

EARLY LEARNING CURVE ASSESSMENT PERFORMING PERIACETABULAR OSTEOTOMY #35

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Disclosures

- None relevant to this presentation

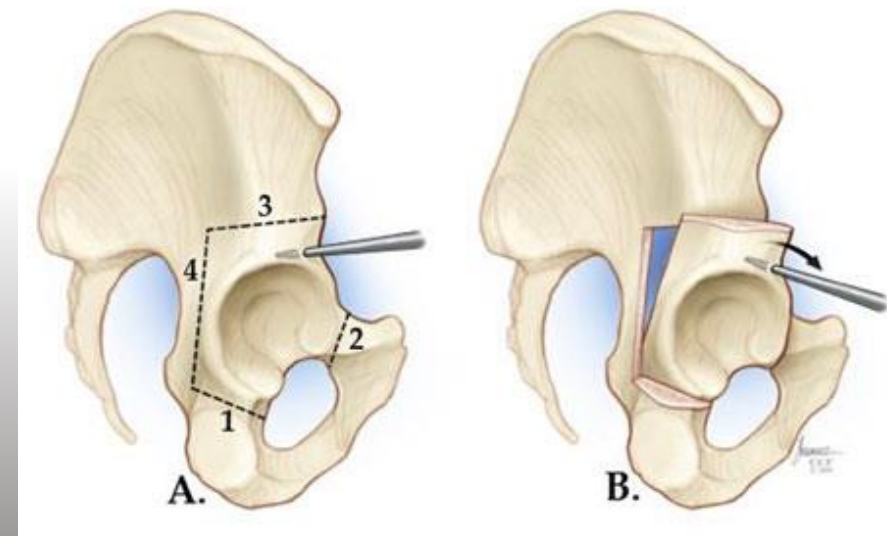
Introduction

PAO

- Ganz 1988
- Intact posterior column
- Good long-term results
- Technically demanding
 - Complications ~ 71% (including minor)
 - 4-46%

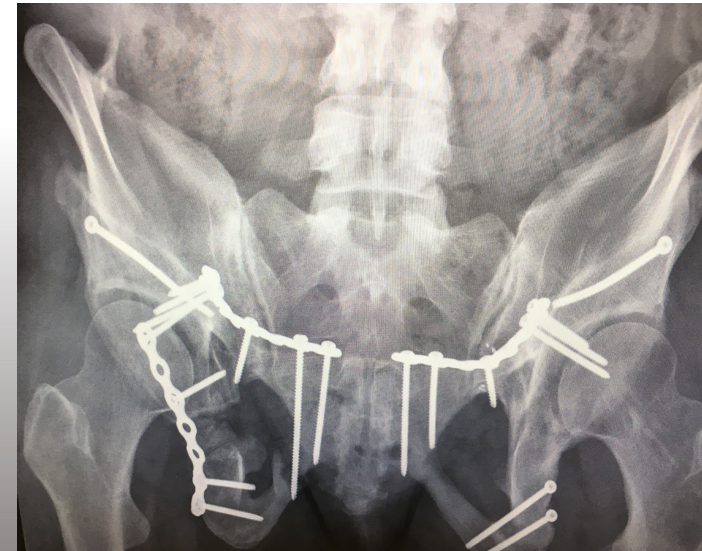
A New Periacetabular Osteotomy for the Treatment of Hip Dysplasias Technique and Preliminary Results

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Learning Curve

- Hussel – 85% of major complications occur in first 50
 - Novais – 9 major complications in **first 30 PAO**
 - Peters – 10 major complications, **9 within first 30 PAO**
- Additional training
 - Mentorship necessary
 - Cadaver work necessary
 - Duration unclear (1 year, 6 mos, less?)



Purpose

- Detail the early (first 63) learning curve of PAO
 - Primary surgeon – independent of hip preservation mentorship
 - 3 mo fellowship ~40 PAOs
 - Alternate site visits
 - Cadaver work
- Outcomes
 - Complications
 - Surgical time
 - EBL
 - Length of Stay



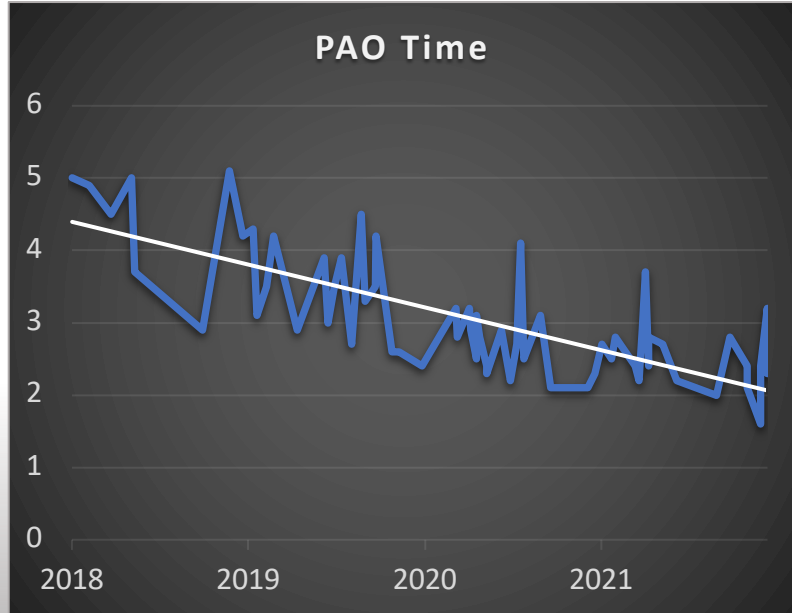
Methods

- IRB approved retrospective case review
 - 2018 – 2022
 - Inclusion
 - Radiographically mature
 - Failed non-op tx > 6 mos
 - LCEA <22
 - Exclusion
 - Multiple procedures (SDH, PFO)
- Surgical time, EBL, LOS, complications
 - Separated based on quartile

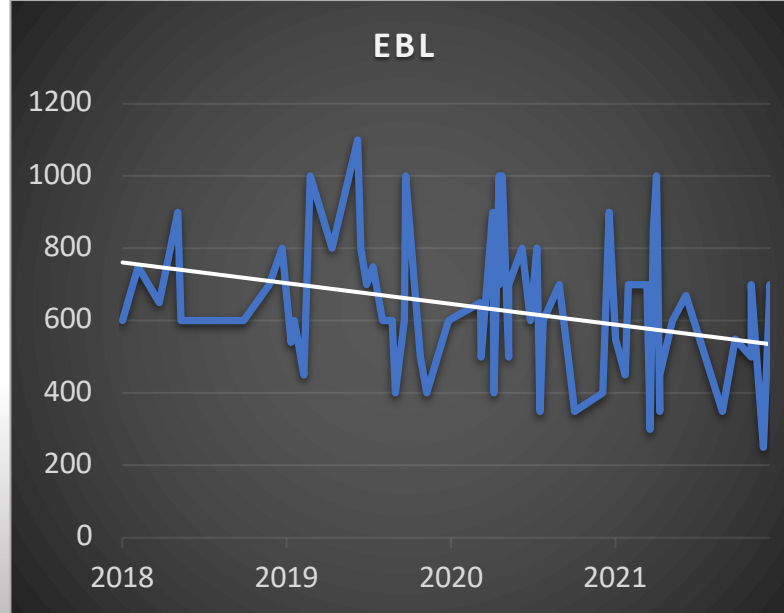


Results

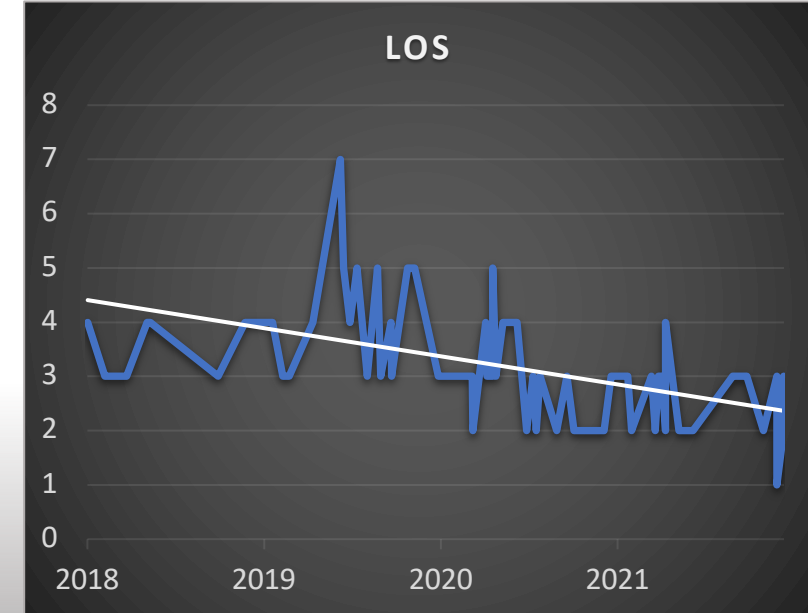
- 63 hips: mean age 20 (13-37)
 - 58F (92%)



PAO time (hours): **4.01 vs 2.26 (p<0.001)**



EBL (ml): **726 vs 535 (p=0.007)**



Length of stay (days): **3.9 vs 2.46 (p<0.001)**

Results

- Total Complications – 57%
 - LFCN: 28/63 (44%)
 - Posterior column fx: 4/63 (6%)
 - Stress fx: 2/63 (3%)
 - Nerve injury 1/63 (1.6%)
 - Infection 1/63 (1.5%)
 - VTE 0/63 (0%)
- Major – 0%
- Minor – 13%

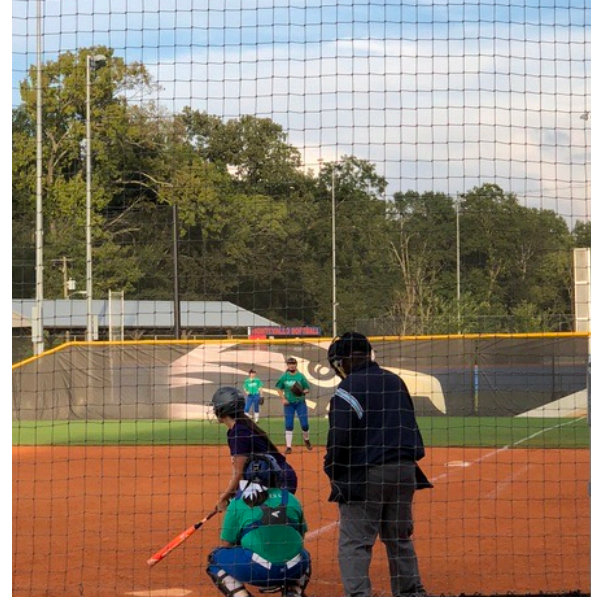
	LFCN	Nerve	PC Fx	Stress Fx	Infection	VTE
1 st	11	0	3	1	1	0
2 nd	8	1	0	1	0	0
3 rd	9	0	1	0	0	0
4 th	0	0	0	0	0	0
Total	28	1	4	2	1	0

Discussion

- Sx Time
 - Ganz 1988: 5 -> 2.5 hrs
- EBL
 - Ganz 1988: average 800cc
- Complications
 - Ganz 1988: first 18 operations “clinically significant”
 - IA osteotomy x1
 - Subluxation x1
 - Nerve palsy (Femoral, LFCN)
 - Fragment displacement x2
 - Delayed union x2
 - HO x4

Future Considerations

- PROs
- Daily activity and RTP
- Correction quality over time
- Complicating risk factors (prior surgery, etc)
- Failure rates
- Curricula and models for minimizing learning curve



Conclusion

- Complications occur early
- Time, EBL, LOS, and complications decrease
- Fellowship training
- Cadaver simulation
- Meticulous preparation
- Premeditato malorum

