Identifying Frailty in the Emergency Department

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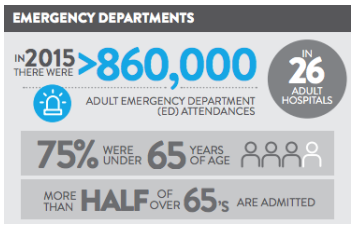
Background



tilda

Recommended implementation of admission avoidance services and dedicated tailored care of the oldest old in emergency settings
(Kenny & McGarrigle, 2017).

ED attendance in Ireland

TABLE 4.6: EMERGENCY DEPARTMENT ATTENDANCES AND ADMISSIONS 2015

AGE GROUP	NO. OF ATTENDANCES	% OF ED ATTENDANCES	% ADMITTED
All Ages	865,057	100	26
17-64	591,909	68	20
65-84	183,827	21	45
85+	40,721	5	59

Source: Business Information Unit, Health Service Executive

- Ireland: 21% 65-84, 5% ≥85
- UK: 20.8% >65 in 2016/2017
- Canada 12-24% of ED attendance ≥65

Older People with Frailty in ED

- Older people with Frailty : 5-10% of all ED attendees (Ferguson et al 2010)
- Need to consider Frailty along with presenting complaint (Preston et al, 2018)
- No frailty measure validated for widespread use in ED (Apostolo et al, 2017)
- How do we identify those who need CGA?


Journals of Gerontology: Medical Sciences
cite as: J Gerontol A Biol Sci Med Sci, 2017, Vol. 72, No. 1, 68–74
doi:10.1093/gerona/glv152
Advance Access publication September 22, 2015
THE GERONTOLOGICAL SOCIETY OF AMERICA
OXFORD
Research Article

Measuring Frailty Can Help Emergency Departments Identify Independent Seniors at Risk of Functional Decline After Minor Injuries

Marie-Josée Sirois,[1,2] Lauren Griffith,[3] Jeffrey Perry,[4] Raoul Daoust,[5] Nathalie Veillette,[6] Jacques Lee,[7] Mathieu Pelletier,[1] Laura Wilding,[4] and Marcel Émond[1,8]

- Prospective cohort study in Canadian EDs
- 1,072 aged 65+ Independent ADLs, minor injury
- 3-month incidence of functional decline 12.1%
- Measuring frailty may enhance current risk screening for functional decline
- Feasibility issues to be addressed

Systematic Review


Contents lists available at ScienceDirect
European Journal of Internal Medicine
journal homepage: www.elsevier.com/locate/ejim
ELSEVIER
Original Article

Screening of the frail patient in the emergency department: A systematic review

Rasmus Jørgensen [a], Mikkel Brabrand [b,c,*]

- 4 cohort studies
- 4 tools – Clinical Frailty Scale, Deficit Accumulation Index, Identification of Seniors at Risk and Study of Osteoporotic Fracture Frailty Index
- Frailty predicts risk of admission, mortality, LOS but not 30-day return to ED
- Recommend RCTs to compare with usual methods of care

Reviews of Frailty Tools

Which frailty scale for patients admitted via Emergency Department? A cohort study

Ebony T. Lewis[a,*], Elsa Dent[b,c], Hatem Alkhouri[d,e], John Kellett[f], Margaret Williamson[g], Stephen Asha[h], Anna Holdgate[i], John Mackenzie[i], Luis Winoto[k], Diana Fajardo-Pulido[g], Maree Ticehurst[g], Ken Hillman[g,l], Sally McCarthy[j], Emma Elcombe[m], Kris Rogers[n], Magnolia Cardona[o,p]

- Prospective study
- Adults 65+ admitted +/- spent 1 night in ED
- Fried, CFS, SUHB
- 899 adults
- Vastly different Frailty Prevalance but predictive descrimination equivalent
- CFS more practical

Predicting risk and outcomes for frail older adults: an umbrella review of frailty screening tools

João Apóstolo[1] · Richard Cooke[2] · Elzbieta Bobrowicz-Campos[1] · Silvina Santana[3] · Maura Marcucci[4,5] · Antonio Cano[6] · Miriam Vollenbroek-Hutten[7] · Federico Germini[8] · Carol Holland[2]

[1]Health Sciences Research Unit: Nursing, Nursing School of Coimbra, Portugal Centre for Evidence-Based Practice: a Joanna Briggs Institute Centre of Excellence, [2]Aston Research Centre for Healthy Ageing (ARCHA), Aston University, Birmingham, United Kingdom, [3]Department of Economics, Management and Industrial Engineering, University of Aveiro, Aveiro, Portugal, [4]Geriatric Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy, [5]Department of Clinical Science and Community Health, University of Milan, Milan, Italy, [6]Department of Paediatrics, Obstetrics and Gynaecology, Universitat de València, València, Spain, and [7]Roessingh Research and Development, The Netherlands

- Five reviews with 227,381 participants
- Frailty Index and Gait speed emerged as most useful in routine care & community
- No suitable tool for ED was identified

Feasibility

Age and Ageing 2017; 46: 509–513
doi: 10.1093/ageing/afx019
Published electronically 14 February 2017

SHORT REPORTS

Frailty identification in the emergency department—a systematic review focussing on feasibility

Amy Elliott[1], Louise Hull[2], Simon Paul Conroy[3]

Age and Ageing 2017; 46: 840–845
doi: 10.1093/ageing/afx089
Published electronically 25 May 2017

Identifying frailty in the Emergency Department—feasibility study

Amy Elliott[1], Kay Phelps[1], Emma Regen[2], Simon Paul Conroy[2]

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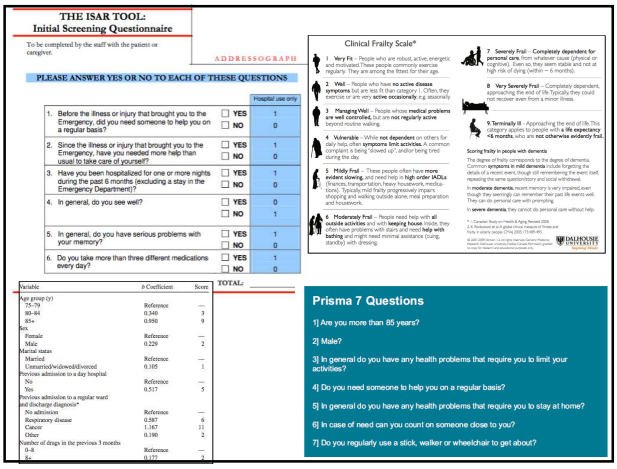
[2]Department of Health Sciences, University of Leicester School of Medicine, Room 3.37, Centre for Medicine, University of Leicester, Lancaster Road, Leicester LE1 7HA, UK

Systematic review of Frailty Identification (Elliott et al, 2017)

- 1872 titles, 1827 excluded, 45 papers full-text review, 4 contained data on feasibility / clinical acceptability
- 9 tools used in 3 countries
- Tools took 1 – 10 minutes to complete
- None able to be used in more than 52% of all older people potentially eligible
- Additional work required to appreciate how tools are used, by whom & when in order to ensure acceptability

Feasibility study (Elliott et al 2017)

- One large ED, 43% of total ED workforce
- Primary outcome likelihood of future use
- Ideal characteristics brevity, simplicity, multi-dimensionality
- Compared ISAR, CFS, PRISMA-7 & Silver code
- 75% of staff would use at least one of the tools again



Frailty / Risk stratification tools

Table 1. Details of the frailty/risk stratification tools chosen for testing

Tool name	Number of items	Scoring system	Predictive properties	Comments
Clinical Frailty Scale [13]	9	1–4 = very fit to vulnerable 5–8 = mild to very severe frailty 9 = terminally ill	In an ED setting when predicting in-patient mortality, area under the curve = 0.72 [1]	Originally required CGA before use but has been validated in the ED setting [1]
Identification of Seniors At Risk [14]	6	≥2 = at risk [14]	Sensitivity = 73% Specificity = 51% Area under receiver operating curve = 0.68 in a Canadian ED population [14]	Self-report version [15]
PRISMA-7 [16]	7	≥3 = requires further evaluation [16]	Sensitivity = 78% Specificity = 75%[17]	Tool adapted so not self-report format.
Silver code [18]	6	≥11 = highest risk [19]	When predicting mortality in the ED setting, area under the curve = 0.70 [19]	

Simple performance measures?

- Hand Grip strength
- Walking speed
- Timed-up and Go

- BUT do measures reflect a limitation imposed by acute illness or frailty? (Stiffler et al, 2013)

Hand Grip

- Predictor of all-cause mortality
- Predictive validity for decline in cognition, mobility, functional status
- Associated with Frailty

Geriatr Gerontol Int. 2016 Jan;16(1):5-20. doi: 10.1111/ggi.12600. Epub 2015 May 28.

Prognostic value of handgrip strength in people aged 60 years and older: A systematic review and meta-analysis.

Rijk JM[1], Roos PR[1], Deckx L[2], van den Akker M[1,2], Buntinx F[1,2].

(Rijk et al, 2015)

Walking speed (Middleton et al, 2015)

- Simple indicator of functional capacity and general health
- Predictive of:
  - ✓ Functional dependence
  - ✓ Frailty
  - ✓ Mobility disability
  - ✓ Cognitive decline
  - ✓ Falls
  - ✓ Response to Rehabilitation
  - ✓ Hospitalization
  - ✓ Cardio-vascular related events & mortality
  - ✓ All cause mortality
- Timed central straight path 5-10m, 2.5m acceleration

Walking speed: The Functional Vital Sign (Middleton et al, 2015)

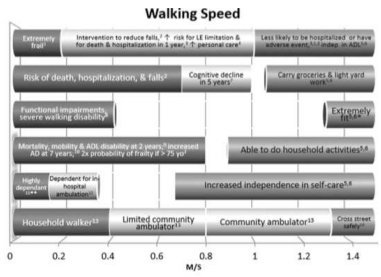
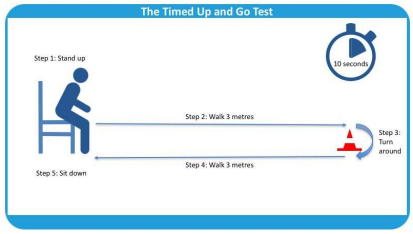


Figure 1.
Depiction of walking speeds and the associated outcomes. m/s, meters per second; ↑, increased; LE, lower extremity; indep, independent; ADL, activities of daily living; AD, Alzheimer's disease; 2x, two times; yo, years old; d/c, discharge

Frailty & gait speed

- Study of 1327 people >65, frailty in 10.5%, walking speed >0.9m/s ruled out frailty(Castell et al, 2013)
- Walking speed <0.8m/sec is a simple approach to diagnosing frailty in primary care
- In ED, patients with gait speed <1.0m/s identified as 'high risk' for an adverse incident (Tucker et al, 2016)

Timed Up and Go



- TUG most widely used, not recommended (Eagles et al, 2018)
- Elliott et al (2017) do not recommend physical measures eg. TUG/hand-held dynamometry due to feasibility

Re-visiting CGA at SJH ED

- Cross-sectional study
- Think Frailty & CFS
- Gait speed
- TUG
- Functional mobility Ax
- Grip strength
- Calf circumference

- 101 participants
- Frailty (CFS≥5) 35%
- 52% used gait aid
- 'Frail' more likely to be female (p.036), using a walking aid (p.001) and to have had a fall within the last 6 months (p.007).
- Frailty not significantly associated with hospital admission, grip strength or calf sarcopaenia

Frailty Teams in the ED

Plan to keep frail A&E patients out of hospital saves almost 4,000 bed nights

St James's Hospital initiative also ensures well patients are discharged promptly

Fri, Dec 7, 2018, 01:00

Paul Cullen

Frail Intervention Therapy (FIT) Team

RUH's 'Frailty Flying Squad' nominated for prestigious national nursing award

A pioneering team of doctors, nurses and therapists at the RUH has been shortlisted for an award for its work in supporting frail elderly people to remain at home rather than being admitted to hospital.

Emergency Care Improvement Programme

NHS Improvement

Rapid Improvement Guide to:

Identifying and managing frailty at the front door

Therapists – the secret weapon

Therapists are at the forefront of new ways of working. Instead of patients arriving in the emergency department being passed around the system before ending up on a ward where everything from mobility to continence management can be compromised, therapists engage with frail patients as soon as they enter the hospital, with the intention of getting them back to their own homes as quickly as possible.

NHS Acute Frailty Network

FRONT DOOR TEAM

Recommendations (Theou et al, 2018)

Clin Geriatr Med. 2018 Aug;34(3):369-386. doi: 10.1016/j.cger.2018.04.003.

Older Adults in the Emergency Department with Frailty.

Theou O[1], Campbell S[2], Malone ML[3], Rockwood K[4].

- Older person should have ***interdisciplinary assessment*** in ED to identify frailty
- Review medications, screen for geriatric syndromes, care plan addressing needs including ***patient goals & preferences***
- Follows the patient ***beyond the ED***

References

- Apostolo J, Cooke R, Bobrowicz-Campos E, Santana S, Marcucci M, Cano A, Vollenbroek-Hutten M, Germini F, Holland C (2017) 'Predicting risk and outcomes for frail older adults: an umbrella review of frailty screening tools' JBI Database of Systematic Reviews and Implementation Reports 15(4):1154-1208
- Castell M-V, Sanchez M, Julian R, Queipo R, Martin S, Otero A (2013) 'Frailty Prevalence and slow walking speed in persons age 65 and older: implications for primary care' BMC Family Practice 14:
- Eagles D, Yadav K, Perry J, Sirois MJ, Emond M (2018) 'Mobility assessments of geriatric emergency department patients: A systematic review' Canadian Journal of Emergency Medicine 20(3):353-361
- Elliott A, Hull L, Conroy SP (2017) 'Frailty identification in the emergency department – as systematic review focusing on feasibility' Age and Ageing 46: 509-513
- Elliott A, Phelps K, Regen E, Conroy SP (2017) 'Identifying frailty in the Emergency Department – feasibility study' Age and Ageing 46: 840-845
- Ferguson C, Woodard J, Banerjee J, Conroy S (2010) 'Operationalising frailty definitions in the emergency department – a mapping exercise' Age and Ageing 39:i7
- Jorgensen R & Brabrand M (2017) Screening of the frail patient in the emergency department: A systematic review European Journal of Internal Medicine 45: 71-73
- Kenny RA & McGarrigle C. (2017) Health and Wellbeing: Active Ageing for Older Adults in Ireland, Evidence from the Irish Longitudinal Study on Ageing
- Lewis E, Dent E, Alkhouri H, Kellett J, Williamson M, Asha S, Holdgate A, Mackenzie J, Winoto L, Farjardo-Pulido D, Ticehurst M, Hillman K, McCarthy S, Elcombe E, Rogers K, Cardona M (2019) Which frailty scale for patients admitted via Emergency Department? A cohort study Archives of Gerontology and Geriatrics 80: 104-114

References

- Middleton A, Fritz S, Lusardi M (2015) Walking Speed: The Functional Vital Sign J Aging Phys Act 23 (2): 314-322
- Preston L, Chambers D, Campbell F, Cantrell A, Turner J, Goyder E (2018) 'What evidence is there for the identification and management of frail older people in the emergency department? A systematic mapping review' Health Services and Delivery Research 6:16
- Rijk JM, Roos PR, Deckx L, van den Akker M, Buntinx F (2015) 'Prognostic value of handgrip strength in people ages 60 years & older: A systematic review and mata-analysis' 16(1):5-20
- Sirois M-J, Griffith L, Perry J, Daoust R, Veillette N, Lee J, Pelletier M, Wilding L, Emond M (2017) 'Measuring Frailty can help Emergency Departments Identify Independent Seniors at Risk of Functional Decline after Minor Injuries' J Gerontol A Biol Sci Med Sci 72: 1, 68-74
- Stiffler K, Finley A, Midha S, Wilber S (2013) 'Frailty Assessment in the Emergency Department' The journal of emergency medicine 45: 291-298
- Smyth B., Marsden P., Donohue F., Kavanagh P., Kitching A., Feely E., Collins L., Cullen L., Sheridan A., Evans D., Wright P., O'Brien S., Migone C. (2017) Planning for Health: Trends and Priorities to Inform Health Service Planning 2017. Report from the Health Service Executive
- Theou O, Campbell S, Malone ML, Rockwood K (2018) 'Older Adults in the Emergency Department with Frailty' Clinical Geriatric Medicine Aug;34(3):369-386
- Tucker P, Evans DD, Clevenger C, Ardisson M (2016) 'Feasibility of nurses measuring gait speed in older community-dwelling Emergency Department patients' Geriatric nursing 453-457
- Vize, Richard (2017) The Winter's Tale – Leadership Lessons from Emergency Departments Under Pressure, Institute of Healthcare Management https://ihm.org.uk/wp-content/uploads/2017/05/IHM-The-Winters-Tale-web.pdf
- https://digital.nhs.uk/data-and-information/publications/statistical/hospital-accident--emergency-activity/2016-17 (accessed 23.01.2019)
- https://www.rcem.ac.uk/docs/Policy/England%20Factsheet%202018.pdf (accessed 23.01.2019)