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CONNECTING EXPERTS IN PD

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Parkinson's Disease Education Day 2023

June 2023

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EXTENDING CHOICE
CONNECTING EXPERTS IN PD

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Ageing and Parkinson's Disease

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As presented in May 2023 (GB_XAD_693)

Disclosure Slide

- Advisory Panel – Merz
- Conference Attendance Support – Abbvie
- Content of presentation neither influenced nor constrained by this support.
- All views are my own.

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Ageing & Parkinson's Disease

24th May 2023 RCP

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Introduction

- Age is the largest risk factor for the development and progression of Parkinson’s disease (PD)

- PD is the the second most common age related neurodegenerative disease after Alzheimer's disease.

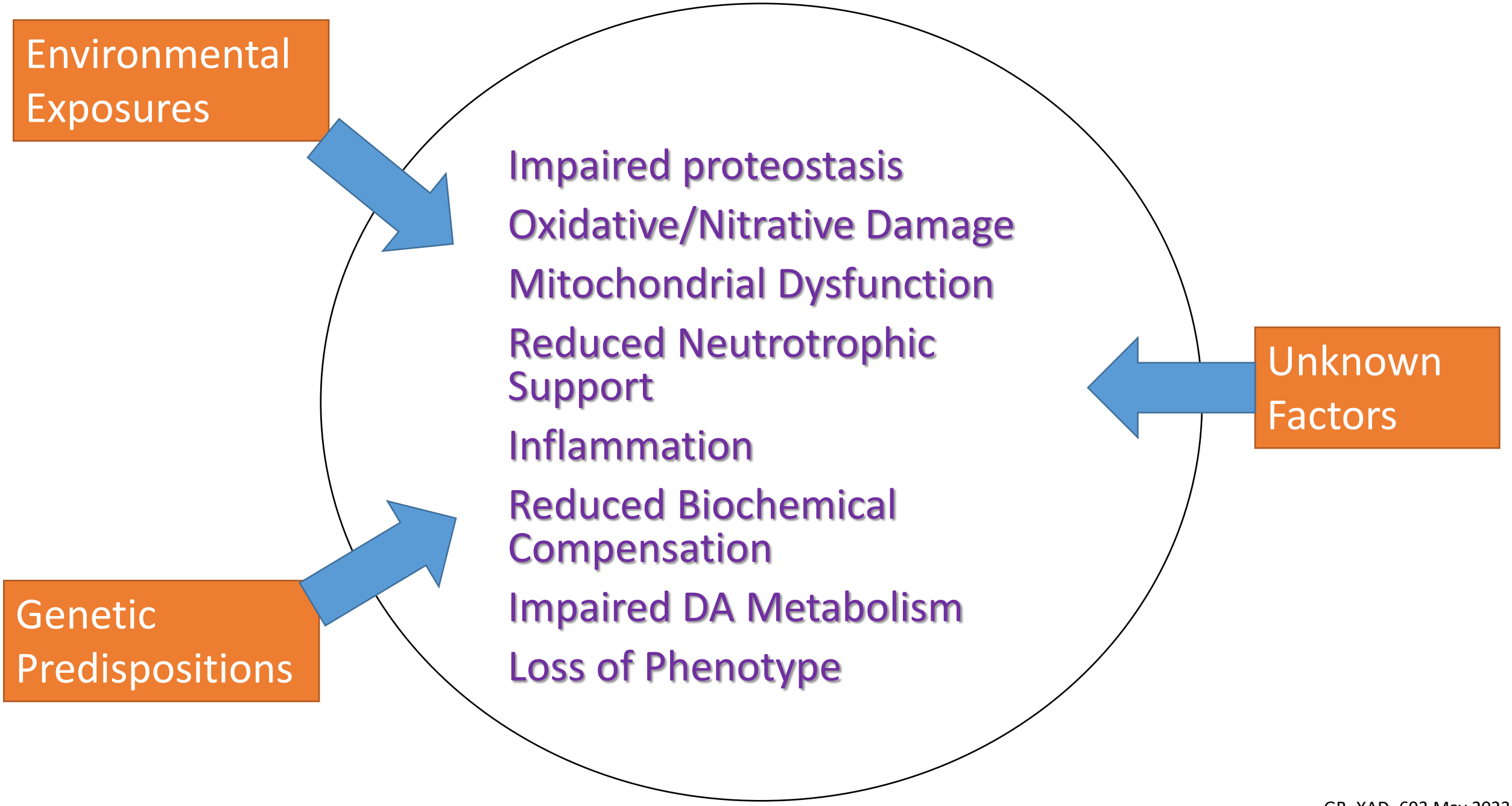
- The health, social and economic impact resulting from PD will continue to increase alongside the longevity of the population.

What is ageing?

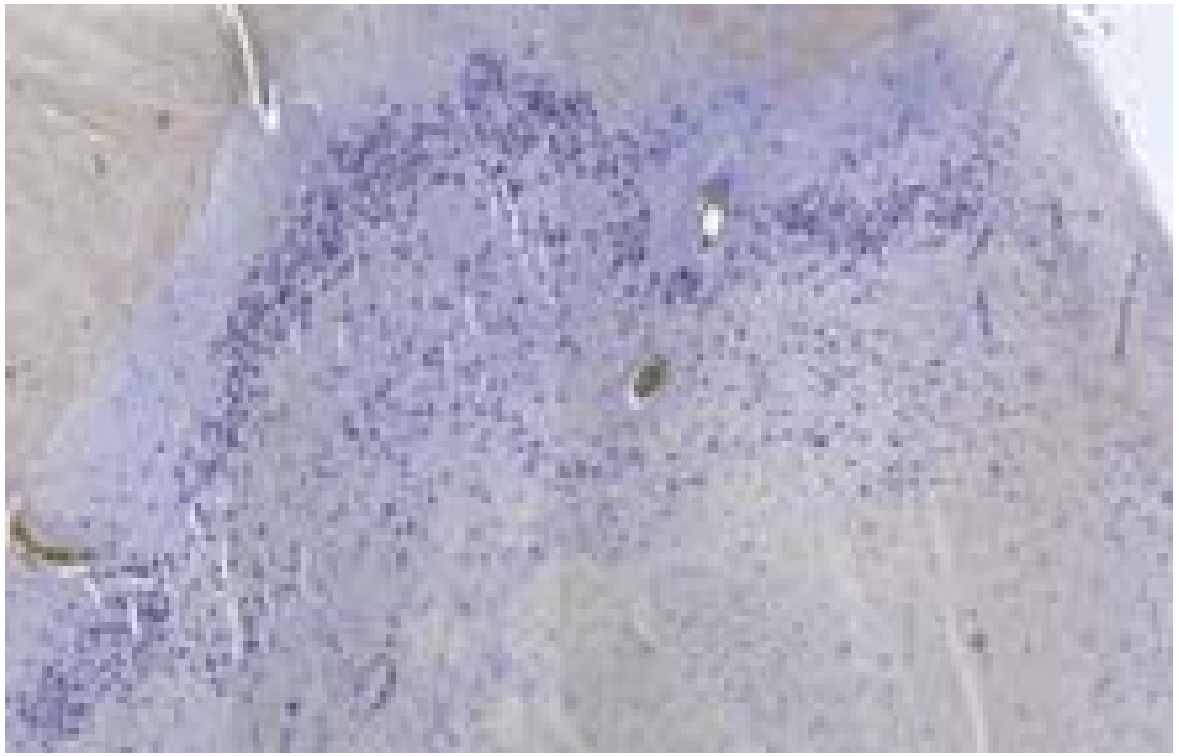
- **Chronologic age** - passage of time/age in years. Limited significance in terms of health.

- **Biologic age -** refers to changes in the body that commonly occur as people age. These changes affect some earlier than others. - ?Frailty

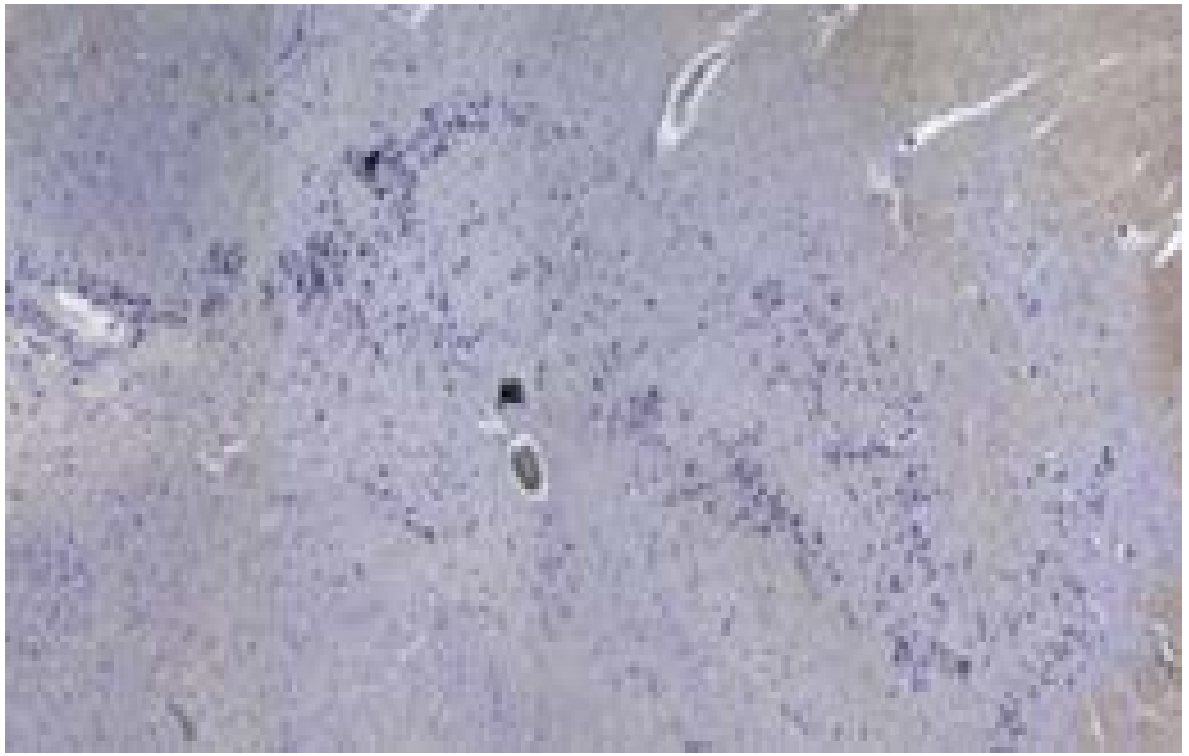
- **Psychologic age -** is based on how people act and feel.


Environmental Exposures
Impaired proteostasis
Oxidative/Nitrative Damage
Mitochondrial Dysfunction
Reduced Neutrotrophic Support
Inflammation
Reduced Biochemical Compensation
Impaired DA Metabolism
Loss of Phenotype
Unknown Factors
Genetic Predispositions

The Ageing Substantia Nigra

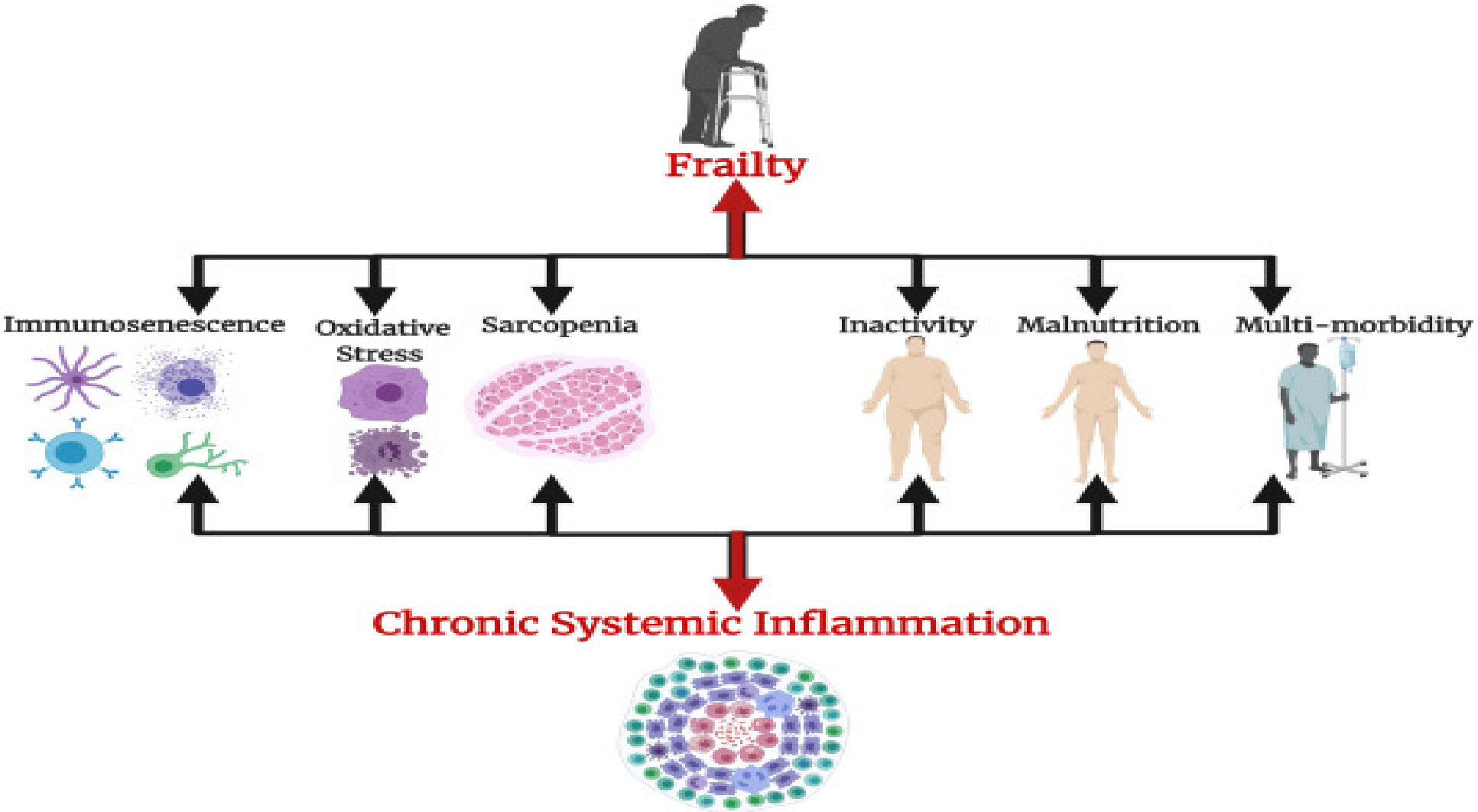


53 years old



69 years old

Reeve A et al. Ageing and Parkinson's disease: Why is advancing age the biggest risk factor?, Ageing Research Reviews, Volume 14, 2014,P19-30,ISSN 1568-1637, https://doi.org/10.1016/j.arr.2014.01.004.



Ebner N. et al,Inflammatory biomarkers of frailty,Experimental Gerontology, Volume 133,2020,110858,ISSN 0531-5565,https://doi.org/10.1016/j.exger.2020.110858.

So what is the connection?

Age is a risk factor for PD but frailty is not age dependent.

However, we know older patients are more likely to be frail.

Is biological ageing the same as frailty?

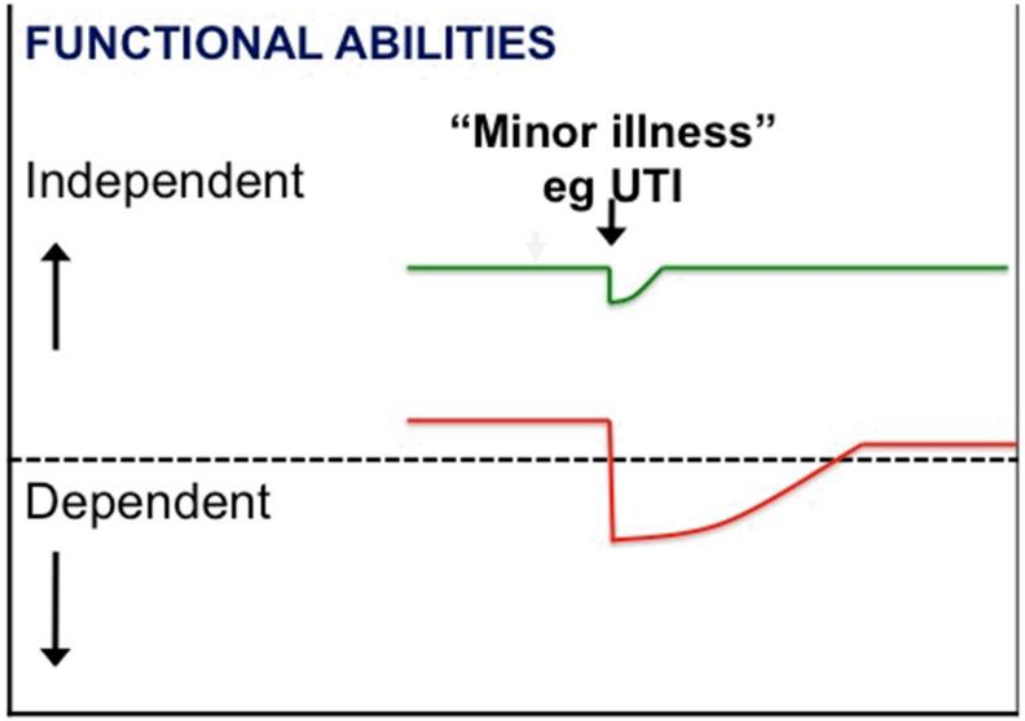
Patients with frailty/pre-frailty have a higher incidence of subsequent PD.

Patients with PD can develop frailty.

Frailty + Parkinson’s Disease = higher risk of poor outcomes.

What is frailty?

A state of increased vulnerability to poor resolution of homoeostasis after a stressor event

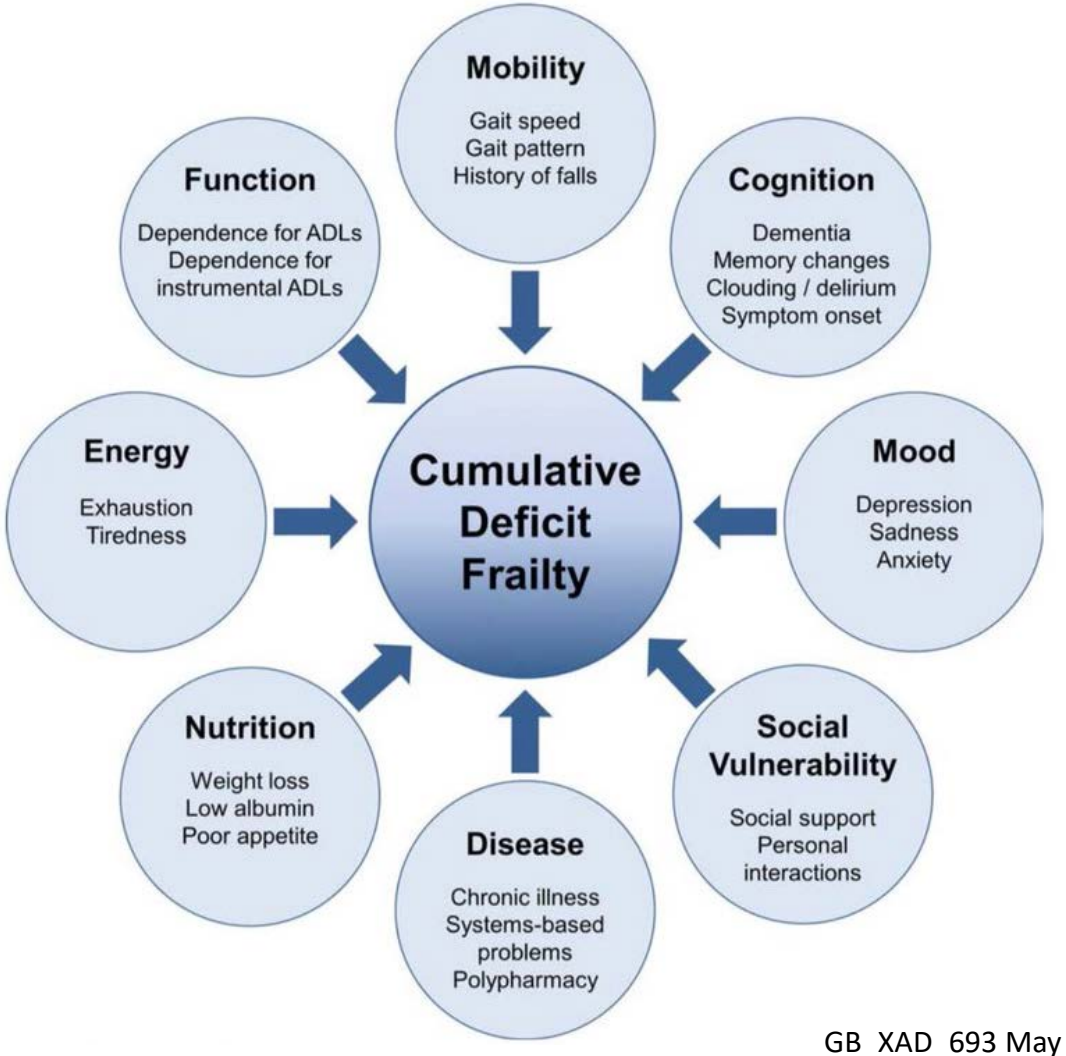


https://www.rcpjournals.org/content/clinmedicine/11/1/72

Frailty Models

The Fried Phenotype Model of Frailty

Weight loss	**Self-reported weight loss of more than 4·5 kg or recorded weight loss of "5% per year**
Exhaustion	Self-reported exhaustion on US Center for Epidemiological Studies depression scale73 (3–4 days per week or most of the time)
Low energy expenditure	Energy expenditure <383 kcal/week (men) or <270 kcal/week (women)
Slow gait speed	Standardised cut-off times to walk 4·57 m, stratified by sex and height
Weak grip strength	Grip strength, stratified by sex and body-mass index



Identifying Frailty

Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

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Parkinson’s Disease and Frailty

- United PD rating scale (UPDRS) scores tend to be higher for patients who are identified as frail compared to those who are not frail.
- Research has shown that the number of components of the frailty phenotype that are present is directly related to the UPDRS score.
- Frailty is associated with longer disease duration, higher motor impairment, higher Hoehn and Yahr stages, and non-tremor dominant PD.
- Higher daily doses of levodopa carbidopa have been associated with frailty.
- CFS in inpatients shows that frailty is an independent predictor of inpatient mortality.

Management: Frail PD patients

- Complex to manage
- What symptoms are related to their PD?
- What symptoms are related to their frailty? – particularly non-motor symptoms.
- Neuro-psychiatric issues ?PDD ?Alzheimers ?VD.
- Susceptibility to levodopa side-effects 

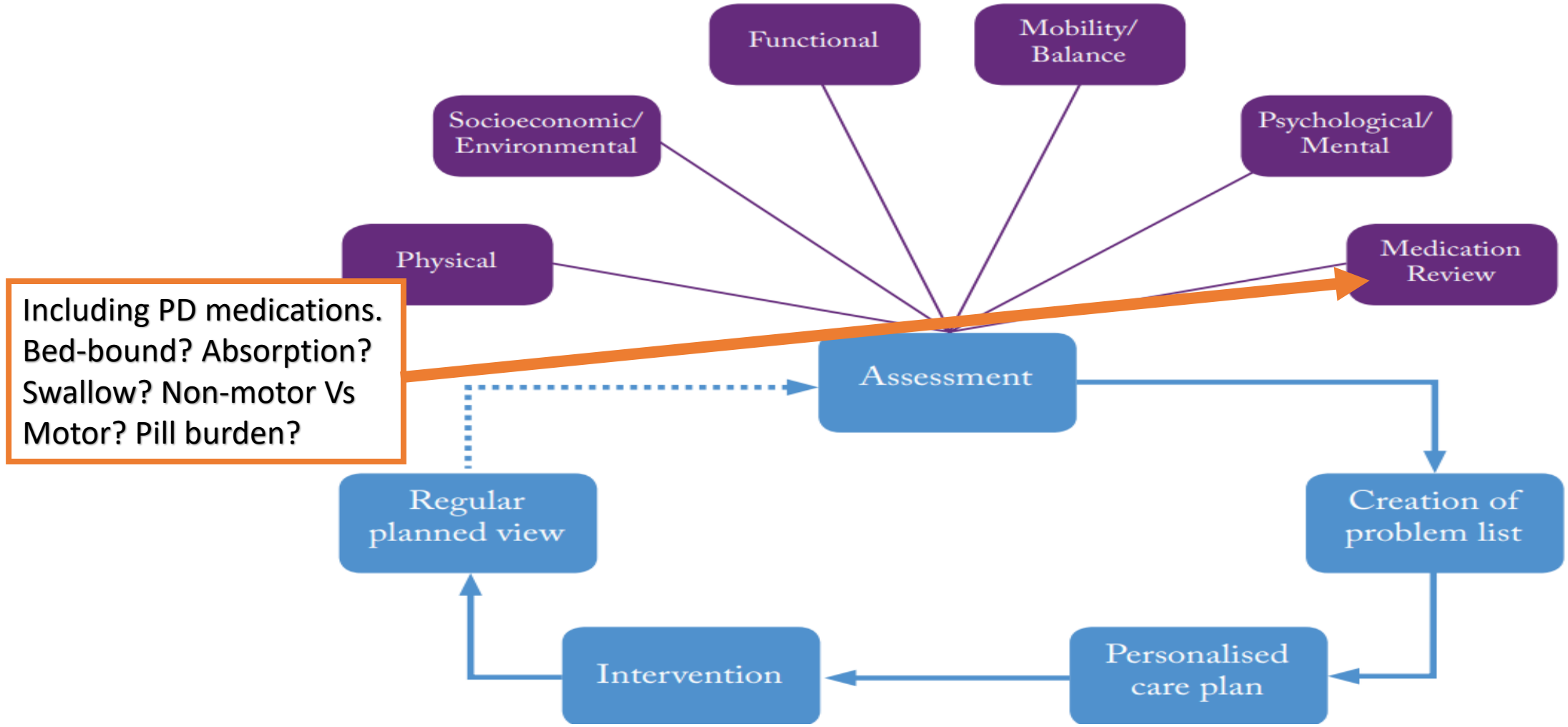
Acute care - Frailty Syndromes

- Falls – TLOC, found on the floor, pre-syncope, ‘weak legs’
- Immobility – sudden change
- Incontinence – new or worsening
- Delirium
- Susceptibility to side effects of medications/Polypharmacy

Long-term care of PD patients with frailty?

- Multi-disciplinary approach is always best for these patients.
- Early referral from neurology to geriatricians with specialist interest in movement disorders is important.
- Shared care between a neurologist and geriatrician (with specialist interest in Movement Disorders) for patients on advanced therapies for motor symptoms.
- Avoid hospital admission and promote community based care where possible.
- Early ACP discussions are essential.

Management - CGA



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Treatment

CGA → Tailored management plan

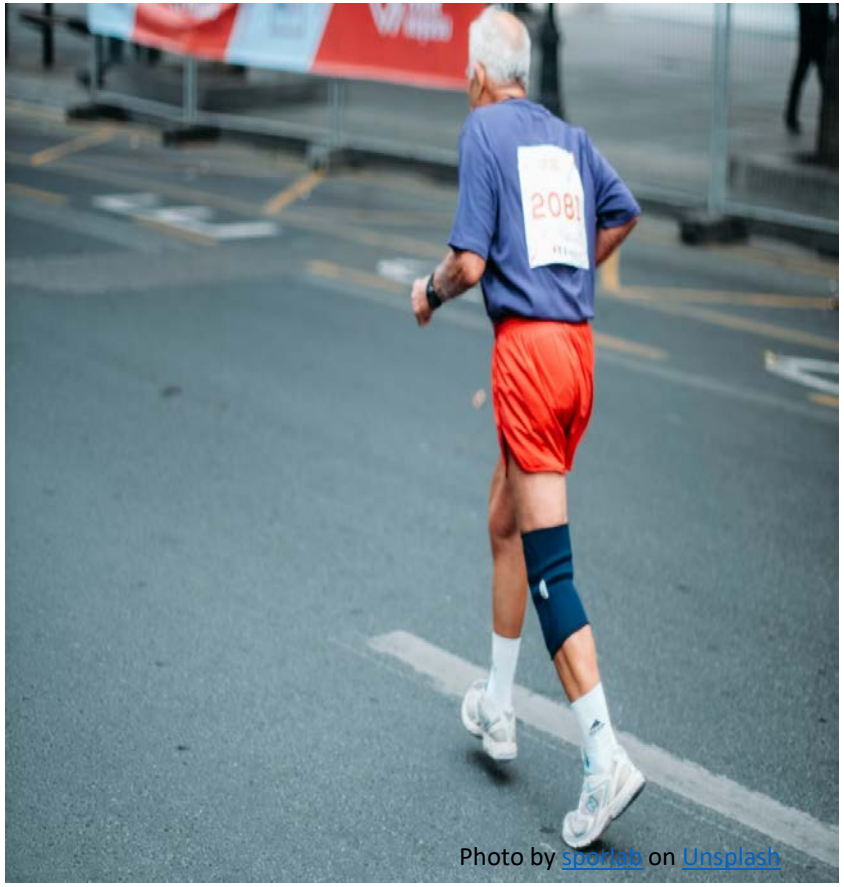
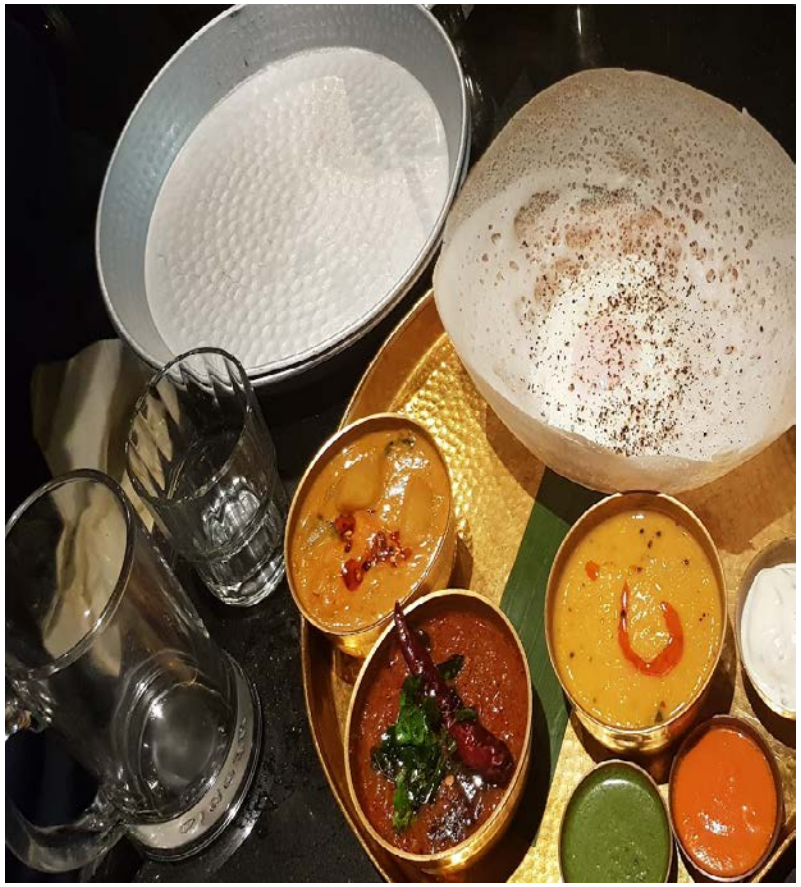


Photo by sportlab on Unsplash


Photo by Ksenia Yakovleva on Unsplash



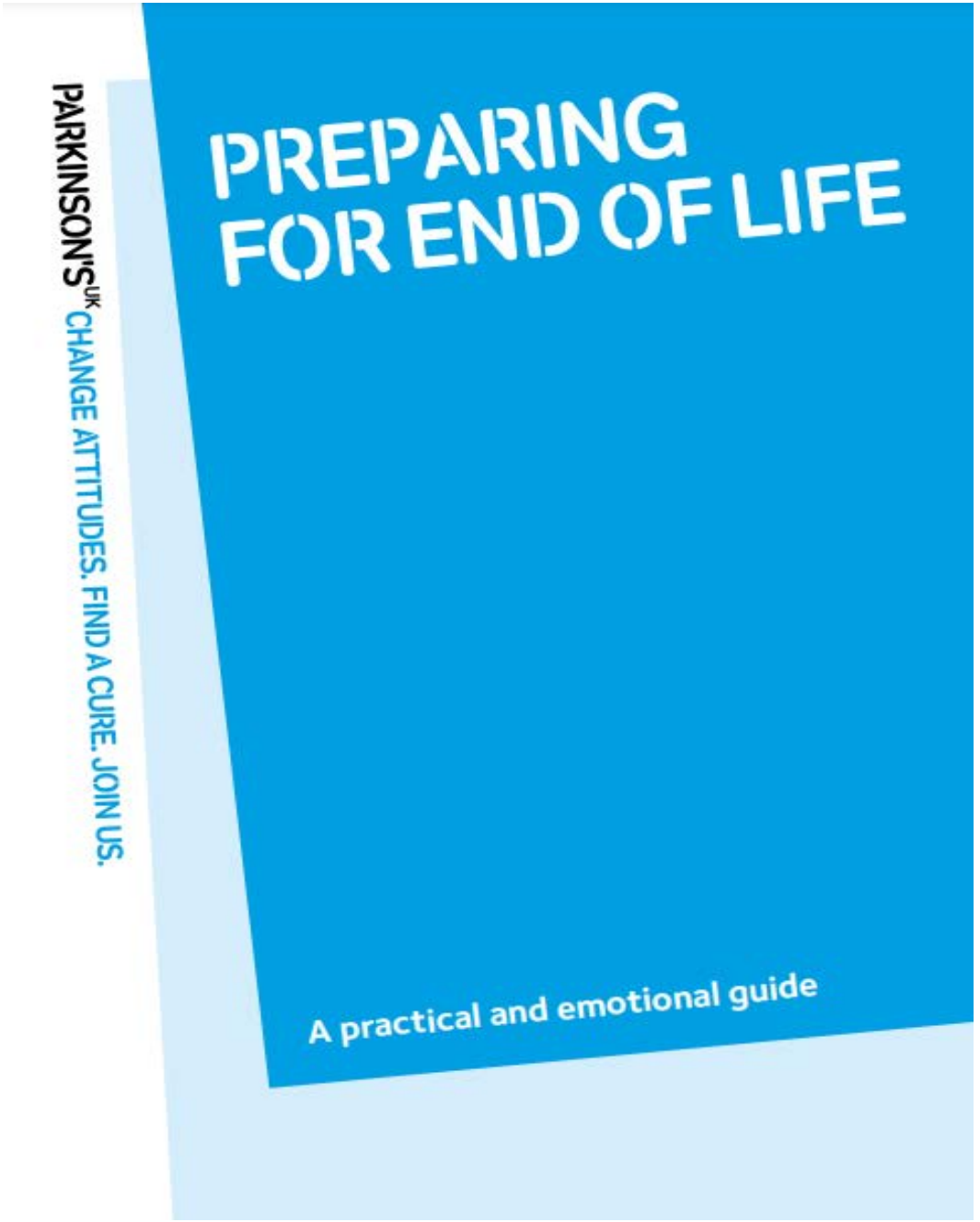
Polypharmacy

- STOPP (Screening Tool of Older Person's Prescriptions) and START (Screening Tool to Alert doctors to Right Treatment).

- Anticholinergic Cognitive Burden Scale

Drug with ACB 0	Drugs with ACB 1	Drugs with ACB 2	Drugs with ACB 3
Mirabegron	Tramadol	Cetirizine	Fesoterodine
Domperidone	Hydrocortisone	Sertraline	Tolterodine
	Prednisolone	Prochlorperazine	Darifenacin
	Codeine		Trospium
	Warfarin		Oxybutynin
	Nifidepine		Chorpheneramine
	Hydralazine		Promethazine
	Ranitidine		Amitryptiline
	Mirtazepine		Solifenacin

Advanced Care Planning in Parkinson's Disease



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Complex disease burden in Parkinson's and advance care planning

NHS Royal Berkshire NHS Foundation Trust

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619

OBJECTIVE

To evaluate if Advanced Care Planning is completed in patients with complex stage of Parkinson's Disease (PD).

BACKGROUND

NICE (National Institute of Health and Care Excellence) guidance 71[1] recommends documented discussions with patients and families regarding progression of disease, side effects of medications, Advance Care Planning including decisions on refusing treatments, Do not Attempt Cardiopulmonary resuscitation (DNACPR) and to consider referral to palliative care team.

METHODS

Parkinson's patients who had passed away in Royal Berkshire Hospital between 1st January and 31st December 2017 were identified by Medical Informatics. Data on frailty markers, Advance Care Planning and End of Life Care was collected on a proforma. Information was gathered from clinical notes, clinic letters on electronic patient record and neurology data base.

RESULTS

A total of 38 patients (33 males) were identified with an age range of 61-95 years (average 80.5 years). The range of Parkinson's duration was 1-18 years (average 7 years). 76% (29/38) were living in their homes.
53% (20/38) of patients had complex stage of the disease whilst in 37% (14/38) the stage had not been documented. 45% (17/38) had cognitive impairment, 42% (16/38) had an impaired swallow and nearly 87% (33/38) had experienced falls.
31% (12/38) were bed bound whilst 55% (21/38) used an aid to mobilize (Table 1). 73% (28/38) of the patients were reviewed by the Hospital Palliative care team on their last admission to hospital.

Table 1:

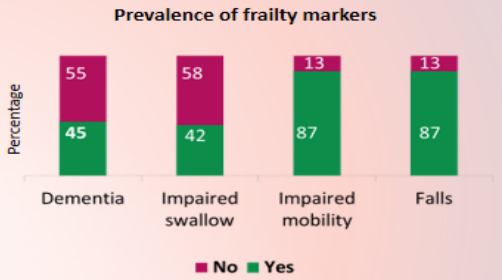

Table 2:

Documented Information	Percentage completed
Discussion about disease progression	20/38 (52%)
Discussion about side effects of medications	19/38 (50%)
Information about support services	33/38 (87%)
Advance Care Planning	0/38 (0%)
Decisions on refusing treatment	0/38 (0%)

CONCLUSION

Parkinson's patients with burden of complex disease should have discussions on Advance Care Planning with their health care providers. This would ensure that their preferences and choices are respected in terms of medical management, feeding, resuscitation and end of life care. A Quality Improvement Project was launched at the Royal Berkshire Hospital to improve advance care planning for this frail cohort of patients.

REFERENCES

1. NICE Guidance (NG71); Parkinson's disease in adults

International Congress of Parkinson's Disease and Movement Disorders®
NICE, FRANCE
SEPTEMBER 22-26, 2019

NHS Royal Berkshire NHS Foundation Trust

Advanced Care Planning in Complex Parkinson's Disease

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Background

Parkinson's disease is a common neurodegenerative condition progressing through diagnosis, maintenance, complex and palliative stages. NICE guidance (1) recommends that patients with Parkinson's disease and their family members or carers should be offered oral and written information about the progressive nature of the disease, advanced care planning, options for further management and what could happen at the end of life. An audit at the Royal Berkshire Hospital showed that none of our Parkinson's patients had a formal advanced care plan documented prior to their death. A GP survey revealed that 100% of respondents felt that a care pathway should be developed.

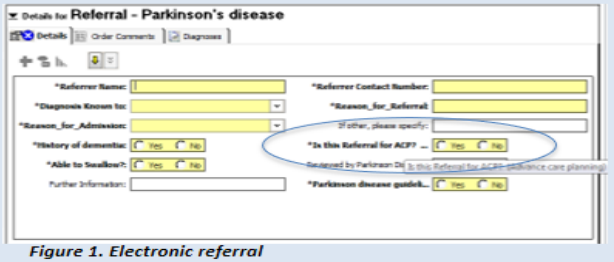

Figure 1. Electronic referral

Methods

We organised a multi-disciplinary study day which focussed on advanced, complex disease. It aimed to both raise awareness and also engage key stakeholders including neurologists, palliative care physicians, community geriatricians and care home leaders as well as members of the wider MDT.
A poster was designed to highlight the features of complex disease and facilitate specialist referral from within the acute hospital. The electronic referral pathway was also amended to specifically incorporate advanced care planning (Fig1). Access to an online regional community palliative care database (ADASTRA) has been granted; meaning that Advanced Care Plans can be formally documented by the specialist team and accessed by General Practitioners, community teams and ambulance services (Fig2).

Results

A written guideline and a pathway to help medical practitioners, nursing staff, allied healthcare professionals (including frailty practitioners and pharmacists), identify and appropriately refer patients with Parkinson's to a specialist for advanced care planning has been successfully introduced into our trust.

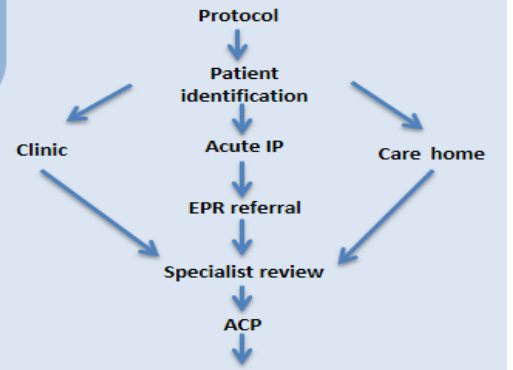

Figure 2. Patient identification and referral pathway

Conclusions

Advance care planning is a key process in enabling patients to share their personal wishes and values with regards to their future medical care. We hope that the introduction of a new care pathway for those with advanced Parkinson's disease will help ensure that all our patients have the opportunity to discuss their preferences and enable us to deliver the highest standard of care.

References

NICE Guidance (NG71); Parkinson's disease in adults

Summary

- Age is the largest risk factor for the development and progression of PD.
- Frailty is NOT an inevitable consequence of chronological ageing.
- Older people and frail people with PD experience a faster rate of motor progression, and may suffer from an earlier occurrence of falls and cognitive impairment.
- Multi-morbidity, frailty and PD often coexist, resulting in clinical complexity. This can be challenging to manage within existing healthcare systems.
- People with PD and frailty, who experience an acute illness, will have worse outcomes than those who are not frail with similar comorbidities.

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Summary

- Identifying patients with PD and/or frailty early, allows an opportunity for early intervention.
- Frail adult PD patients require a multidisciplinary (Geriatrician, Neurologist, OT/PT, SLT, Palliative Care), pro-active and patient-centred approach.
- Carry out regular medication reviews. Frail patients are more susceptible to the side-effects of PD medications.
- PD patients with frailty should have a full CGA. While the treatment is the tailored management plan that comes from doing the CGA.
- ACP = important and should be discussed early with frail PD patients.

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