#### 4° Congresso Nazionale FFN Italia

Appropriatezza, Qualità e Sostenibilità del Percorso OTG 19-20 Gennaio 2024

#### La FLS: un modello efficace per la prevenzione della rifrattura e riduzione della mortalità?

#### Andrea Giusti, MD

Head, Metabolic Bone Diseases Unit & FLS Department of Medical Specialties Regional Health Trust 3, Genova, Italy





#### Passione per il Lavoro e... Gioia di Vivere



#### La Cascata Fratturativa



#### Il Rischio Imminente di Ri-frattura



Johansson H et al, Osteoporos Int 2017

#### Cumulative Incidence of Falls after Index Fracture



Strata 🕂 Men 📩 Women

Vranken L et al. BMJ Open 2022

# Cumulative Incidence of Subsequent Fractures (after index fracture) Stratified by Incident Fall Status



Vranken L et al. BMJ Open 2022

#### The «Fragility Fracture(s)» Bermuda Triangle



# Operational Structure of UK-based Fracture Liaison Service



Fuggle NR et al, Orthogeriatrics 2021 (Book Chapter)

AOM: Anti-Osteoporosis Medication

#### The UK model FLS reduces incidence of fragility fractures



Hawley S et al., J Bone Miner Res 2016

### Fracture Liaison Service – the Netherlands: Impact on Non Vertebral Fractures



#### Fracture Liaison Service – the Netherlands: Impact on Mortality

Hazard Ratio 0.67 (95% CI: 0.49-0.91)

Hazard Ratio 0.57 (95% CI: 0.37-0.89)

Mortality: Baseline hip fracture

Mortality: Baseline major fracture



#### The impact of FLS on subsequent fractures and mortality: a systematic literature review (from 2010 and 2020) and meta-analysis

FLS versus no-FLS for subsequent fracture:overall and subgroup analysis by study design



CI, confidence interval; IV, inverse variance; FLS,Fracture Liaison Services

Li N et al, Osteoporos Int, 2021

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Li N et al, Osteoporos Int, 2021

#### A 2-year follow-up of a novel Fracture Liaison Service: can we reduce the mortality in elderly hip fracture patients? A prospective cohort study

	Before FLS implementation (n=357)	After FLS implementation (n = 744)	Crude HR	Adjusted HR
One-month mortality rate	13 (3.6)	17 (2.3)	0.73 (0.34–1.56)	0.73 (0.34–1.56)
One-year mortality rate	92 (25.8)	147 (19.8)	0.76 (0.58–0.98)*	0.76 (0.58–0.98)*
Two-year mortality rate	114 (31.9)	222 (29.8)	0.89 (0.71–1.11)	0.87 (0.69–1.09)
Second fracture rate	26 (7.3)	49 (6.6)	0.83 (0.52–1.34)	0.84 (0.52–1.36)

Values adjusted to age, gender, type of fracture, American Society of Anesthesiologists (ASA) score and anti-osteoporotic drug treatment

Data are presented as no. (%)

\* *p* < 0.05

FLS, Fracture Liaison Service; HR, hazard ratio

#### Early Orthogeriatric Post-fracture Care: Main Outcomes



# Fracture Liaison Service: Mapping the 11 Key Performance Indicators (KPIs)



Javaid MK et al, Osteoporos Int 2020

AOM: Anti-Osteoporosis Medication

#### The LICOS Project Fall Clinic

#### **Baseline Assessment of Risk Physical Performence** Factors (all patients during in-Assessment (within 3 months hospital stay): YES **Potential Candidate for** from discharge): **Extended Rehabilitation** Fall history Program 4 meters gait speed test DM Timed up and go test Pharmacological treatments Chair stand test NO Parkinson disease Short physical performance Cognitive impairment battery Vertigo Hand grip strength by hand Standard Rehabilitation Program **Dismobility syndrome** dynamometer for HF Patients (based on Voiding dysfunction **Regional Healthcare Programs**) Reduced earing or vision

Extended Rehabilitation Program (1 year duration)

#### The LICOS Project Fall Clinic



#### **Conclusion:**

The post-fracture FLS care after a fragility fracture should start during the acute phase in the Orthogeriatric Ward during in-hospital stay, in consideration of the significant immediate risk of fracture (and falls) of frail patients presenting with a fragility fracture.

The primary goals of this early phase are defining and implementing a diagnostic and therapeutic pathways with the objective of reducing fracture risk.

Finally, it is advisable to have a single/unique multidisciplinary team taking care of the patient from admission (OG Unit) to post-fracture care (FLS).