THE ROLE OF PARAMEDICS IN THE ASSESSMENT AND MANAGEMENT OF OLDER PEOPLE WITH FRAILTY

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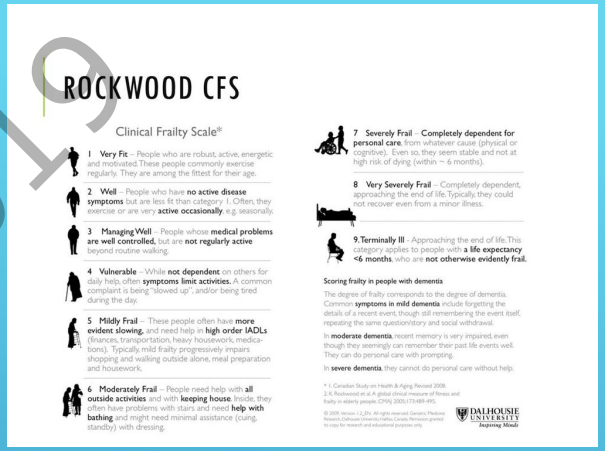
PARAMEDIC CONTRIBUTION?


ROCKWOOD CFS

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.

* I. Cavalot 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.

DALHOUSIE UNIVERSITY Inspiring Minds

- Appraise frailty
- Directly observe and relay home circumstances
- Support avoidance of unnecessary hospital admissions:
  - See & treat - on scene assessment & management of presenting conditions
  - Inform & refer / safety-net- community & primary care providers
- Optimise hospital admissions - when they are required
- Introduce patient-centred decision making early in patient journey

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CANADIAN RESEARCH LEAD - CARE PARTNER CGA (CP-CGA)

- Dr Judah Godstein – Associate Professor – Dalhousie University, Nova Scotia - He's a paramedic!!
- Paramedic completed CFS correlated well with CP-CGA + caregiver & geriatrician completed CFs -Goldstein J. & Rockwood K. 2012 – n=101
- Judah's PhD:
- Feasible for paramedics to use CP-CGA for screening n=104 – 93.5% completeness; 18.7 minutes – Goldstein *et al. (2014)*
- Criterion validity - CP-FI-CGA correlated well with specialist completed FI-CGA. Higher scores = higher risk of death. N=203 >70 Pre-hospital population more frail than ambulatory geriatric clinic - Goldstein *et al.* (2015)

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PARAMEDICS ASSESSING ELDERS AT RISK (PERIL)

- Lee *et al.* (2016) Toronto - New risk assessment instrument n=1,065 – with paramedic input: the 4 variable
  - Composite primary outcome – return to ED/ hospitalisation/ death < 1m
- PERIL AUC 0.62; Clinical judgement AUC 0.57; p=0.02
  - Identifying Seniors at Risk (ISAR) subsample: ISAR AUC 0.57; PERIL AUC 0.61; p=0.28
- PERIL more frequently completed – all ISAR missing in 27%
  - The more positive variables = >specificity & <sensitivity

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CLINICAL DECISION MAKING – ACUTE FRAILTY SYNDROMES

- Service evaluation – (McPherson, 2018) UK
  - 4 x SPUEC's + 4 x Frailty Paramedics!
- POCbt – venous blood gas, urea & electrolytes, lactate, haemoglobin & haematocrit
  - Only used if disposition/ pathway unclear
- Decision making improved – 84.6% (66)
  - Improved confidence in disposition – 75.6% (59)
- 18% (14) > ED – all admitted

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DIAGNOSIS - DIFFERENTIATING NON-SPECIFIC PRESENTATIONS FOR OLDER PEOPLE

- Qualitative content analysis of ePCR's for 88 older patients presenting with "general affected health condition" – Veronica Vicente *et al.* 2012 Sweden
- (Broadly equivalent to local: "Medical – other" category)
- Inductive analysis developed two generic categories:
  - Inability to manage everyday life
  - Inability to orientate in time/ space
- Concluded that assessing these patients for frailty would add clarity and enable differentiation of assessment and management

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PERCEPTIONS OF FRAILTY

Patients

- Interviews with patients referred by paramedics to falls service – Duncan Robertson & Cooke 2016 UK
- Perceived themselves as occupying a liminal zone between 3rd & 4th age
- Asserted continuing control/ individual agency

Paramedics

- Paramedic focus groups – Green, Kirby & Hope 2018 UK
- Transition of frailty as a presentation which is implicitly recognised to one which is understood - underway
- Wide variation in knowledge, practice & attitudes

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EPIDEMIOLOGY

- >65 years 2010 – ePCR review - Goldstein et al. 2015 Nova Scotia
  16% of population >65 y'rs -30,653 **>65 years (49% of all calls)**
  – 203/1000 population >65years **-12% non-conveyed**
- Dementia – longitudinal study of care homes –Amador *et al.* 2014 UK 1 year
  – 56% used ambulance service -**43% calls > admission** – odds of using ambulance service if admitted from relative's home 90% lower than if admitted from own home
- Dementia - cross sectional study – Voss et al. 2018 UK
  - **14% >65 years 'dementia' on PCR**
  - **Less likely to be conveyed** – call cycle times similar
  - **80% all >65 years one or more comorbidities**

Frailty	Dementia	Comparator
Fit - vulnerable	17.1	**55.6**
Mild - moderate	35.7	29.5
Severe - terminal	**47.4**	14.9

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EPIDEMIOLOGY - FALLS

- Ambulance service survey – Darnell *et al.* 2012 UK
  – 7/13 ambulance services – 184,000/438,000 (42%) – falls patients left at home
- National data – Faul *et al.* 2016 USA
  Falls over 65 y'rs – 903,588/4,275,864 (**17.4%** of all calls)
  - Increasing by age – 65% women - 70% at home - 8% at institution
  – 47% no clear clinical impression
- Non-transported falls survey –Tiedemann *et al.* 2013 AuNSW
  6 month period (n=262) -58% had 488 falls –25% repeat 'fall' ambulance attendance
- 2010-2017 – ambulance records - Cox *et al.* 2018 AuVictoria
  -324,000 falls >65 y'rs(**9.7%** of all calls)
  -Home 64% -Nursing Home 20% -to ED 79% ('blued' 3.8%)
- Ambulance records – Cantwell et al. 2016 AuMelbourne
  -time trends –all peak 06:00-12:00 –Care homes, also 17:00-20:00

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INTERVENTIONS

- OT referral – Preston *et al.* 2018 UK Service evaluation
  - OT 3rd manning – **23% suitable for OT input**
  - Some evidence of conveyance reduction
  - Direct referral set up (with feedback)
- OT/Paramedic – falls dual response Bedwell & Tracey 2016 UK - NWAS Service evaluation
  – Conveyance rate for >65 years & fallen >79%
  - Intervention - **>75% kept at home** – additional referrals/ support
- SPUEC – cluster (active/ inactive) RCT – Mason *et al.* 2007 UK
  - n=3000 –intervention –higher patient satisfaction
  - less likely to attend ED RR 0.72 or hospital admission within 28 days RR 0.87
- Decision system – RCT – >65 years - Vicente *et al.* 2014 Sweden n=400x2
  -Intervention –new assessment + direct community hospital admission -90 (20%) admitted
  -6 (7%) subsequently >ED -93.3% appropriate

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INTERVENTIONS - FALLS

- RCT – fall prevention services referral Logan *et al.* 2010 UK
  -1y'r - n=102x2 - Intervention **3.46 vs 7.68 falls/year** + significantly fewer ambulance calls
- Economic evaluation (above RTC) – Sach *et al.* 2012 UK
  Intervention +cost=£1,551/p't +QALYs 0.07 –cost effective
- RCT – fall prevention referral - Mikolaizak *et al.* 2017 AUNSW –
  n=110x2 **ITT – no sig' difference** –falls/injurious falls/conveyed to ED
  PP -adherers fell less IRR 0.53 & conveyed to ED less IRR 0.37 (not related to risk)
- Cluster randomised trial – Computerised Clinical Decision Support – Snooks Et al. 2014 UK
  N=436+343 Increased referral rates, but no other significant differences **SAFER 1**
- Cluster randomised trial – falls service referral - Snooks Et al. 2017 UK **SAFER 2** n=3,073+2,841
  - Intervention 8% vs 1% referred - **reduced subsequent 999 calls**, but no other significant differences - Composite primary outcome measure: death/hospital admission/ED/999

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CONCLUSIONS

- Paramedics attend a large and growing population of patients presenting with frailty syndromes or who are identifiable as frail
- Paramedics are in a powerful position to screen for, assess and influence the management of patients with frailty – including supporting community care where possible and appropriate
- The success of clinical developments will rely on the effective integration of paramedics with primary, community and hospital care systems
- The elderly are already a focus of prehospital research, but beyond patient assessment, little research has engaged directly with paramedics and frailty. For older patients in general, clinical developments are outpacing research, driven by the wider evolution of paramedic roles and education.

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THANK YOU!

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