

## Osteoporosis - Surgical / Intra-Operative Aspects

Mara Schenker, MD

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### Disclosures

- consultant for miami device solutions

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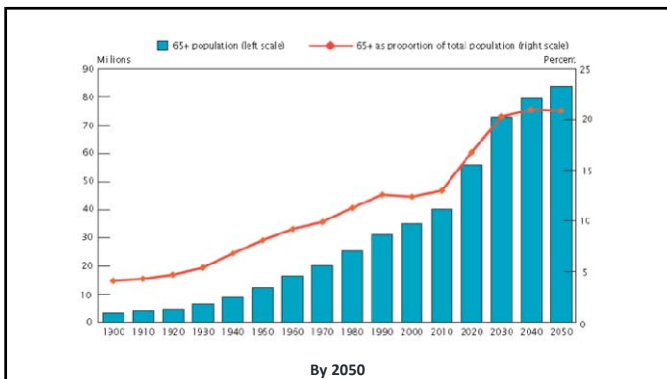
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National Academy of Medicine — September 2016



**Tailoring Complex-Care Management, Coordination, and Integration for High-Need, High-Cost Patients**  
A Vital Direction for Health and Health Care

David Blumenthal, The Commonwealth Fund; Gerard Anderson, Johns Hopkins University; Sheila Burke, Harvard John F. Kennedy School of Government; Terry Fulmer, John A. Hartford Foundation; Ashish K. Jha, Harvard T.H. Chan School of Public Health; Peter Long, Blue Shield of California Foundation

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Peri-Operative Concerns in Geriatrics

Medical complications  
increased LOS  
need for rehab  
readmission

Fixation challenges  
poor bone quality  
periprosthetic



Long-term Limitations  
Long term care  
counseling  
depression  
fall avoidance  
repeat fractures  
medical management

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frailty

An age-related multidimensional state of weakness, vulnerability, and decreased physiologic reserve

Calculate a fractional index

Non-frail = 0-0.24  
Moderately frail = 0.25-0.4  
Severely frail = >0.4

Table 1. Canadian Study on Health and Aging Frailty Index mapped to NSQP modified frailty index

CINA-FI	NSQP	MFI Variable
History of diabetes mellitus	Diabetes mellitus—non-insulin Diabetes mellitus—insulin	1
Congestive heart failure	Diabetes mellitus—oral Congestive heart failure within 30 days before surgery	2
Hypertension requiring medication	Hypertension requiring medication	3
Myocardial infarction	History of myocardial infarction within past 6 months before surgery	4
Cardiac problems	Previous percutaneous coronary intervention Previous cardiac surgery	5
Cerebrovascular problems	History of angina within 1 month before surgery History of transient ischemic attack	6
History of stroke	Cerebrovascular accident with no neurologic deficit Cerebrovascular accident or stroke with neurologic deficit	7
Clouding or delirium History relevant to cognitive impairment or loss Family history relevant to cognitive impairment	Impaired sensorium	8
Lung problems	History of COPD Pneumonia	9
Decreased peripheral pulses	History of revascularization or amputation for peripheral vascular disease	10
Changes in everyday activity	Red pain or gangrene Functional health status before surgery—partially dependent	11
Problems with getting dressed Problems with bathing Problems with carrying out personal grooming Problems with cooking Problems with going out alone	Functional health status before surgery—totally dependent	

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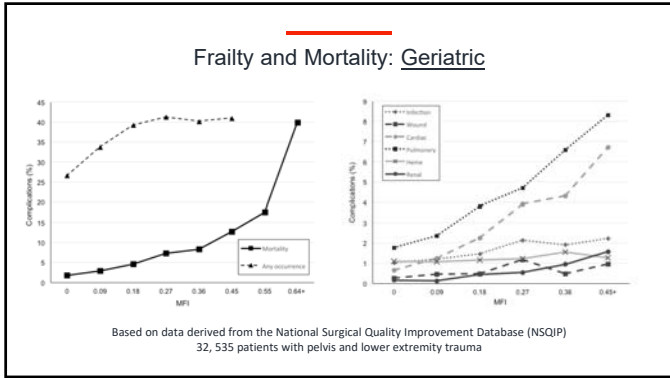
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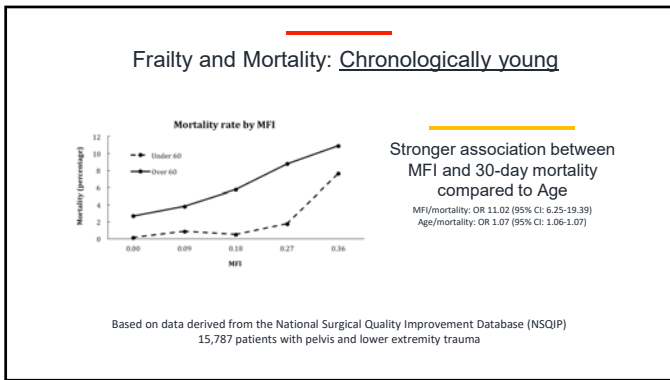
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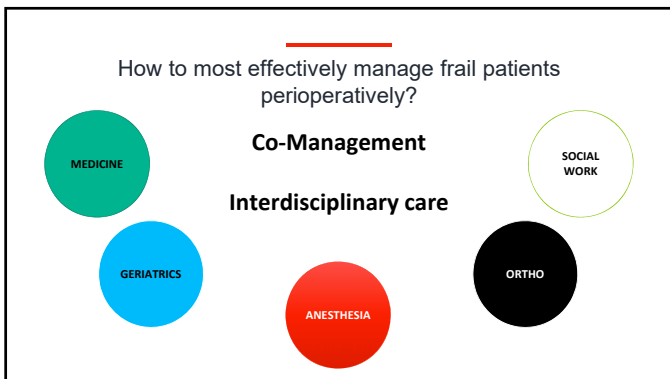
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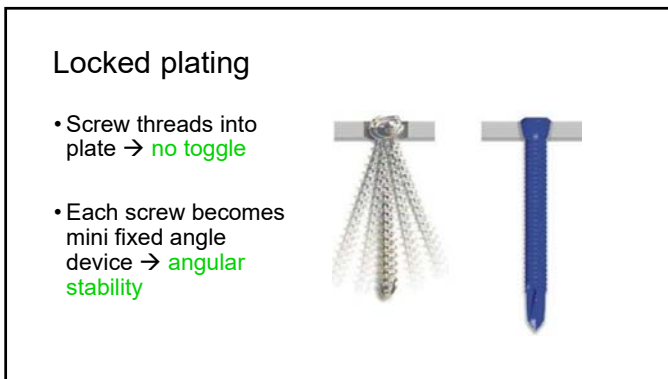
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intra-operative



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intra-operative

locking plate

ideal implant positioning - calcar screws

structural augmentation (fibula, cement)

role of arthroplasty?



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intra-operative - expect sabotage



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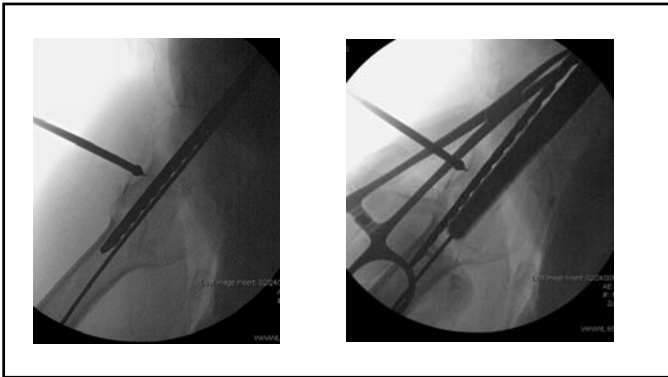
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### Osteoporosis - Surgical / Intra-Operative Aspects



#### frailty

good predictor of poor outcomes in orthopaedic trauma patients  
trigger for interdisciplinary care



#### suboptimal bone quality for fixation

locked plates  
ideal implant position  
structural augmentation  
expect sabotage



#### counsel, counsel, counsel

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Thank you



Grady Hospital, 1888.



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