A new way to manage falls and syncope in the hospital setting

8th International Syncope Training Event 2019

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Falls

- 30% of over 65's fall each year
  - 50% in nursing homes
  - 66% in those who have already had a fall that year
- Commonest cause of accidental death in the elderly
- Account for 20-40% of elderly ED attendances
- Prevalence of ED Falls presentations increasing
  - 25% increase in US ED fall related fractures presentations between 2001-10
    - Orces C. BMJ Open. 2013 Jan 24;3(1). pii: e001722. doi: 10.1136/bmjopen-2012-001722. PMID: 23355660
    - Shankar KN, Liu SW, Ganz DA. Trends and Characteristics of Emergency Department Visits for Fall-Related Injuries in Older Adults, 2003-2010. *West J Emerg Med.* 2017;18(5):785–793. doi:10.5811/westjem.2017.5.33615

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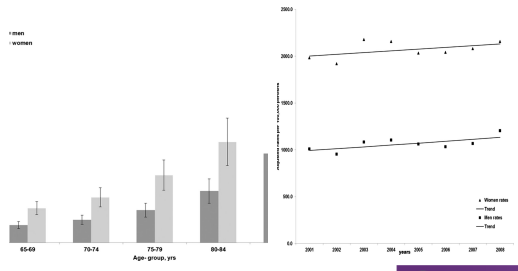
US ED Attendance with Fall Related Fractures



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Hospital admission

- 50% of falls related fractures among older people (≥65yrs) lead to admission
  - Owens PL, Russo CA, Spector W, *et al.* Emergency Department Visits for Injurious Falls among the Elderly, 2006: Statistical Brief #80. October 2009. Agency for Healthcare Research and Quality, Rockville, MD . http://www.hcup-us.ahrq.gov/reports/statbrief/sb80.pdf
- Falls are **very** expensive
  - £ 2 billion per year to NHS (The Kings Fund 2013)
  - $ 34 billion in 2013 in USA (Centers for Disease Control and Prevention)
  - 50% of the admissions and 60% of the cost is for patients aged 80 and over

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Future Projections

- 500,000 older people treated in US EDs a year between 2001-2008 for fall related fractures
- Rates growing at 2% per year
- 5,700,000 older people will be treated per year by 2030 unless fall rates or injuries reduce
  - **Orces CH**, Alamgir H. Trends in fall-related injuries among older adults treated in emergency departments in the USA.
  - Inj Prev. 2014 Dec;20(6):421-3. doi: 10.1136/injuryprev-2014-041268. Epub 2014 Jun 10.PMID: 24916685

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Probable causes of Falls presenting to ED
(case series n=20,000)

- Gait / balance disorder 48%
- Accidental (extrinsic) 38%
- Acute illness 25%
- Dizziness / vertigo 15%

- Unexplained 16%
  - TLOC/ Syncope/ pre-syncope 1-5%

Investigate

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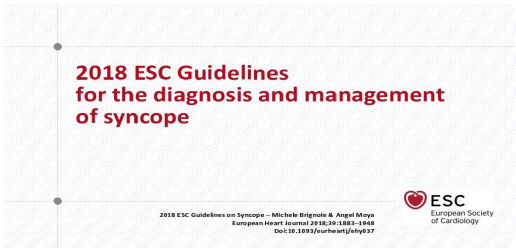
No clear guidelines of the diagnosis and management of Falls



Avoiding admission?

- Hospital admission from the ED for syncope is much greater than warranted by guidelines
  - 40-50% in practice vs 20% in theory

- Deif B et al. Application of Syncope Guidelines in the Emergency Department **Do Not Reduce Admission Rates**: A Retrospective Cohort Study. Can J Cardiol. 2018 Sep;34(9):1158-1164. doi: 10.1016/j.
- Kojodjojo P. Mapping clinical journeys of Asian patients presenting to the Emergency Department with syncope: Strict adoption of international guidelines **does not reduce hospitalisations**. Int J Cardiol. 2016 Sep 1;218:212-218. doi: 10.1016
- Daccarett M et al. Syncope in the emergency department: comparison of standardized admission criteria with clinical practice. Europace. 2011 Nov;13(11):1632-8. doi: 10.1093
- McCarthy F, McMahon CG, Geary U, et al. Management of syncope in the Emergency Department: a single hospital observational case series based on the application of European Society of Cardiology Guidelines. Europace. 2009 Feb;11(2):216-24. doi: 10.1093/europace/eun323. Epub 2008 Nov 27.PMID: 19038976

Challenges to Falls/Syncope Management in the ED

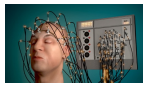
- Frail older patients

- Younger patients who aren't frail
  - "Cardiac" patients
  - "Neurological" patients
  - "Worried" patients

Challenges to Falls/Syncope Management in the ED

- Lack of trained staff
  - "worried" doctors
  - Admit for 2nd opinion and "tests"

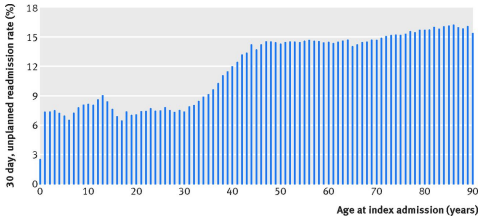
- Lack of the right equipment
  - Wrong tests



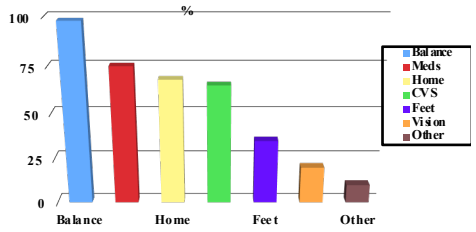
Appropriate Falls/Syncope Management in the ED

- **Measures to streamline management in fallers need to be developed**
- **Healthcare training with a focus on falls to a much greater extent**
- **Avoiding admission likely to be highly cost effective and should more than pay for cost of a falls and syncope unit**
- **Appropriate infrastructure**
  - **Trained staff**
  - **Appropriate equipment**

Admission by age



Frail Older Faller in ED



Syncope in the elderly

- OH is not always reproducible in older adults (particularly medication and age-related). Therefore, orthostatic BP appraisal should be repeated, preferably in the morning and/or promptly after syncope.
- CSM is particularly useful even if non-specific carotid sinus hyper-sensitivity is frequent without history of syncope.
- In the evaluation of reflex syncope in older patients tilt testing is well tolerated and safe, with positivity rates similar to those observed in younger patients, particularly after nitroglycerine challenge.
- Twenty-four hour ambulatory BP recordings may be helpful if instability of BP is suspected (e.g., medication or post prandial).
- Due to the high frequency of arrhythmias, ILR may be especially useful in the elderly with unexplained syncope.
- Evaluation of mobile, independent, cognitively normal older adults must be performed as for younger individuals.

www.escardio.org/guidelines European Heart Journal 2009;30:2631-2671

EUROPEAN SOCIETY OF CARDIOLOGY

Falls in Frail Older People

- Recurrent falls are never just bad luck
- Sometimes it's not at all clear why the patient has fallen ("unexplained" fall)
- Often though it appears obvious why they have fallen ("explained" fall)

"Explained" Falls

- Gait and balance disorder
- Cognitive Impairment
- Cluttered environment
- Frail

- Do we investigate?
- Who do we investigate?
- What do we investigate?
- How do we manage the patient?

Comprehensive Geriatric Assessment

History taking

- "It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has."
- William Osler
  - 1849-1919

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History taking 1

- Start with a "Helicopter view"
  - Initially get a general description of the situation before attempting a more specific assessment
- Determine "frailty"
  - Hierarchical IADL assessment
  - Frailty can affect
    - differential diagnoses
    - Investigation false positive/negative rate
    - and treatments (efficacy and tolerability)
  - Frailty tools
- Determine co-morbidity
  - Including medications (especially if recently commenced)
  - Polypharmacy tools

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History taking 2

- **Detailed history of events**
  - **Falls**
    - Number, location, connection to tripping over something, standing quickly or prolonged standing and amnesia for hitting the ground
    - Check for symptoms of orthostatic intolerance (immediate and or prolonged standing)
  - **Unsteadiness**
    - Do you furniture walk at home or use a walking appliance at any stage?
    - **NBB: Correlate with direct observation of gait and balance**

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Examination

- Talk to the patient
  - Assess cognition
  - Exclude delirium
  - Determine the need for collateral history
- Walk the patient
  - Best way to pick up movement disorders and "explained" falls

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Older Fallers

- Refer to FASU if associated with
  - syncope
  - orthostatic intolerance
  - Recurrent despite intervention
  - Postural Dizziness
- Refer to Geriatrician /Day Hospital
  - "explained" by poor gait and balance
  - Syncope unlikely
  - Dementia
  - Some of this group may still have neurocardiovascular causes and may require FABU investigation but care with false positives

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Acute Frailty Teams

Acute Frailty Network

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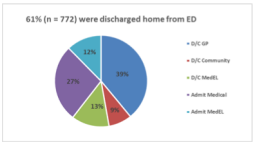
Frailty Trained MDT teams in ED

>75s	% admitted from ED
Triage category 2-3 (2015-16)	61%
Triage category 2-4 (2015-2016)	47%
Home FIRsT patients (n=1269, 5 month period)	39%

St James's Hospital introduces "Home First" MDT team May 2017

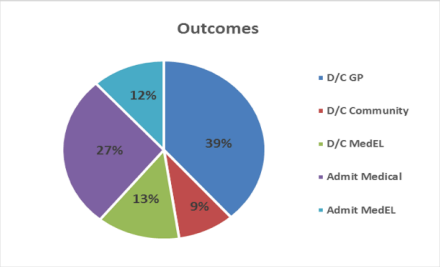


- Between 1-2 admissions a day prevented
- Projected bed day savings over 1 year
  - 3,400
- Notional financial saving
  - €3.4 million

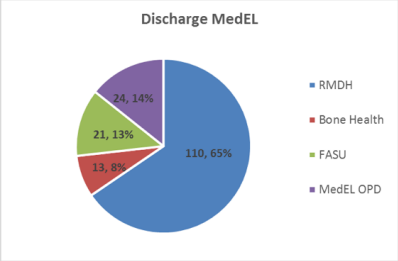
HOME FIRsT

- In the first nine months of service delivery,
  - 1980 ED patients were reviewed
  - 11 a day of whom 3 were falls
  - 802 male (41%) with a mean age of 80 years (range 63-104).
  - 29% due to fall/fracture/collapse/syncope
  - 3.6% due to collapse/syncope/pre-syncope

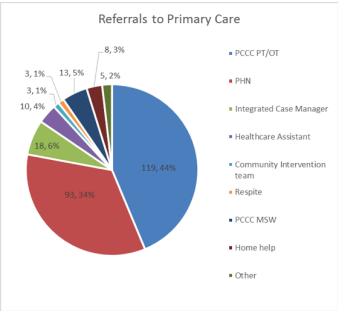
HOME FIRsT destinations



MedEL Ambulatory Care



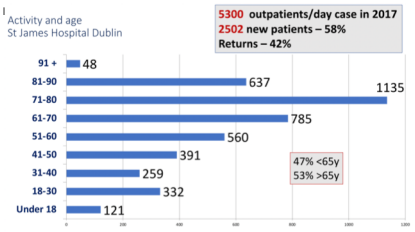
MedEL Community Discharges



HOME FIRsT Focus

- Aged 70 and older
- Manchester Triage 3+ (Urgent to standard care)
- > 30 years experience in Healthcare for the Elderly but no specific syncope training
- What about MT 2 (very urgent)?
- What about patients aged < 70 years?

Falls and Syncope Unit



St James's ED March 2018

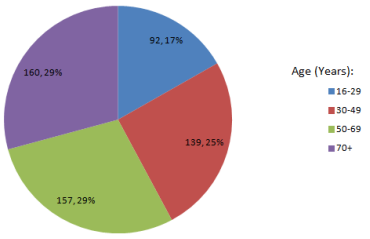
- Retrospective review of electronic ED records
- 4,061 patients presented to the Emergency Department (ED)
- 443 of these left before being seen, leaving a total of 3,618 patient reviews.

St James's ED March 2018

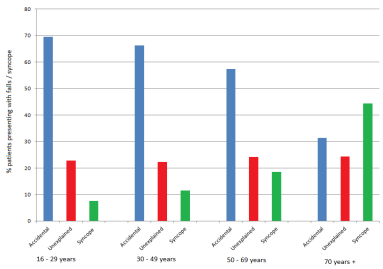
- 15% (548/3,618) presented with a fall / syncope / presyncope

Age	Faller	Total	%
<50	231	2011	11
50-69	157	872	18
≥70	160	728	22

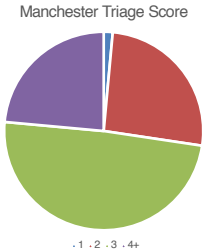
Falls/ Syncope Presentation by age



Presentation by Age



Falls/Syncope Patients by Triage



HOME FIRsT and Falls

- 100/548 (18%) falls or syncope patients were eligible to be seen by our frailty team
- 47/161 (29%) patients admitted were eligible to be seen by our frailty team
- 71% of admitted patients were not eligible to be seen by our frailty team

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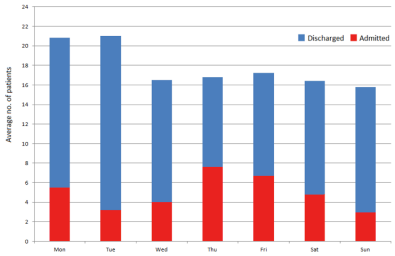
Falls / Syncope presentations by day of week



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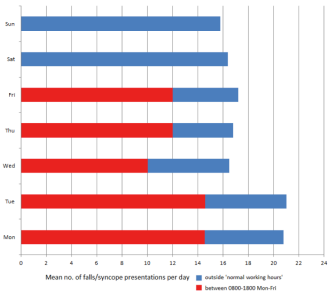
Falls/Syncope presentations by 'working hours'



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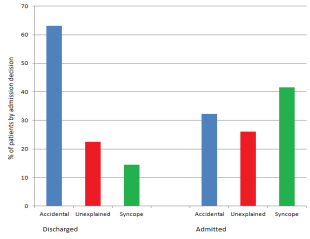
Presentation Type by Discharge Decision



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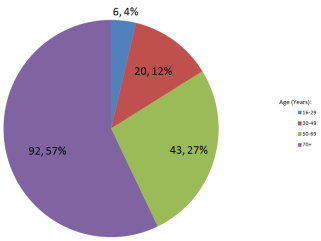
Falls / Syncope Admissions by age



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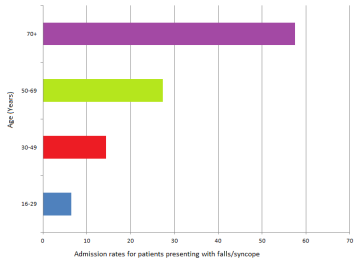
Admission rate by age category



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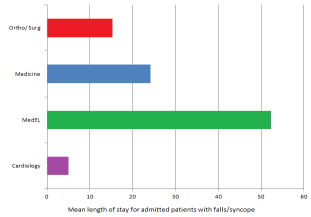
Mean length of stay by discharging service



Mean LOS 25.1 days

Bed days 4,041 in 1 month

"Medical" bed days 3,462

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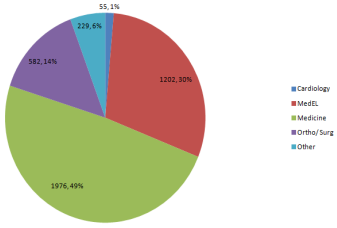
Bed Day Use for Falls/Syncope by Discharging Service



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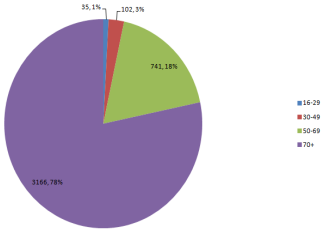
Bed Day use for Falls/Syncope by age



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SJH Falls/ Syncope

- Significant bed day usage from fallers
- All ages
- All severities
- Frailty Team addressing only 20%

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ED FASU

Mercer's Institute for Successful Ageing Business Case for expansion of Falls and Syncope Unit Proposed model for Emergency Department admission avoidance and reduction of Hospital Length of Stay

Winter 2018 / 2019

- Syncope team started ED 25th March 2019
- Syncope Consultant
- Medical Registrar
- Clinical Nurse Manager
- Will see all patients presenting to ED during working hours with falls or syncope
- Same day FASU assessment
- Goal is to see and assess on a same day basis
- Improve outcomes, reduce admissions and length of stay

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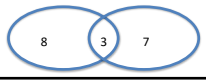
Falls / Syncope in the ED SJH 2019

HOME FIRsT	• **ED FASU**
Started May 2017	Started March 2019
4 AHP working with ED	2 medical staff and 1 CNS
All patients ≥70 and MT≥3	All fallers (all ages, all severity)
Seeing 11 patients a day in the ED	Seeing 10 patients a day in the ED
Of which 3 patients have fallen	Of which 10 patients have fallen
Diverting Fallers to Ambulatory Care	Diverting Fallers to Ambulatory Care
Bed day savings 3,400 or 9 beds	Bed day savings ?
Cost: € 300,000 pa	Cost: €300,000
Notional savings: €3,400,000 pa	Notional savings: ?



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Falls and Syncope in the ED

- New models of care/training needed
- Rapid access to experienced clinicians with appropriate testing needed
- Frailty Units in ED not enough
- Same day falls/syncope service needed
- These should be highly cost effective