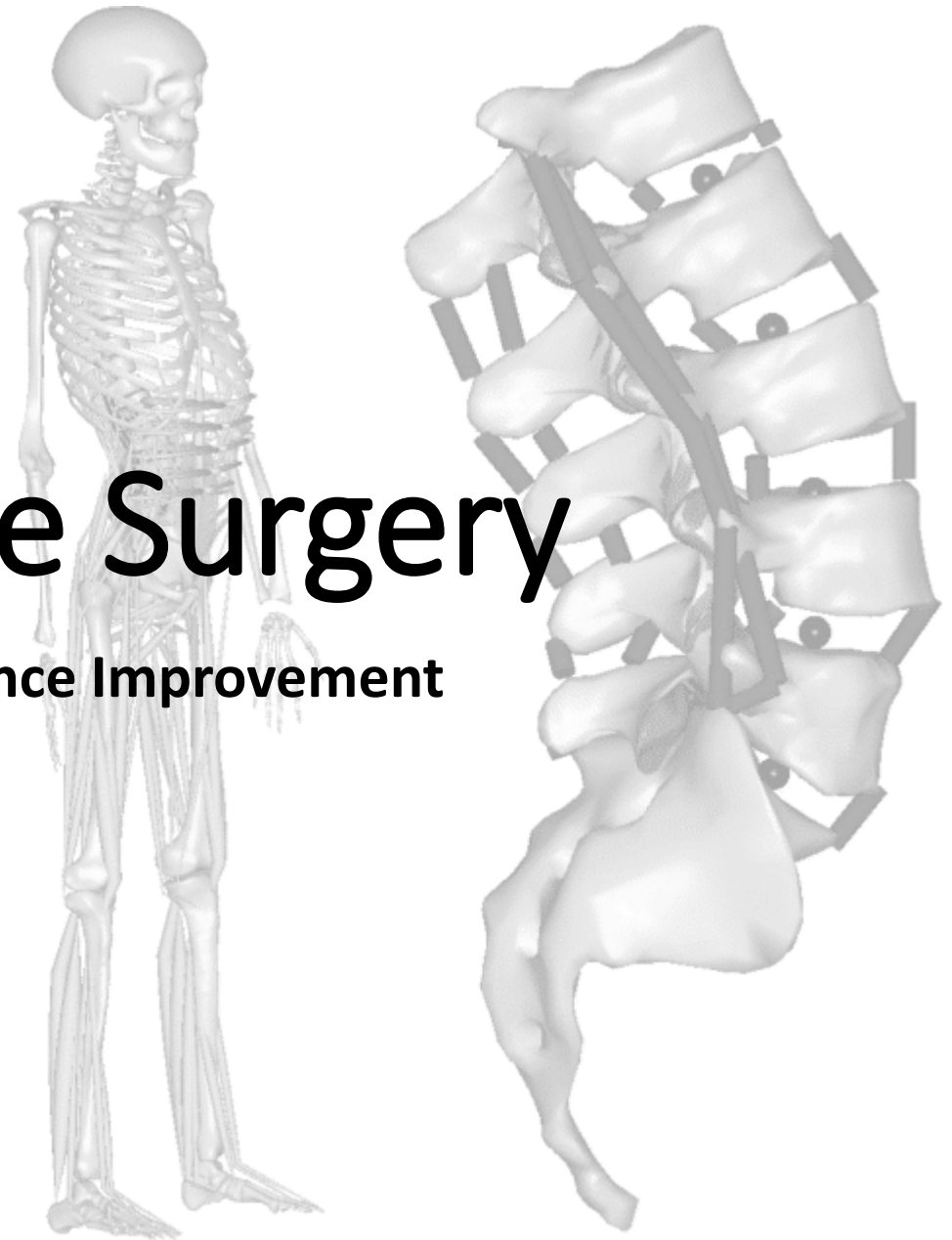


Wrong Level Spine Surgery

Process Reengineering for Performance Improvement

Mary L. C. Kovoor, MBA, MPH

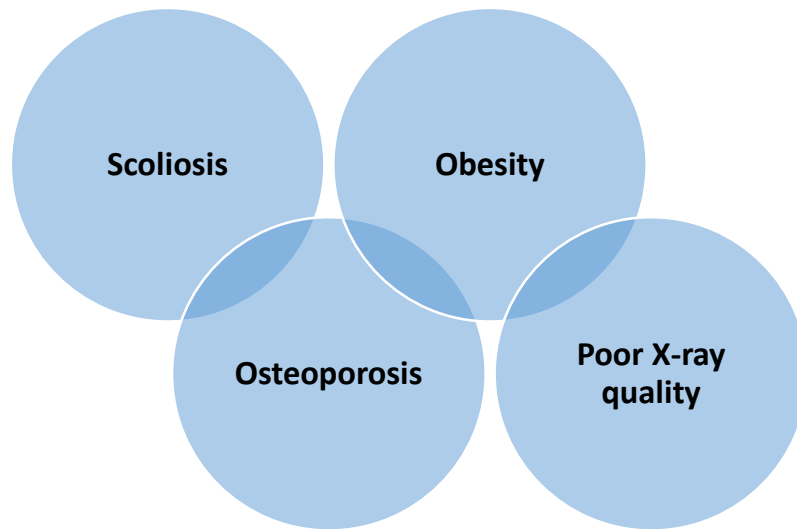


Patient Incident

- Patient sustained work-related injury with subsequent back pain, numbness, balance issues.
- T10-11 cord compression with stenosis and myelomalacia.
- T10-11 laminectomy intended, assumed performed.
- After initial improvement, persistent leg pain.
- Imaging revealed T9-10 laminectomy and continued stenosis T10-11.
 - Human error: surgeon completed T10 and continued to T9 instead of T11.

Root Cause Analysis

- Literature Search
 - Common occurrence: 68% of spine surgeons reported wrong-level exposures or surgeries
 - Preventable, but correct level cannot always be reliably identified
 - Wrong-level surgery can occur even after successful completion of Joint Commission Universal Protocol



Surgeons must review imaging and collaborate with radiologists.

IRACE Method:



Process Reengineering

- Prior to this incident, one time-out was performed before surgery.
- New process:
 - Following exposure of the bone and placement of a marker at level of bone, surgeon will initiate a SECOND time-out.
 - Start date of new policy: 3/3/2021
 - Communicated to all neurosurgical and orthopedic surgeons
 - OR nursing added to twice daily huddle communication x 2 weeks
 - Fareeda Ahmed, RN and Gerry Dy, RN are instrumental in implementing this change
 - Audit of 30% of all monthly spine cases x 3 months.
 - Survey surgeons and OR nursing by end of May.

Audit Results to Date: 100% Compliance

Proc Provider	Proc Date	Principal Procedure... Name	2 TO? YES = 1 NO = 0	Times	Comment
Lee,Joseph - 7761	3/22/2021	Fusion Cerv Jt w Intbd Fus Dev, Ant Appr A Col, Open	1	0815 and 0830	Two timeouts called by J. Lee
Lee,Joseph - 7761	3/21/2021	Release Lumbar Nerve, Open Approach	1	1105 and 1120	Two timeouts called by J. Lee
Lee,Joseph - 7761	3/25/2021	Fusion Lumsac Jt w Intbd Fus Dev, Post Appr A Col, Open	1	0850	Two timeouts as per Matthew Thompson RN
Silva,Danilo - 7904	3/25/2021	Fusion Cerv Jt w Intbd Fus Dev, Ant Appr A Col, Open	1	0748 abd 0914	Two timeouts called by D. Silva
Silva,Danilo - 7904	3/29/2021	Fusion Cerv Jt w Intbd Fus Dev, Ant Appr A Col, Open	1	1522 and 1600	Two timeouts called by D. Silva
Silva,Danilo - 7904	3/30/2021	Removal of Neuro Lead from Spinal Canal, Open Approach	1	1037 and 1101	Two timeouts called by D. Silva
Lee,Joseph - 7761	4/5/2021	Fusion 2-4 L Jt w Intbd Fus Dev, Post Appr A Col, Open	1	0809 and 0825	Two timeouts called by J. Lee
Lee,Joseph - 7761	4/8/2021	Fusion 2-6 C Jt w Intbd Fus Dev, Ant Appr A Col, Open	1	0809 and 0824	Two timeouts called by J. Lee
Lee,Joseph - 7761	4/8/2021	Fusion 2-6 C Jt w Intbd Fus Dev, Ant Appr A Col, Open	1	1132 and 1151	Two timeouts called by J. Lee

