# Deconditioning Syndrome


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**British Geriatrics Society Autumn Conference**

**Leicester, 8th November 2019**


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# Dictionary definition

Decondition

*Oxford Dictionary*

- Cause to lose fitness or muscle tone, especially through lack of exercise. *'sedentary lifestyles that decondition their bodies'*

Medical Dictionary, © 2009 Farlex and Partner

- A loss of physical fitness due to failure to maintain an optimal level of physical activity or training
- Inactivity for any reason may lead to deconditioning

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# Deconditioning is not a new phenomenon…

**Dr R Asher** was hailed as a pioneer in challenging the value of excessive bed rest following treatment.

BMJ 1947:

**"Teach us to live that we may dread; Unnecessary time in bed;**
**Get people up and we may save; Our patients from an early grave"**

"It is always assumed that the first thing in any illness is to put the patient to bed. Hospital accommodation is always numbered in beds. Illness is measured by the length of time in bed. Doctors are assessed by their bedside manner. Bed is not ordered like a pill or a purge, but is assumed as the basis for all treatment. Yet we should think twice before ordering our patients to bed and realize that beneath the comfort of the blanket there lurks a host of formidable dangers.

In "Hymns Ancient and Modern," No. 23, Verse 3, we find: "Teach me to live that I may dread The grave as little as my bed". Get people up and we may save Our patients from an early grave." Asher, 1947.

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# Learning objectives

1. To understand the definition, prevalence and health and social care burden of deconditioning syndrome NICE QS132
2. To become familiar with the NHS and global deconditioning awareness and prevention work
3. To recognise the opportunities to help patients to get up, get dressed, get moving and provide prehabilitation for surgery
4. To be aware of current evaluation programmes and outcomes nationally and internationally
5. To reflect on the opportunities for education, research, implementation and highlighting best practice exemplars

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# Deconditioning definitions, prevalence and impact

*'Deconditioning syndrome' 'A complex process of physiological change induced by inactivity that can affect multiple body systems and may result in decline in physical, psychological and functional abilities'*

*Commonly seen in hospitals the condition is also prevalent in care homes and in those living in their own homes*

*At present, deconditioning syndrome is probably the most under-recognized, under-reported, under-treated challenge in many hospitals*

- Prevalence estimates report older hospitalized patients can spend anything up to 95% of their time in bed or chair
- Inactivity for any reason may lead to deconditioning

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# Risks of hospital based deconditioning

**Impact of bedrest in older people**

**In first 24 hours**

Reduced muscle power 2-5%

Reduced circulatory volume by upto 5%

**In first 7 days**

Reduced circulatory volume by upto 25%

Reduced VO2 max by upto 8-15%

Reduced muscle strength by upto 5-10%

Reduced FRC by upto 15-30%

Reduced skin integrity

Reduced dignity, quality, confidence, independence, choice

Courtesy: Acute Frailty Network, UK

FRC=functional residual capacity

VO2max=maximal oxygen uptake, is the measurement of the maximum amount of oxygen a person can utilize during intense exercise

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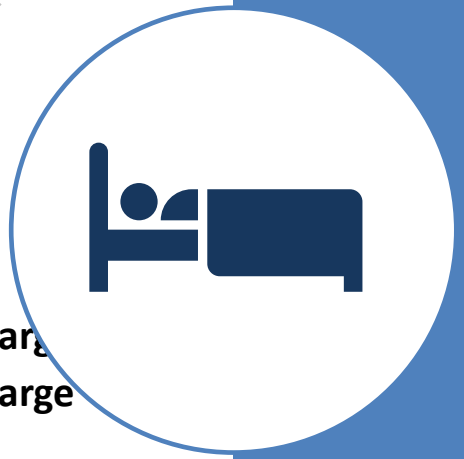
# Hospitalized patients “put to bed”

Bed rest: a potentially harmful treatment needing more careful evaluation?

How do hospitalized patients spend their day?

- Lying in bed 20 hours
- Sitting in Chair- 3 hours
- Stand/Walk- 1 hour



**Those who are mobile do better**

- ✓ **High mobility** — **13% disabled at discharg**
- ✓ **Moderate mobility** — **35% disabled at discharge**
- ❖ **Low mobility** — **71% disabled on discharge**

**Improving care and support for people with frailty**

**Consider early MDT intervention/physiotherapy?**

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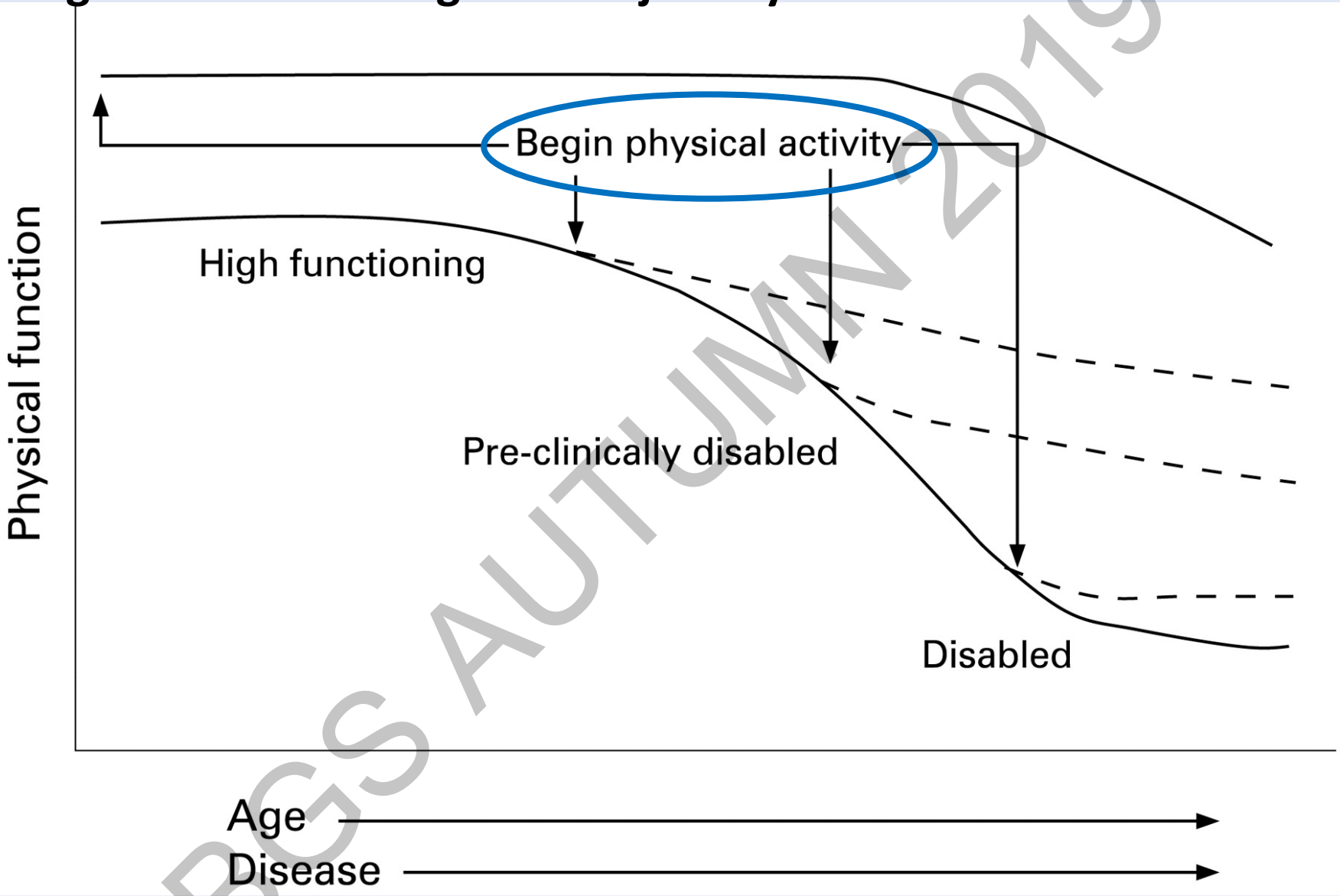
Brown CJ, JAGS 2009: 1660
Zisberg A, JAGS 2009: 266
Earlier Physical Therapy Input Is Associated With a Reduced Length of Hospital Stay and Reduced Care Needs on Discharge in Frail Older Inpatients

# Physical activity may impact physical function at many stages throughout life to change the trajectory of decline

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T M Manini, and M Pahor Br J Sports Med 2009;43:28-31
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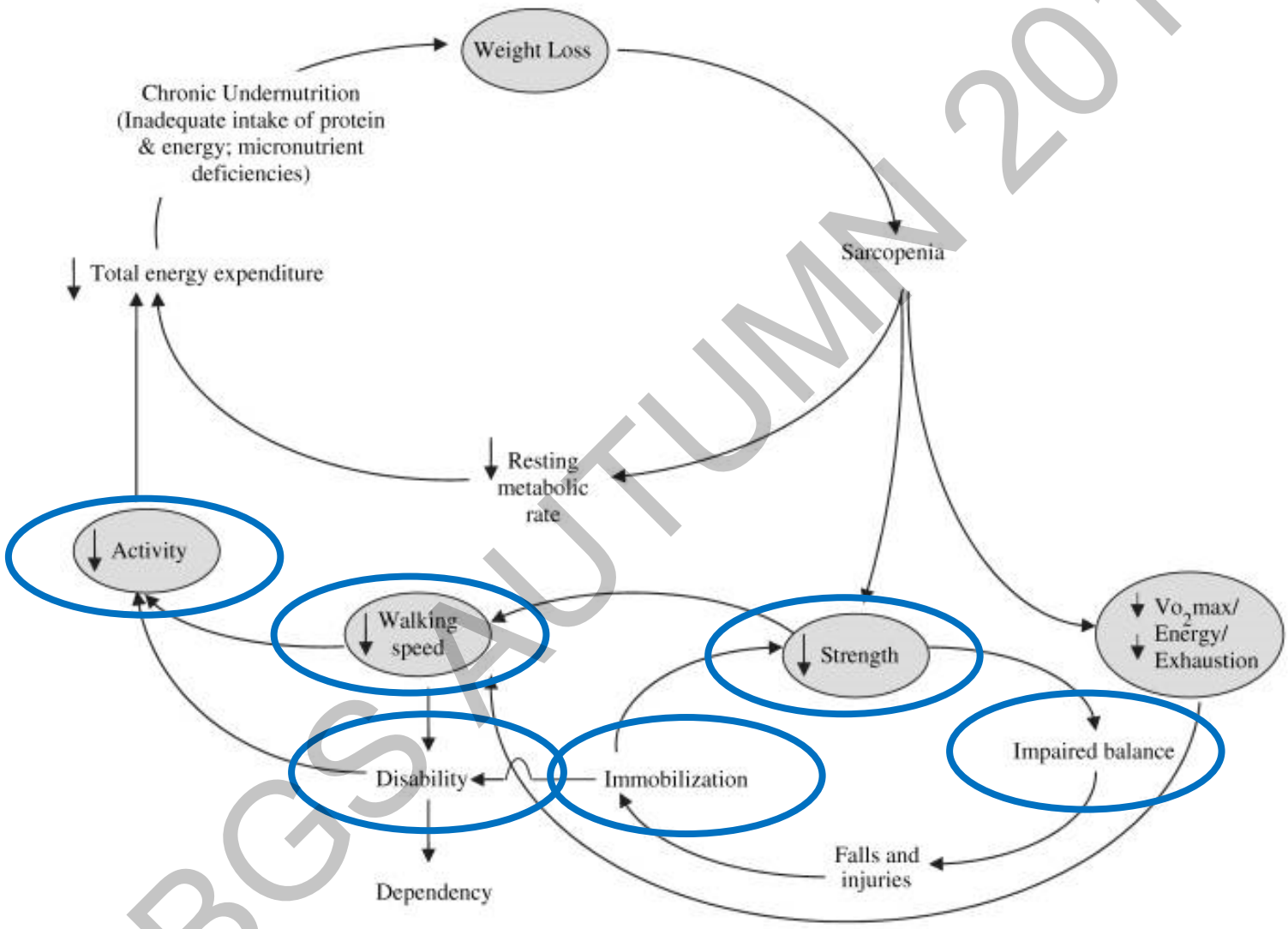
# The “cycle of frailty” and the roles of inactivity and immobility

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Cycle of frailty. (Xue QL, Bandeen-Roche K, Varadhan R, et al. Initial manifestations of frailty criteria and the development of frailty phenotype in the Women’s Health and Aging Study II. J Gerontol A Biol Sci Med Sci 2008;63(9):984–90, by permission of the Gerontological Society of America.)

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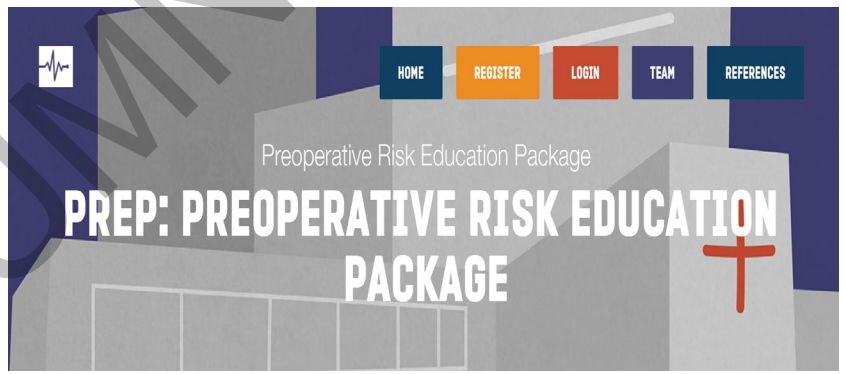
# Pre-habilitation in perioperative care

Prehabilitation (preventative rehabilitation or ‘pre-rehabilitation’) can be defined as the overall improvement of general health prior to a major physiological stressor, such as major surgery

> **I think of prehab as some sort of umbrella that's offered to patients before they go into the storm**
>
> Dr Julie Silver, Harvard Medical School




PREP toolkit and animation:

https://prepwell.co.uk

https://youtu.be/HcqyNfuIEpo

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Carli F, Scheede-Bergdahl C. Prehabilitation to enhance perioperative care. Anesthesiology clinics. 2015 Mar 1;33(1):17-33.

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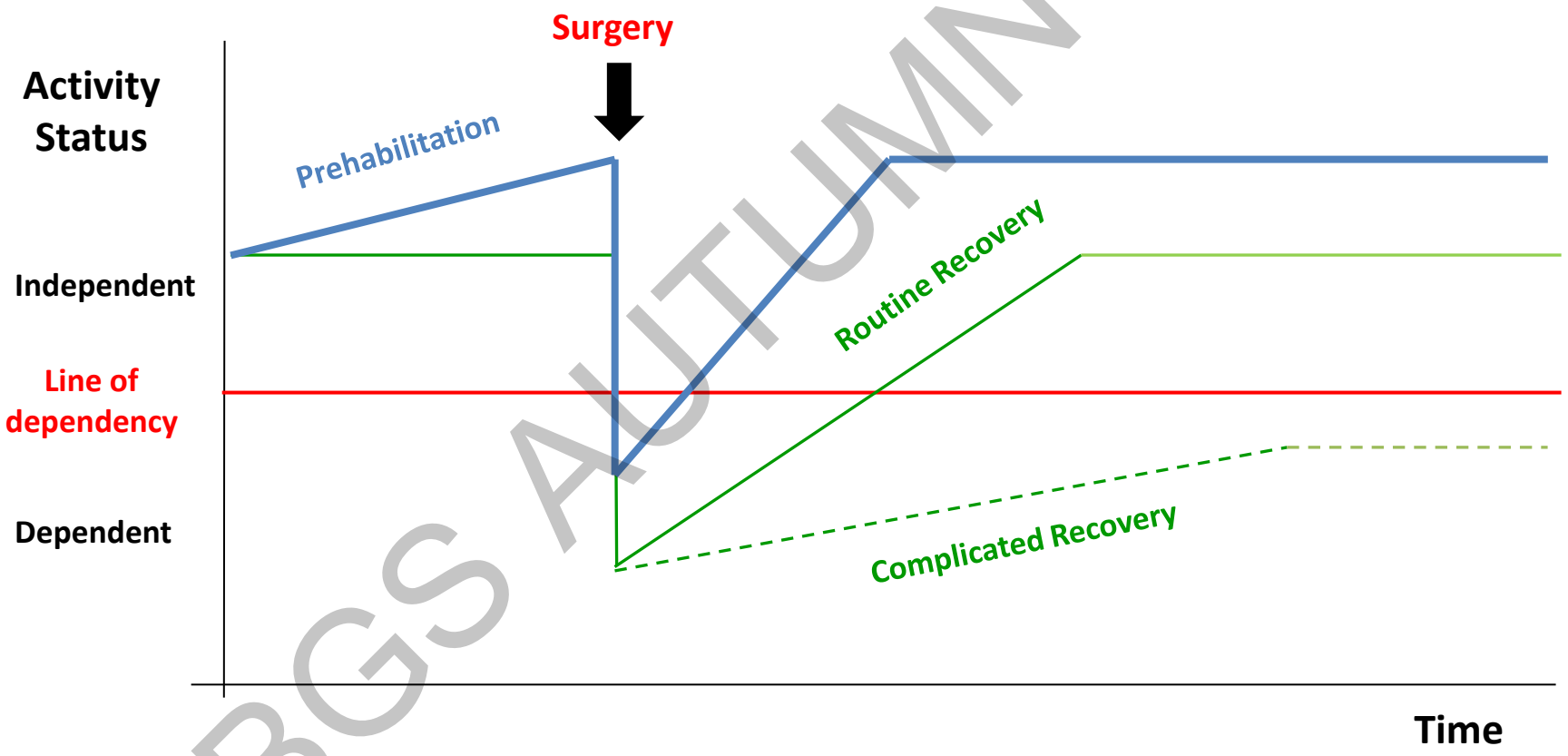
# Pre-habilitation

Patients undertaking preoperative exercise may experience a reduced risk of complications and a more rapid recovery through enhanced physical fitness

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Adapted from: Clegg et al. Frailty in elderly people. Lancet. 2013; 381 (9868): 752-762

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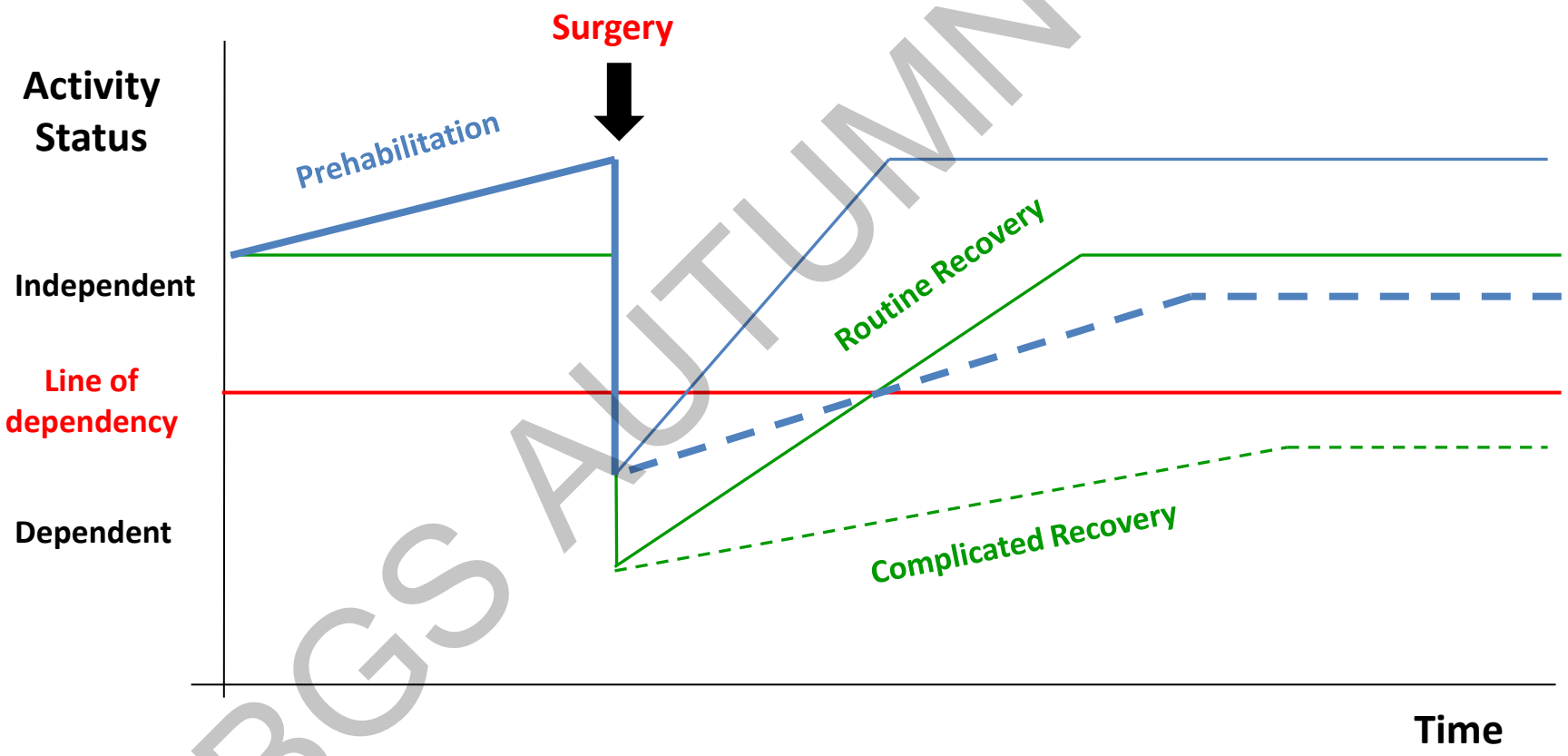
# Pre-habilitation

Importantly, if complications occur, prehabilitated patients may still recover sufficiently to retain their independent functional status

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Adapted from: Clegg et al. Frailty in elderly people. Lancet. 2013; 381 (9868): 752-762

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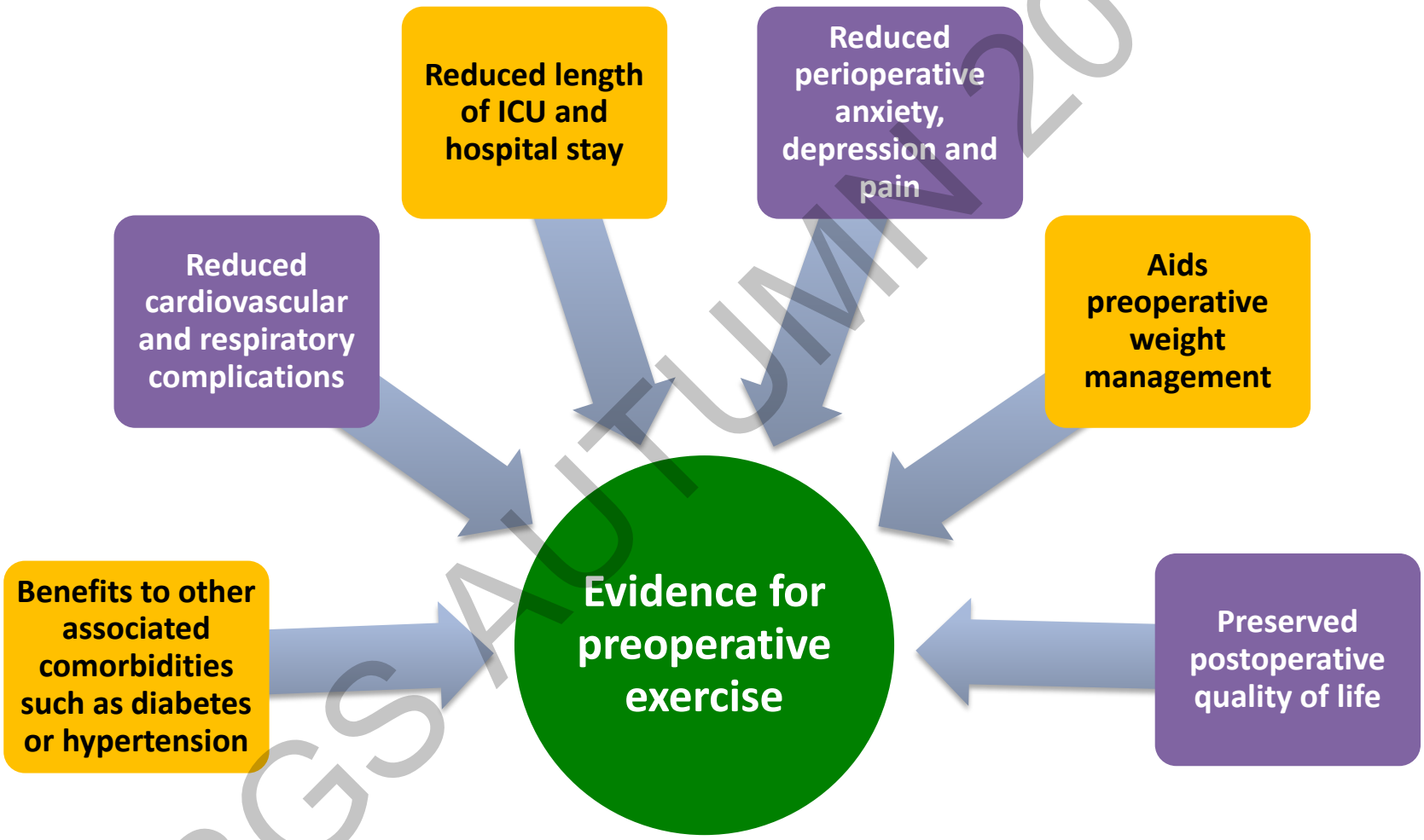
# Potential benefits of exercise pre-habilitation

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https://drive.google.com/file/d/1REJzmiLe930B1gq7qCD2Et2sV7Y8pz4D/view
Hughes MJ, Hackney RJ, Lamb PJ, Wigmore SJ, Deans DC, Skipworth RJ. Prehabilitation Before Major Abdominal Surgery: A Systematic Review and Meta-analysis. World journal of surgery. 2019 Feb 20:1-8.
Thomas G, Tahir MR, Bongers BC, Kallen VL, Slooter GD. A systematic review of randomised controlled trials investigating prehabilitation before major intra-abdominal cancer surgery: An analysis of prehabilitation content and outcome measures. European journal of anaesthesiology. 2019 Jun.

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# Prognosis post- deconditioning

- One-year outcomes
- 30% Recover
- 30% Disabled
- 40% RIP
- One-month recovery predicts one-year recovery
- 50% patients >80 years would experience Activity Daily Living loss (ADL)
- 65% patients >90 years would experience ADL loss

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Cortes OL, Delgado S, Esparza M. Systematic review and meta-analysis of experimental studies: in-hospital mobilization for patients admitted for medical treatment. J Adv Nurs. 2019; January 22. doi: 10.1111/jan.13958

# A Campaign For Deconditioning Awareness – "Sit up… Get dressed… Keep on moving…"

## PREVENTING DECONDITIONING AND ENABLING INDEPENDENCE FOR OLDER PEOPLE

Older people can be more at risk of:
- Reduced muscle strength
- Reduced mobility and falls
- Confusion due to changes in environment
- Demotivation

When an older person goes into a hospital or care home…

… and lies in bed, it can further affect their wellbeing and physical function

**THIS IS KNOWN AS 'DECONDITIONING SYNDROME'**

- Increased risk of falls due to muscle weakness
- Increased confusion or disorientation
- Further immobility due to inactivity
- Constipation and incontinence
- Lying in bed can affect appetite and digestion
- Increased risk of swallowing problems leading to pneumonia

This is often made worse by multiple medications, sensory impairment, dementia and current illness

## Prolonged bed rest in older people can lead to substantial loss of muscle strength and physical activity

### Assess

**Comprehensive Geriatric Assessment**

A Comprehensive Assessment should be completed to determine normal capabilities

A risk assessment should be completed

Glasses, hearing aids, clock and calendar should be accessible

### Support

Are there appropriate mobility aids available. Is it the right size and reachable?

Walking to the toilet helps to prepare for going home. Is the catheter really needed?

Sitting out of bed helps (when possible). Can you get out of your chair?

### Encourage

Feed or take fluids independently

Wash and dress independently in own clothes

Keep moving arms and legs even in a bed or chair

Thinking about how to support and encourage movement helps to:
- Reduce the risk of harm from falls, infection, thrombosis and delirium
- Reduce length of stay in hospital
- Reduce the likelihood of having an increase in their future care needs

**Sit up… Get dressed… Keep on moving…**

**YOUR MUSCLES / YOUR STRENGTH / YOUR ABILITIES - USE THEM OR LOSE THEM**

University Hospitals of North Midlands NHS
NHS Trust
Department for Older Adults

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# Benefits of staying active in hospital

## Myths

- Patients should stay in bed because they will get better if they rest
- It is not safe for patients to get out of bed
- Patients are not supposed to do their own personal care such as washing and dressing

These mistaken beliefs often lead to patients losing their ability to do things they want to and then have difficulty coping when they return home

We call this “Deconditioning”

## Facts

- ✓ Research shows that bed rest is not a good way to recover from many conditions and may actually make the recovery time longer
- ✓ Staying in bed and not moving can lead to problems with breathing, skin breakdown, muscle loss, digestion, weakness, tiredness, confusion and can affect self confidence
- ✓ Although there can be risks with moving around, staying in bed is overall more risky to health and wellbeing

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***Prolonged bed rest in older people can lead to substantial loss of muscle strength and physical activity and is potentially avoidable***

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# Benefits of staying active in hospital

- ✓ Better breathing
- ✓ Better able to fight Infections
- ✓ Better appetite
- ✓ Better sleep
- ✓ Better mood
- ✓ Better able to cope at home

- ✓ Less risk of bed sores
- ✓ Less weakness and fatigue
- ✓ Less dizziness
- ✓ Less risk of falls
- ✓ Less pain
- ✓ Less confusion

**Every little bit of activity can help to keep you healthy**
**If you are not sure what you are safe to do, please ask a member of your healthcare team**

**Continue to try to perform tasks you were able to at home, such as washing and dressing or walking to the bathroom, ask staff for advice if you need to**

**Ask someone to bring in your shoes, slippers, day clothes and walking aides**

**If appropriate**

- ➢ **Sit up for all meals, either on your chair or at the edge of your bed**
- ➢ **Sit up in a chair when you have visitors**
- ➢ **Walk around the ward, either alone or with help**
- ➢ **Do gentle exercises on your own throughout the day, even in a bed or chair**
- ➢ **Let the ward team know what your usual capabilities are like so they can tailor your care to try and return to your usual level of function or as near to this**

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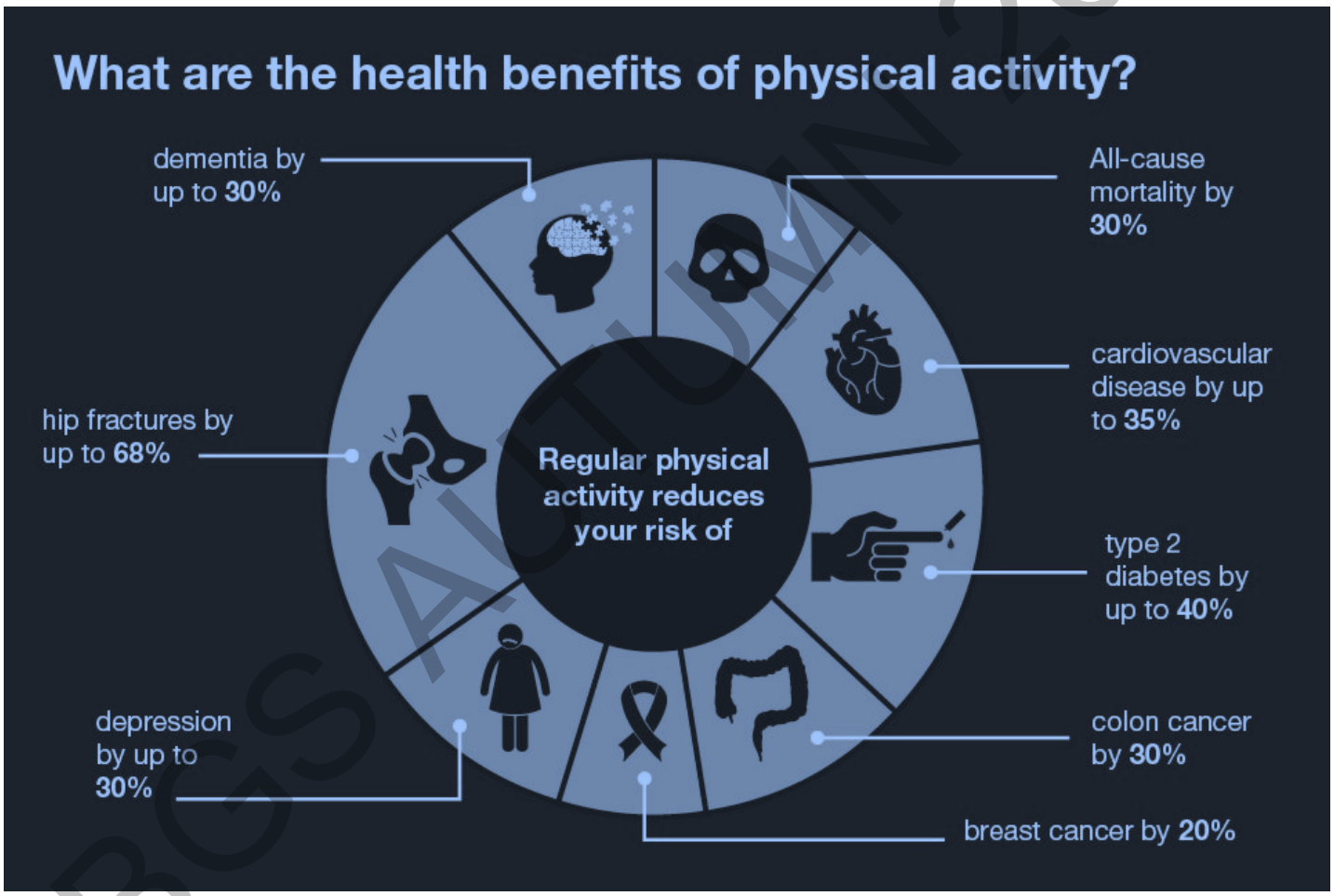
# Help patients to access the health benefits of physical activity in the prevention of noncommunicable diseases

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PHE infographic series

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## What about falls?

Did you know that falls aren't an inevitable part of growing older? Falls can happen for many reasons. We lose strength and balance in our legs when we become less active. We can help reverse this. If we increase the number of times we stand up and sit down during the day, we start to improve our leg strength and become less likely to fall. So it's really important to encourage your relative to keep active throughout the day.

What if your relative has dementia? Like everyone else, keeping moving and active brings many benefits for people with dementia:

- helps maintain independence for longer
- improves the ability to dress, clean and perform other daily activities
- may improve memory and slow down mental decline (according to recent studies)
- improves sleep
- reduces the risk of falls by improving strength and balance
- improves confidence
- increases self-esteem
- improves mood.

Let's finish with the guidelines from the Chief Medical Officer for people aged 65+ which state that "Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none and more physical activity provides greater health benefits. Older adults should aim to be active daily....."

For more information visit

**www.capa.scot**

Encourage your older relative to move, reach, twist, stretch, sit forward, walk, and stand up.

# Why moving more is important for your older relative

care inspectorate

Care... about physical activity improvement programme

You might have noticed that our staff are promoting more movement for everyone connected with the service – including staff! This is because we are encouraging people to move more often as part of the Care Inspectorate's Care about Physical Activity Programme (CAPA).

You probably know that keeping active helps us to maintain independence and have a better quality of life. You might not know that moving more often has many benefits in later life even for the oldest and most frail.

Sometimes within hospitals and care settings and even in our own homes, older people can get out of the habit of moving. This has negative consequences. Prolonged sitting leads to poor health such as frailty, falls and bone health. It also results in a poorer quality of life, depression and loneliness.

Many benefits can be achieved in later life by moving more - even by the oldest and most frail.

Families sometimes worry that it might be risky for their older relative to start moving more and it might be better if they sit still. However research shows that it is actually more risky to sit or lie for long periods of time.

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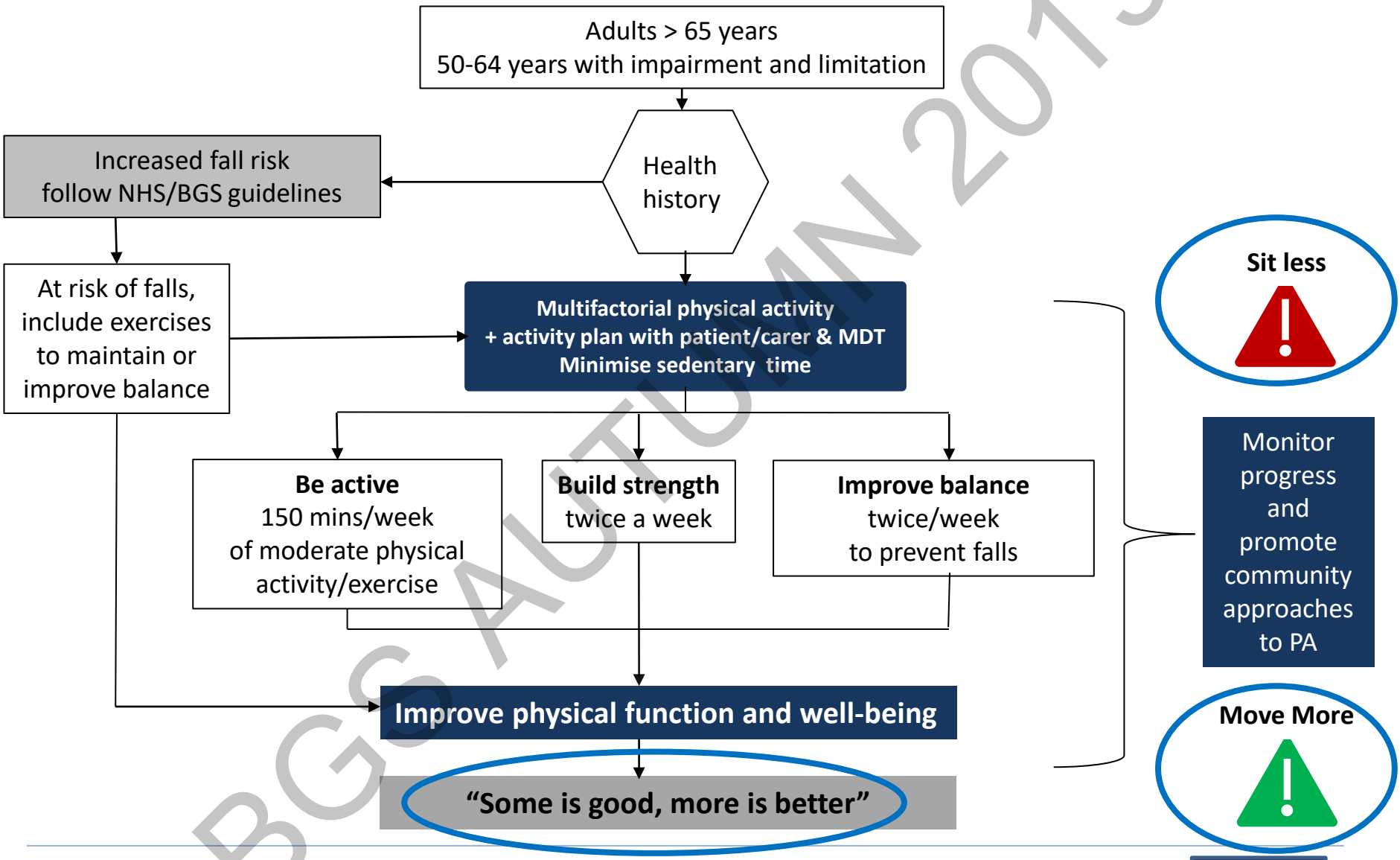
# Current UK CMO recommendations for physical activity (PA) in older adults
## To improve physical function and potentially to prevent physical disability

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UK CMO Older Adults physical activity infographic (adapted)

T M Manini, and M Pahor Br J Sports Med 2009;43:28-31 (adapted)

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# Why is physical activity in hospitals/Long Term Care settings is important

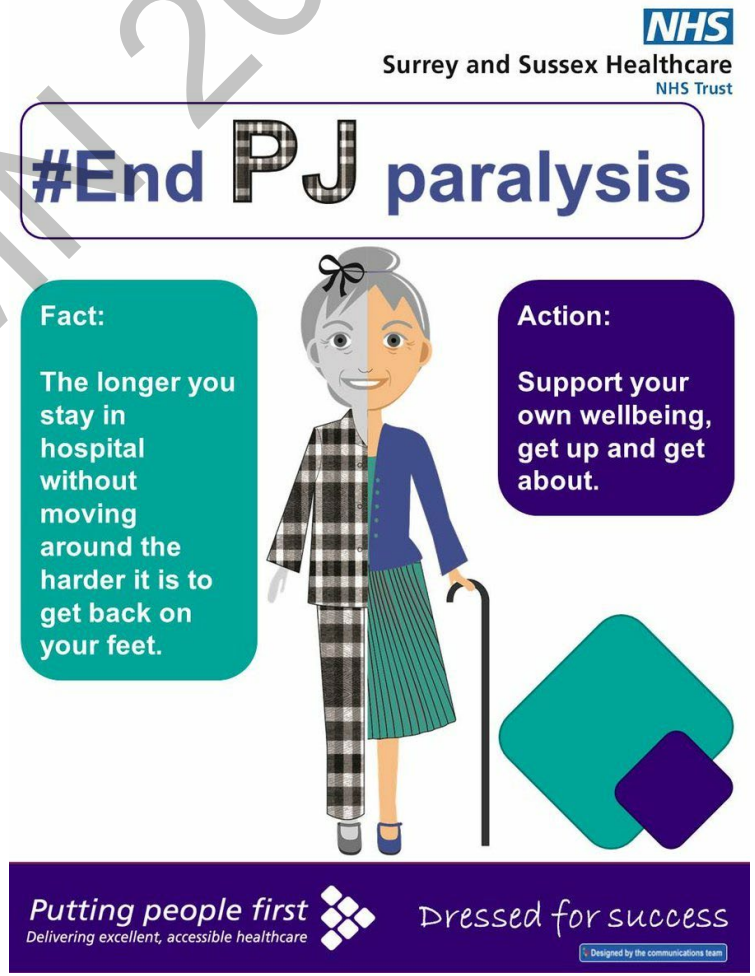
Hospital admission in past 12 months is single most predictive risk of functional decline

Older people admitted to hospital spend a significant amount of time not being physically active (83-95%)

This is associated with a functional decline (10-65% people) in activities of daily living upon discharge from hospital

This functional decline has been seen in as early as the second day of hospital admission

**This could be the difference between someone going to their own home or in a care home.- Prof Brian Dolan OBE**

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Graphic

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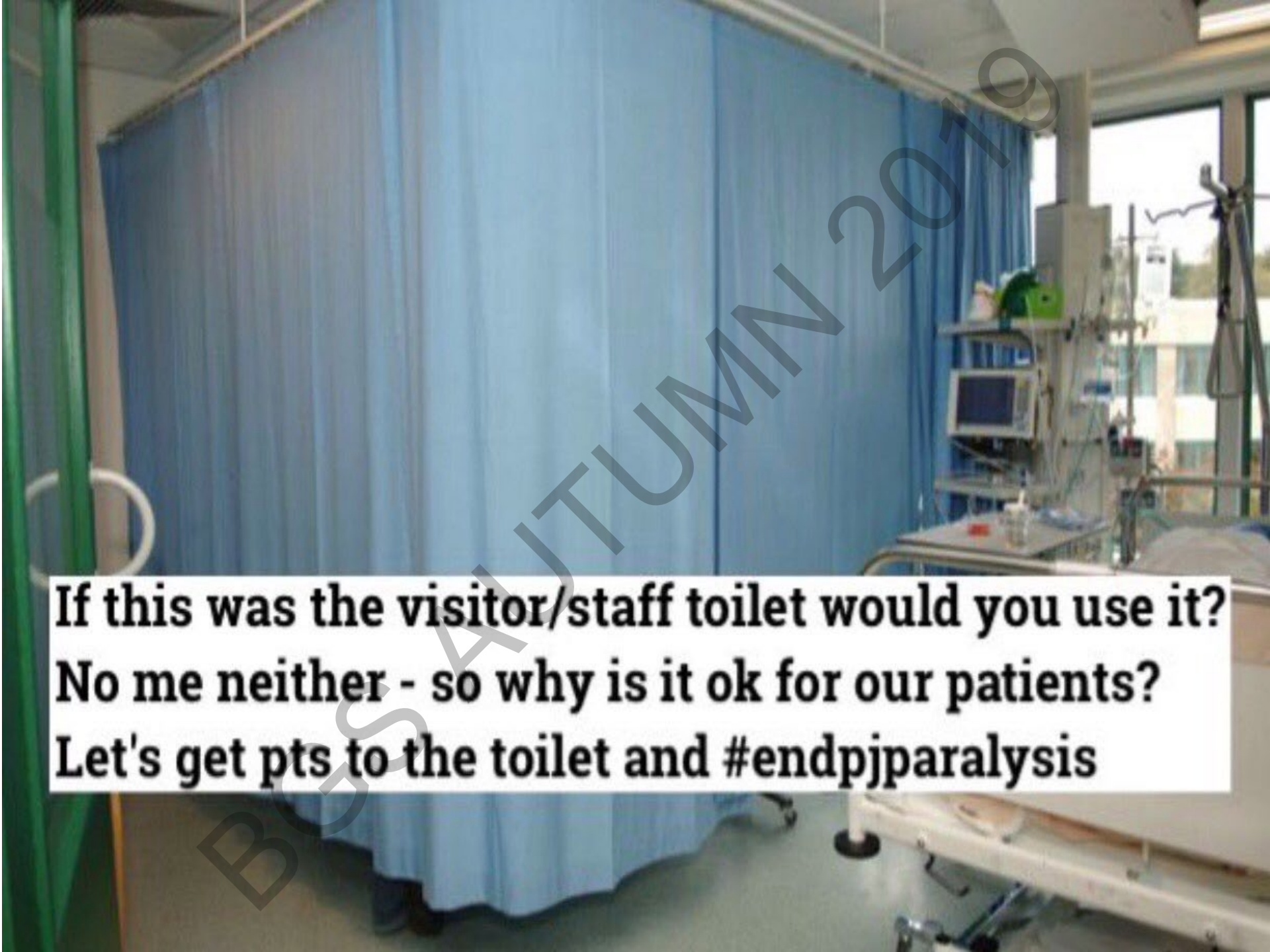


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# Enabling independence?

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# Common sense, obvious and logical
# But, WHY does it not get addressed routinely?

The focus is generally on resolving the acute problem

Less attention to underlying risk of functional decline

Environment is not designed for enhancing function

Staff may encourage sedentary behaviour to prevent falls

Patient and relatives expectations and beliefs

**Practice Points:**

Ensure fellow staff understand importance and that this is everyone's job

Engage family members and loved ones in brief education to assist movement

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# Medical or nursing considerations

Unconscious or long term bed bound

Palliative care and in the last few days of life

Fracture of hip awaiting operation/ pending orthopaedic/spinal issues

Patient not willing/unable/inappropriate ...
But can still encourage!

Staff judgement and beliefs

Personalized and shared decision making

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# How can we prevent deconditioning?

**What do you currently have in place?**

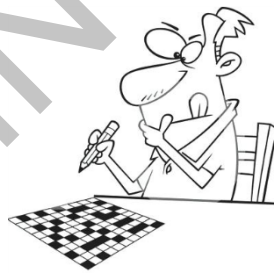
Do you have the right equipment to help you move about? If not we should be able to provide what you need

If you can walk to the toilet, it keeps you moving and prepares you for home.

Sitting out of bed helps. We can help you get out of bed

Do you need glasses or hearing aid to help you communicate?

**What could you implement?**



Eat or drink on your own if you are able

Wash and dress yourself if you are able, and wear your own clothes.

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# Exercise leaflets subjective data

## Supporting Material

Exercise Leaflets

- Separate bed and chair exercise leaflets
- Appropriately selected and taught by physiotherapist within first 24 hours admitted to the ward
- Able to follow instructions
- Therapists and nursing staff encouraged to complete independently or with family
- 86% received chair based exercises compared to bed exercises (14%)
- Demonstrating that the majority have a higher level of function when initially reviewed by therapists

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# Patient information

PREVENTING DECONDITIONING AND ENABLING INDEPENDENCE FOR OLDER PEOPLE

Prolonged bed rest in older people can lead to substantial loss of muscle strength and physical activity

Sit up... Get dressed... Keep moving...

Have you seen our self help leaflet?

STAYING ACTIVE IN HOSPITAL

If not? Please ask a member of our team for a copy and help UHNM support a national campaign on Staying Active in Hospital

University Hospitals NHS

PROUD TO CARE

University Hospitals of North Midlands NHS Trust

STAYING ACTIVE IN HOSPITAL

Sit up... Get dressed... Keep moving...

PROUD TO CARE

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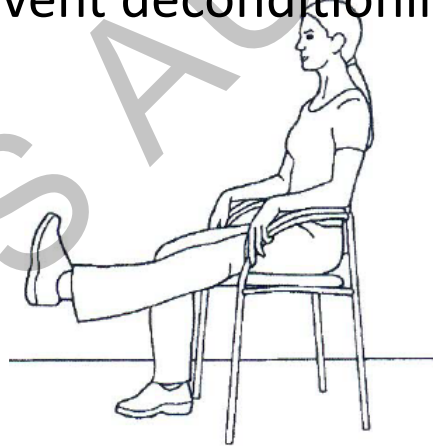
# Practical

- Measure equipment for appropriat height and adjust appropriately
- Transfer and ADL equipment
- Activities: Shaving, medication, food, toileting etc..
- Exercises to prevent deconditioning



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# Workforce knowledge and skills improvement

- Staff questionnaire on survey monkey
- Report on questionnaire outcomes
- Ideas from staff used to develop material

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# Workforce feedback

Prevention is the responsibility of whole MDT not just therapists.

I am worried that falls will increase

Regular education on Deconditioning and communication on the campaign

Isn't it a Physio job

Re-introduce lunch tables in wards to encourage socialisation and inclusion

Prescribe sitting out, Getting dressed and keep Moving

Senior Ward Rounds to assess patient standing, walking and get up and go

Another paperwork exercise

What's in it for me

We are already too busy. They just keep asking more from us.

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# How can you start?
# Slow and steady wins the race

## Not a general care plan but a personalized exercise or activity plan

**Aim** Encourage and optimize individual independence during hospital admission by demonstrating

1. A 25% increase in patients sat out before 10am daily
2. 25% increase in patients dressed in own clothes
3. By 30th XXX 2020/2021

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SIGN IN

Your Username

Your Password

GO

Forgotten Password

Not Signed Up yet? Please, **Sign Up**

Collaboration with Cambridge Digital Health:

Cambridge Digital Health

health service 360

NHS

NHS The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust

**N/A**
NHS England
**Corporate**

**N/AN/A**

How many patients are dressed in day clothes at midday?

How many patients have mobilised e.g. walked to the toilet / shower or walked around the bed?

CONTACT | SUBMIT | LOGOUT

**Patients' time is the most important currency in health and social care**

**Visit the website to get information, posters and other useful resources**

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# Hitting the point while missing the target

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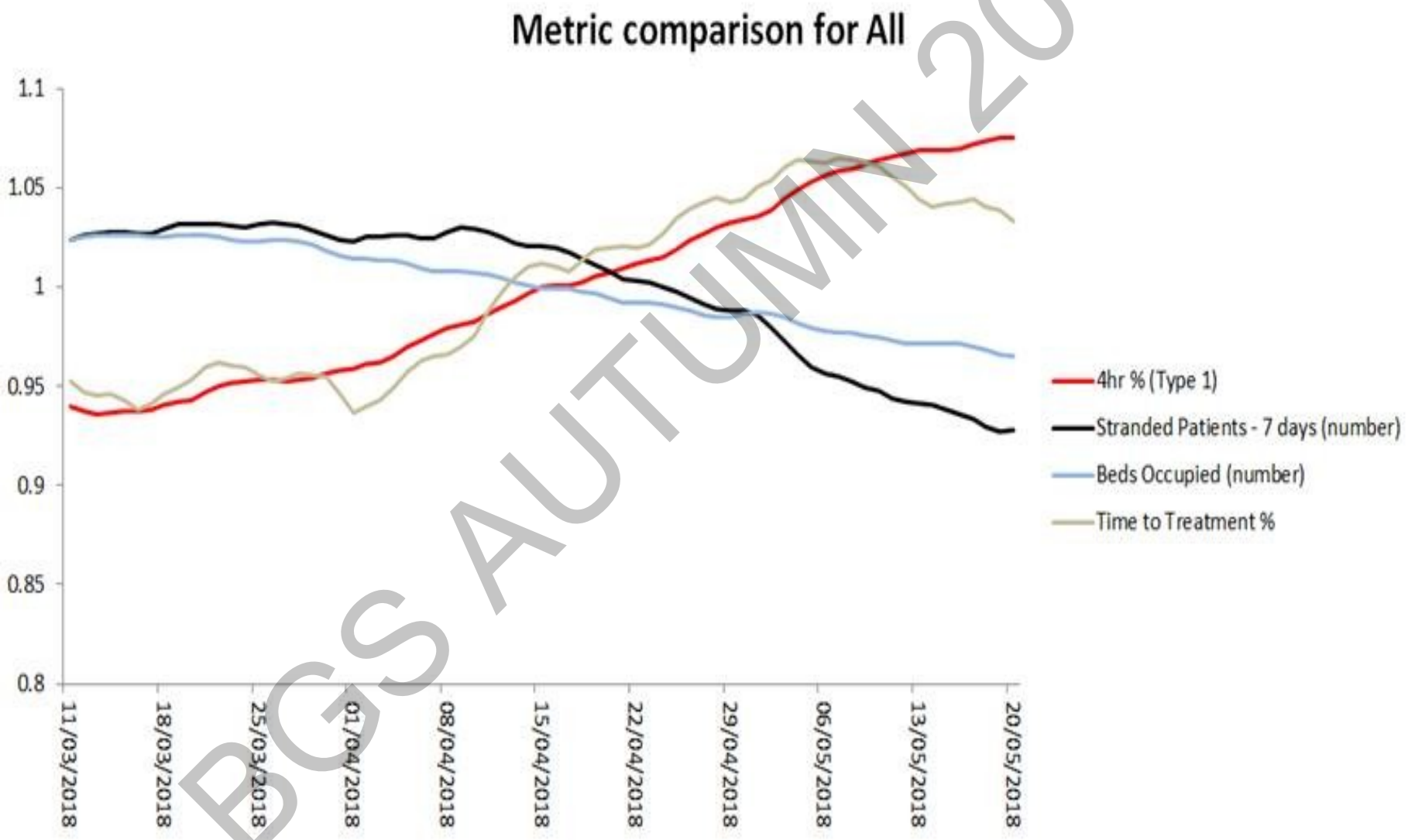
# Overall performance impact

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# Next steps?

We know activity and exercise is beneficial to prevent loss of Activities of Daily Living

What works for implementation at speed and scale remains to be proven

Start with medical and health school education and awareness

If exercise was a medicine, wouldn't everyone want to take it!

- **Deconditioning can affect anyone irrespective of their age**
- **For frail older people it could start earlier, can be more severe, last longer and can often be irreversible**
- **That's why it is important to address it early on during hospitalisation**

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Cortes OL, Delgado S, Esparza M. Systematic review and meta-analysis of experimental studies: in-hospital mobilization for patients admitted for medical treatment. J Adv Nurs. 2019; January 22. doi: 10.1111/jan.13958

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**Healthcare systems are not designed for older people.**
**Elder friendly hospitals?**

Why not this……

To this ……..

# Because Deconditioning Costs Lives

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