records?**	YES YES	**Copy / relevant parts of GPMP/TCA supplied to other providers?** *(Mandatory for 723)*	YES
Date GPMP completed:	**<Date>** 25.9.23	**Review Date:**	<review date> 25.3.24

25/09/2023	Mrs Lynda Shrimpton	KWIP Enrol - New GPMP/TCA - Prep	Surgery	10:03 am
25/09/2023	Dr Charbel Badr	Medication review	Surgery	11:42 am
05/10/2023	Dr Charbel Badr	Medication review	Surgery	11:19 am
19/10/2023	Dr Charbel Badr	Pain	Surgery	11:33 am
02/11/2023	Dr Charbel Badr	Pain management	Surgery	11:08 am
14/11/2023	Dr Charbel Badr	Results discussed	Surgery	12:16 pm
08/12/2023	Dr Geoffrey Ye	Left Foreign body	Surgery	11:03 am
08/12/2023	Ms Charlotte Harkin	Vaccination	Surgery	11:45 am
11/12/2023	Mrs Lynda Shrimpton		Surgery	1:00 pm
14/12/2023	Dr Charbel Badr	Pain	Surgery	1:51 pm

9 touch points in 10 weeks
- 3 with RNs (include intake)
- 6 with usual doctor
- 1 rapid appt with another Dr

D presents today for MAC referral so that she can "get her foot in the door" to access services that she may need post operatively and going forward for home

Referred for FOLL ACAT assessment as opposed to RAS as IF d has to move to alternative care facility - she will be advised what level of care need she is and

Also discussed at length ersonal care alarm systems and given the contact numbers for those she is interested in.

Aware MAC will take b/w 2-4 weeks to contact.

Referral has been ploaded to Correspondence IN file.

Reason for visit:
MAC referral and personal alarms information

Actions:
Referral letter imported from Care Co-ordinator re MAC referral.

130

Example patient – MR CJ

721 GP MANAGEMENT PLAN and 723 TEAM CARE ARRANGEMENTS (if applicable) *(once per 2 years)*			
Patient problems / needs / relevant conditions	**Goals - changes to be achieved**	**Required treatments and services (including patient actions)**	**Arrangements for treatments/services**
Cardiac Health PPM/Defib insitu Known CCF Recent non Sustained VT Previous Atrial Fibrillation Mitral Valve repair - 2018	Maintain optimal cardiac function Maintain target BP< 140/70mmHg Maintain recommended target cholesterol levels Minimise risk of stroke and cardiac complications	Regular BP checks at GP visits Regular screening of Cholesterol and other cardiac blood markers Assessment and treatment by Cardiologist Compliant and prescribed use of antihypertensive, Cholesterol lowering and anti-platelet medication Early recognition and action on suspicious cardiac episodes Maintain fluid restriction	Dr Charbel Badr - GP A/Prof Eugene Kotlyar - Cardiologist Kelly Hanly - Cardiac RN - RNSH Patient
Bone Health Known Osteoarthritis Borderline Osteopenia	Maintain bone health, strength and integrity Prevent falls and fractures Minimise pain Maintain active and independent lifestyle	Regular assessment of pain and management at GP visits Regular screening BMD/Dexa when indicated Assessment and treatment by Podiatrist Compliant and prescribed use of Bone health medication Maintain regular exercise regime	Dr Charbel Badr Sophia Gould - Podiatrist - **TCA - 5 visits**
Renal Health Known Chronic Renal failure	Maintain optimal Kidney Function Minimise organ complication due to Diabetes and CKD	Regular screening of renal markers Regular review and assessment by Nephrologist	Dr Charbel Badr Prof Jacob Sevastos - Nephrologist
Skin Health Prev SCCs Prone to skin tears/wounds Current treatment for Seb Cyst	Maintain lesion free skin Identify early suspicious and suspect lesions Treat and heal sebacous cyst on Right front chest	Regular Skin checks at GP Assessment and treatment by Dermatologist Early recognition and action on suspect lesions Sun safe strategies undertaken by patient to protect skin	Dr Charbel Badr RNs at HHMP
Increasing Frailty	Maintain independent living Mininise falls and hospital admissions Ensure safe medication protocols Promote safe and familiar surroundings Monitor cognition	Regular assessment at GP visits Assessment and treatment by Geriatrician Yearly MMSE in 75+ HAs HMR review if indicated KWIP program enrolment and participation	Dr Charbel Badr KWIP program My Aged Care
Preventative Health	Access and maintain all services available to patient	Yearly Flu Vaccination Covid booster when indicated Scheduled screening FOBT when indicated Yearly 75+ Health Assessment Regular GPMP reviews	Dr Charbel Badr Care Co-ordinator - HHMP
Copy offered to patient? **Copy added to the patient's records?**	YES YES	**Copy / relevant parts of GPMP/TCA supplied to other providers?** *(Mandatory for 723)*	YES

20/10/2023	Mrs Lynda Shrimpton	KWIP enrollmeent	Surgery	12:15 pm
20/10/2023	Mrs Pari Khadka	Wound review	Surgery	12:45 pm
23/10/2023	Ms Charlotte Harkin	Wound care	Surgery	12:40 pm
23/10/2023	Mrs Lynda Shrimpton	GPMP/TCA - Prep	Surgery	2:47 pm
24/10/2023	Dr Charbel Badr	Care plan	Surgery	9:29 pm
25/10/2023	Dr Leo Tam	?Gout, Wound care	Surgery	12:28 pm
25/10/2023	Ms Charlotte Harkin	Wound care	Surgery	1:21 pm
27/10/2023	Ms Ashley Elek	Wound care	Surgery	3:48 pm
10/11/2023	Dr Rachel LaBlack	Blood test results	Surgery	12:26 pm
21/11/2023	Dr Geoffrey Ye	Gouty tophi, Skin tag	Surgery	2:29 pm
21/11/2023	Ms Ashley Elek	Wound care	Surgery	3:47 pm
22/11/2023	Dr Geoffrey Ye		Surgery	1:55 pm
22/11/2023	Dr Leo Tam	?Tophus, Results review	Surgery	3:06 pm
24/11/2023	Dr Geoffrey Ye	Results discussed	Telephone	9:58 am
27/11/2023	Ms Ashley Elek	Wound care	Surgery	3:15 pm
27/11/2023	Dr Charbel Badr	Dressing change	Surgery	3:30 pm
29/11/2023	Ms Ashley Elek	Wound care	Surgery	2:51 pm
01/12/2023	Ms Ashley Elek	Wound care	Surgery	2:48 pm
04/12/2023	Mrs Gabrielle Mctiernan	Wound care	Surgery	2:38 pm
06/12/2023	Ms Ashley Elek	Wound care	Surgery	1:51 pm
08/12/2023	Dr Leo Tam	Wound care, Skin tag	Surgery	12:35 pm
08/12/2023	Ms Charlotte Harkin	Wound care	Surgery	12:48 pm
11/12/2023	Ms Ashley Elek	Wound care	Surgery	2:42 pm

20+ Touch points from Intake
- **Multiple nursing inputs**
- **Multiple nurse appts >45min each**
- **4 doctors involved**

HH medical practice MP
150 Years of Medical Excellence

131

KWIP Progress

Patients registered = 30 (100 % of our target)

Intake questionnaires and education = 100%

Health Assessments up to date = 86%

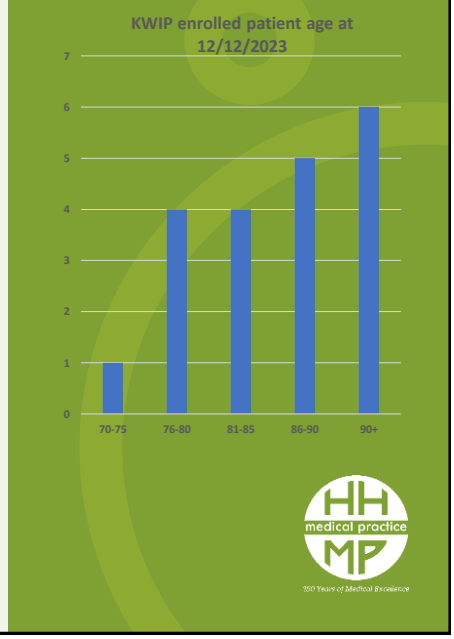
Care Plans up to date = 75%

At least 1 other GP contact in first 5 months = 100%

First phone call for patients who are due = 20 100%

At least 1 nurse contact in first 5 months = 100%

Appointments pre booked

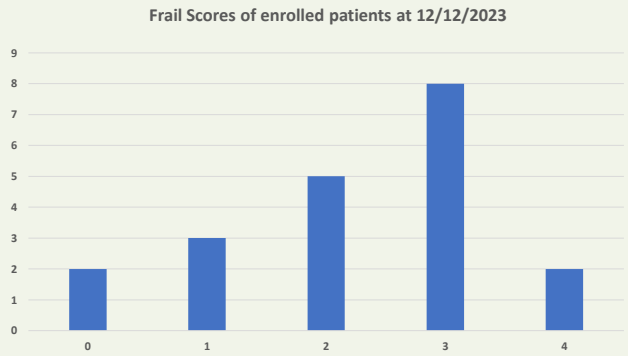


HH medical practice MP
150 Years of Medical Excellence

132

Frail scores

Average frail score of first 20 patients = 2.25 (0-4)



FRAIL SCALE RISK ASSESSMENT

	QUESTION	SCORING	RESULT
F	**FATIGUE** How much of the time during the past 4 weeks did you feel tired? A = All or most of the time B = Some, a little or none of the time	A = 1 B = 0	
R	**RESISTANCE** In the last 4 weeks by yourself and not using aids, do you have any difficulty walking up 10 steps without resting?	Yes = 1 No = 0	
A	**AMBULATION** In the last 4 weeks by yourself and not using aids, do you have any difficulty walking 300 metres OR one block?	Yes = 1 No = 0	
I	**ILLNESS** Did your Doctor ever tell you that you have? ☐ Hypertension ☐ Diabetes ☐ Cancer (not a minor skin cancer) ☐ Chronic lung disease ☐ Heart attack ☐ Congestive heart failure ☐ Angina ☐ Asthma ☐ Arthritis ☐ Kidney disease	0 - 4 answers ✔ = 0 5 - 11 answers ✔ = 1	
L	**LOSS OF WEIGHT** Have you lost more than 5kg or 5% of your body weight in the past year?	Yes = 1 No = 0	
		TOTAL SCORE	

SCORING: ROBUST = 0 PRE-FRAIL = 1-2 FRAIL = >3

SYDNEY NORTH Primary Health Network

HH medical practice MP
150 Years of Medical Excellence

133

Planned Next Steps

Increase geriatrics reviews→ Our primary focus was on registration so our Reviews are behind schedule for about 50% of patients

Medication reviews → We are in the process of finalising a systematic way to refer patients who need it

Improve workflow → A continuous process where we change the order of tasks as we learn from the program or individualise for various patients what would suit them best

Bigger drive / more staff→ The process has been led by a few doctors (early adopters) we plan to widen this to more doctors in the practices

Home assessments → Roll this out for those who need it

Case management → increase the roles done and independence within a framework – take this to the next level!

HH medical practice MP
150 Years of Medical Excellence

134

Issues

Primary Sense → takes some getting used to

Provided patient lists → these are a guide only so can be hit and miss / use your own knowledge of your patient population

Intake feedback (in person) → This is very difficult for patients to do independently or from home, most of them need to be done with the RN at the clinic

EQ-5D-5L→ document this score, so we when repeated you can compare and look for improvement.

Patient movement→ patients can move off the program if they go into nursing home or no longer need support

Patient resistance→ Some patients feel they do not need the extra support and decline to join program.

135

HH medical practice MP

150 Years of Medical Excellence

136

Q&A Session with Geriatricians

SYDNEY NORTH Health Network

- **Dr Alexandra Annesley**
- **Dr Praveeen Sivabalan**
- **Dr Linda Xu**

Please raise your hand with your question

phn NORTHERN SYDNEY An Australian Government Initiative

Health NSW GOVERNMENT Northern Sydney Local Health District

www.snhn.org.au

137

SYDNEY NORTH Health Network

Thank you for participating in this evenings training.

Please remember to use your phone to complete the evaluation by QR code

phn NORTHERN SYDNEY An Australian Government Initiative

138