

2022 SUMMER CORD

CONFERENCE

Council of Orthopaedic Residency Directors

DAY2

Recruiting and Retention Across the Educational Continuum

www.aoassn.org



This presentation is being recorded and streamed live.

June 17- 18, 2022

DAY 2 AGENDA

What we'll learn:

0 1	0 2	0 3
Resident Retention and Coaching	Open Paper Podium Presentations	Fellowship and First Jobs Coaching
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Tracking Resident Progress: Do we have the tools we need?

R. Frank Henn III, MD
Professor, Residency Director
Chief of Sports Medicine



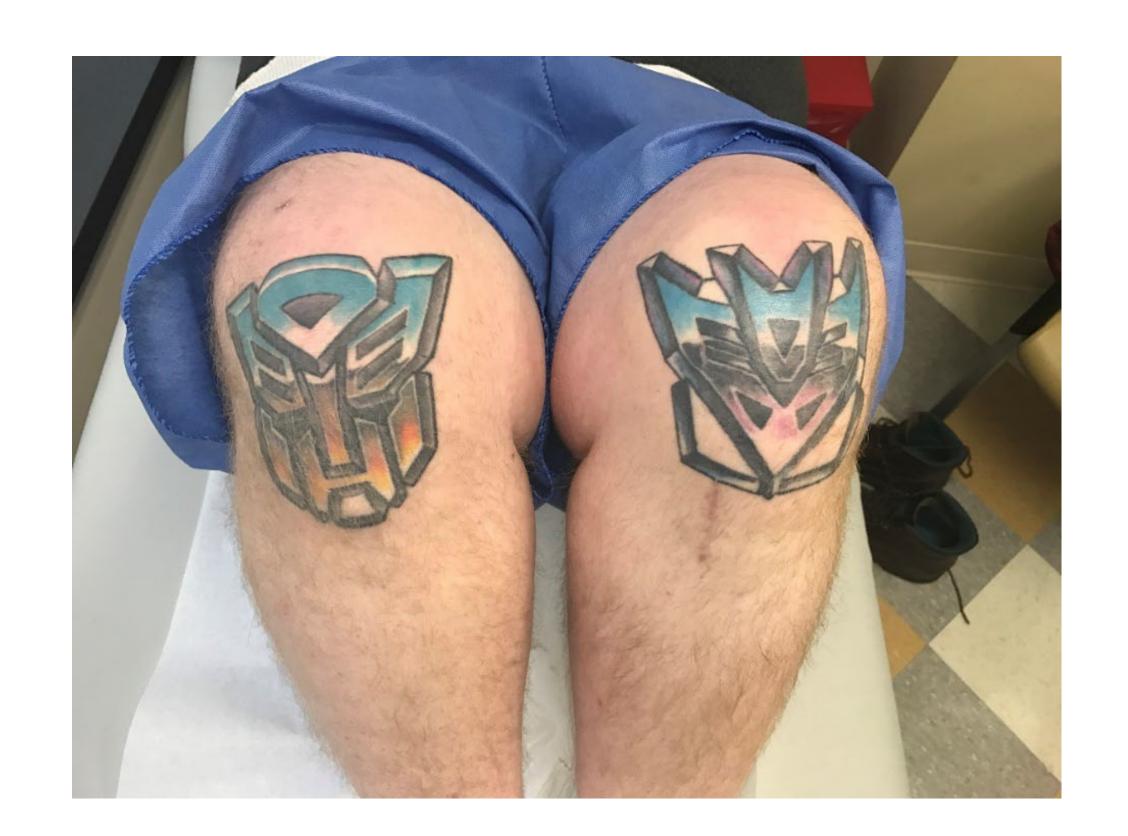


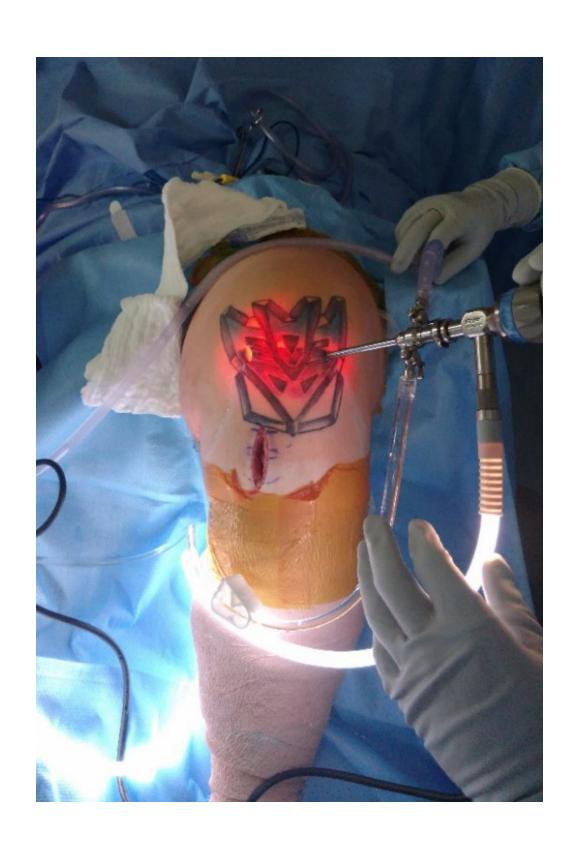






No Disclosures







TRACKING PROGRESS: DO WE HAVE ALL THE TOOLS WE NEED?

Jason Strelzow, MD University of Chicago





No Relevant disclosures for this talk









PROGRESS??

noun:

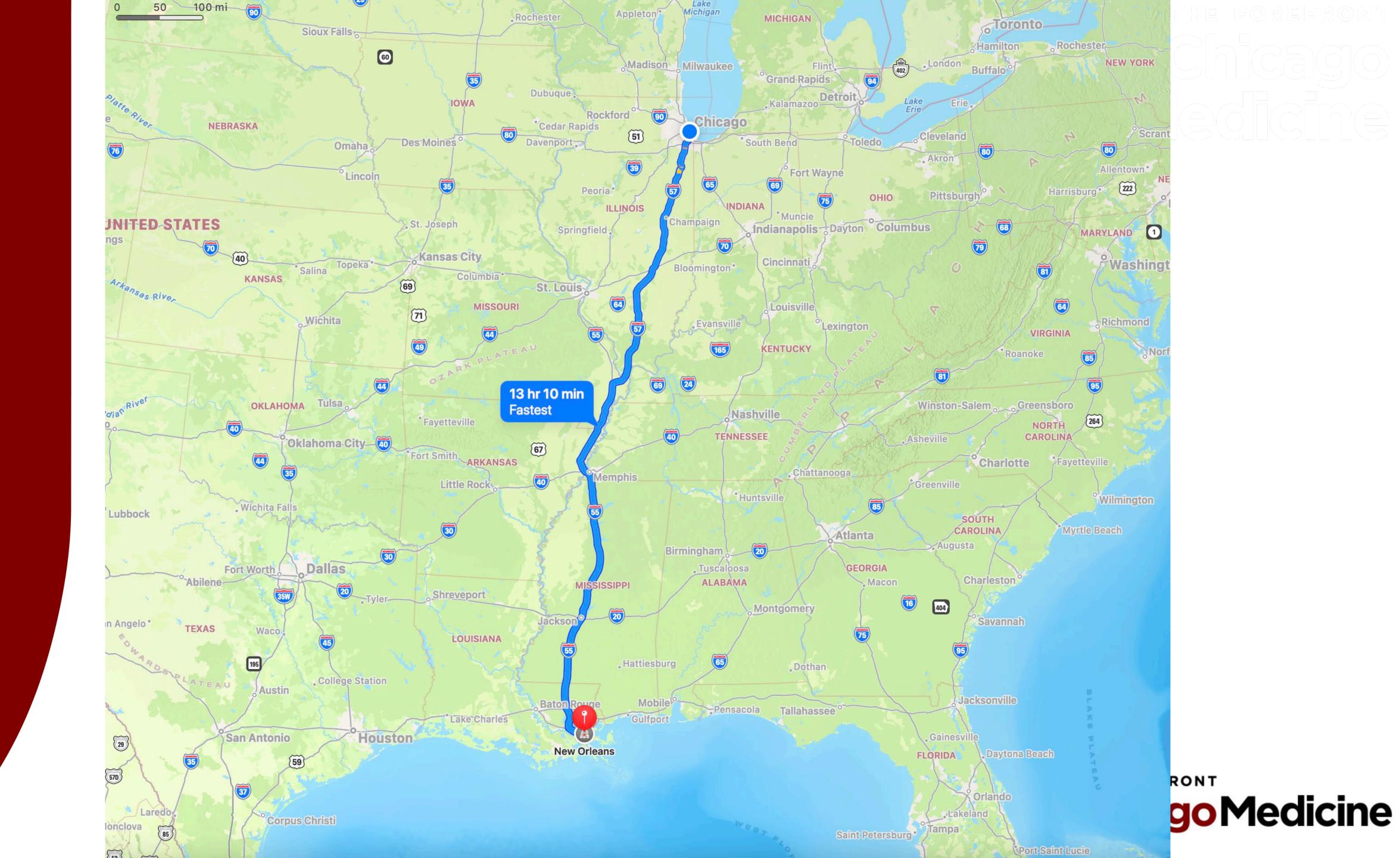
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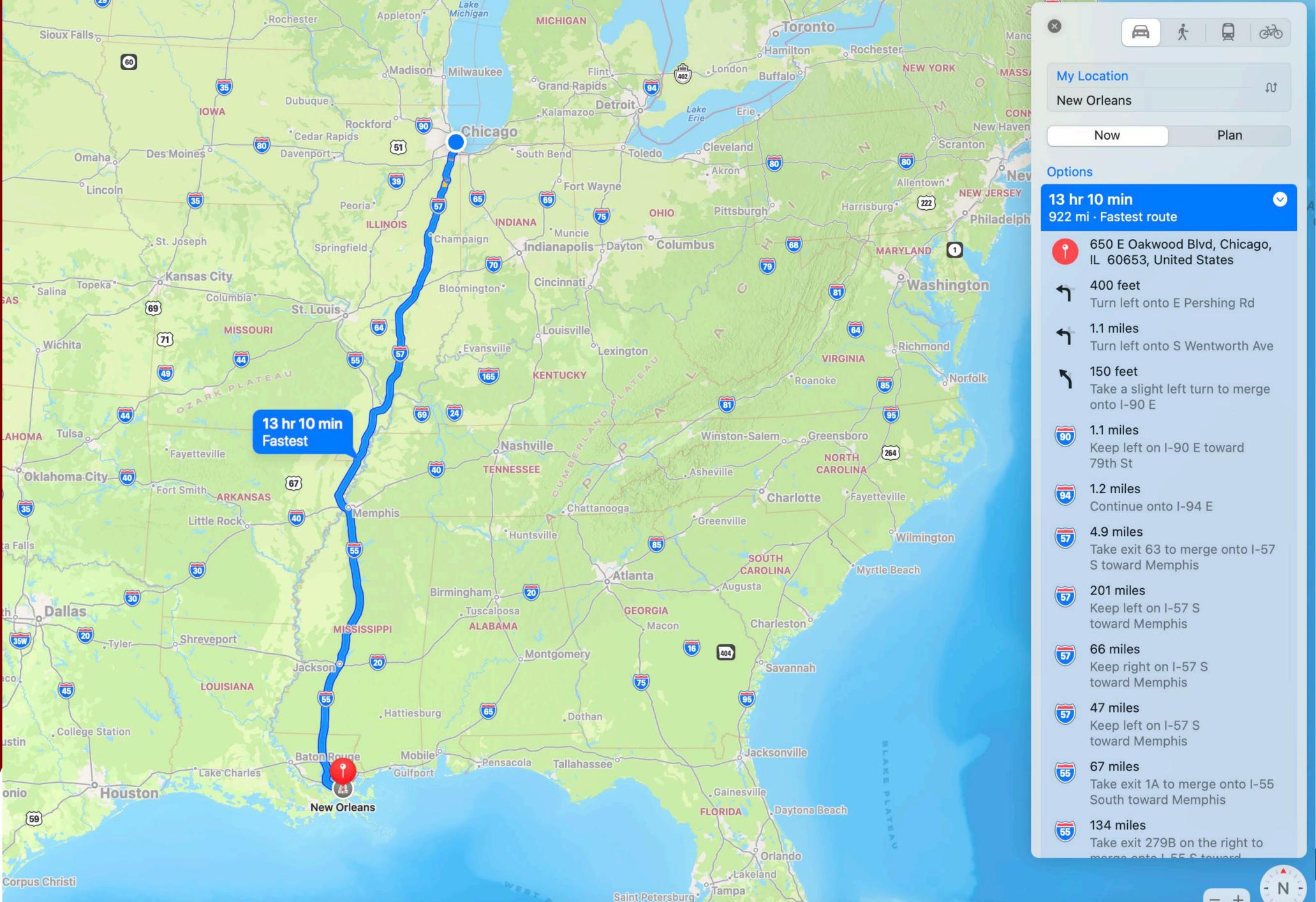
1.forward or onward movement toward a destination."the darkness did not stop my progress"

TRACKING PROGRESS



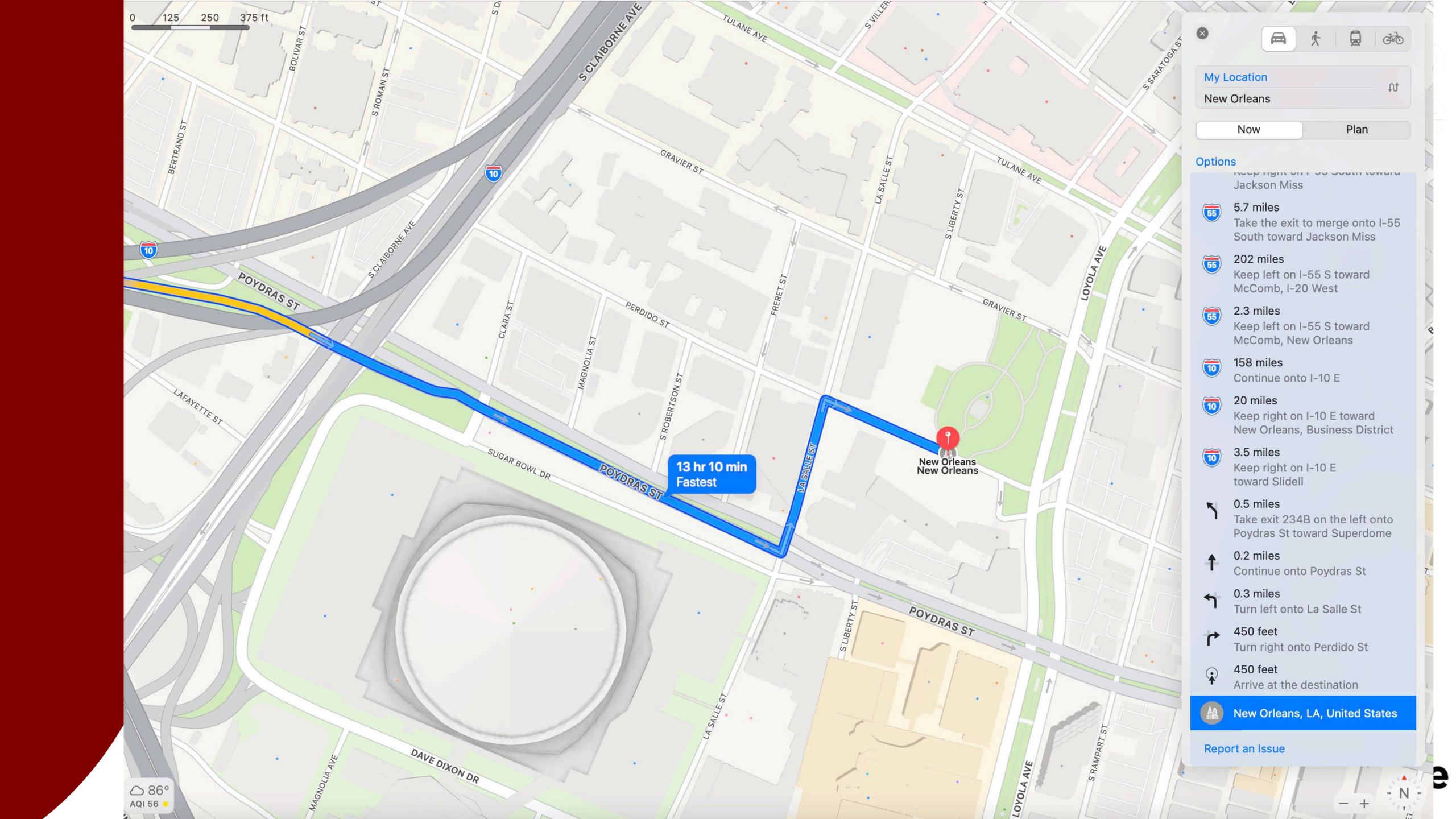
- Goals are easy to set
- Staying motivated for those goals both long and short term <u>is tough</u>
- Tracking allows building of purpose but it's tough....
 - Goals aren't attainable
 - Progress & Tasks aren't allocated/understood
 - Not everyone is on the same page





(5d)9(9) Halma

ledicine



How do you do it?

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Medicine

- Visual cues -
 - Make it easy -
 - Make it meaningful
- Biggest issue/obstacle is IT and integration

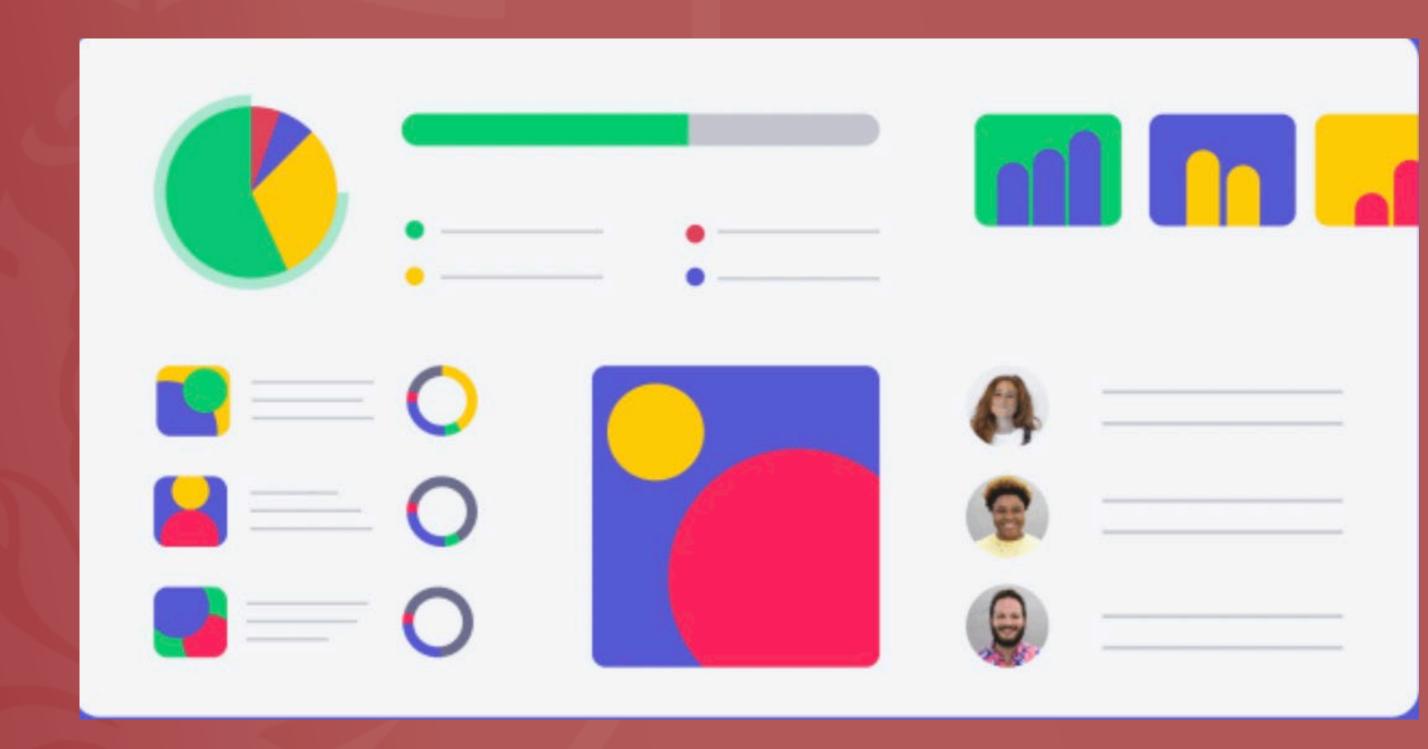
DASHBOARD



• Visual representation of performance data.

• Overview of performance, Track progress, Identify success or concern.

• Integrated and real-time updating.



DASHBOARD

Cores Vita Green Latur UChicago

Medicine

- BIG PICTURE at your fingertips
- Help you:
 - Visualize
 - Monitor
 - Optimize
 - Enhance the process

Data-Based Decision Making (DBDM)

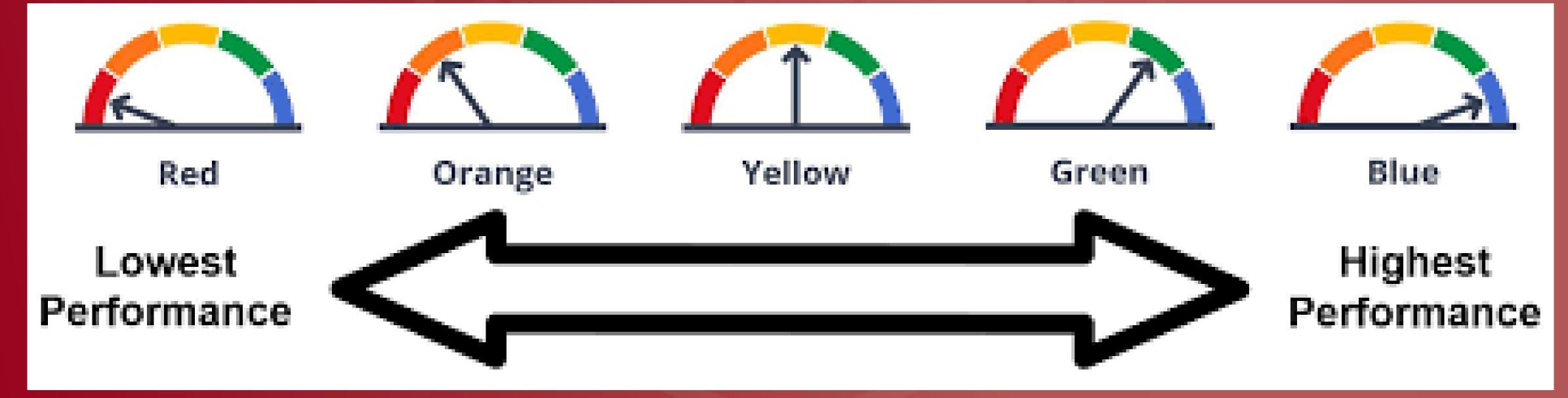


- Team effort
- Reporting tools (Coming back to this later)
- Establish 'good' goals
 - "Do we measure what we value or value what we can measure"
- Refer back, reassess and quantify progress
 - Trends vs. outliers

Why Try this at all...?



- Helps Mentors know where to help
- Helps PDs know where to help
- Visually helps residents know where they NEED help







Tracking Progress

- Need accessible metrics
 - -Relative metrics for current residents (program and national)
 - -Objective metrics (e.g. case log minimums)

Automated analytics and projections (GPS navigation)





Tracking Progress

- Do we have the tools we need?
 - -Current tools are better than ever before
 - OITE
 - Milestones 2.0
 - ABOS Knowledge, Skills, and Behavior Program
 - Residency Orthopaedic Core Knowledge (ROCK)
 - Case logs



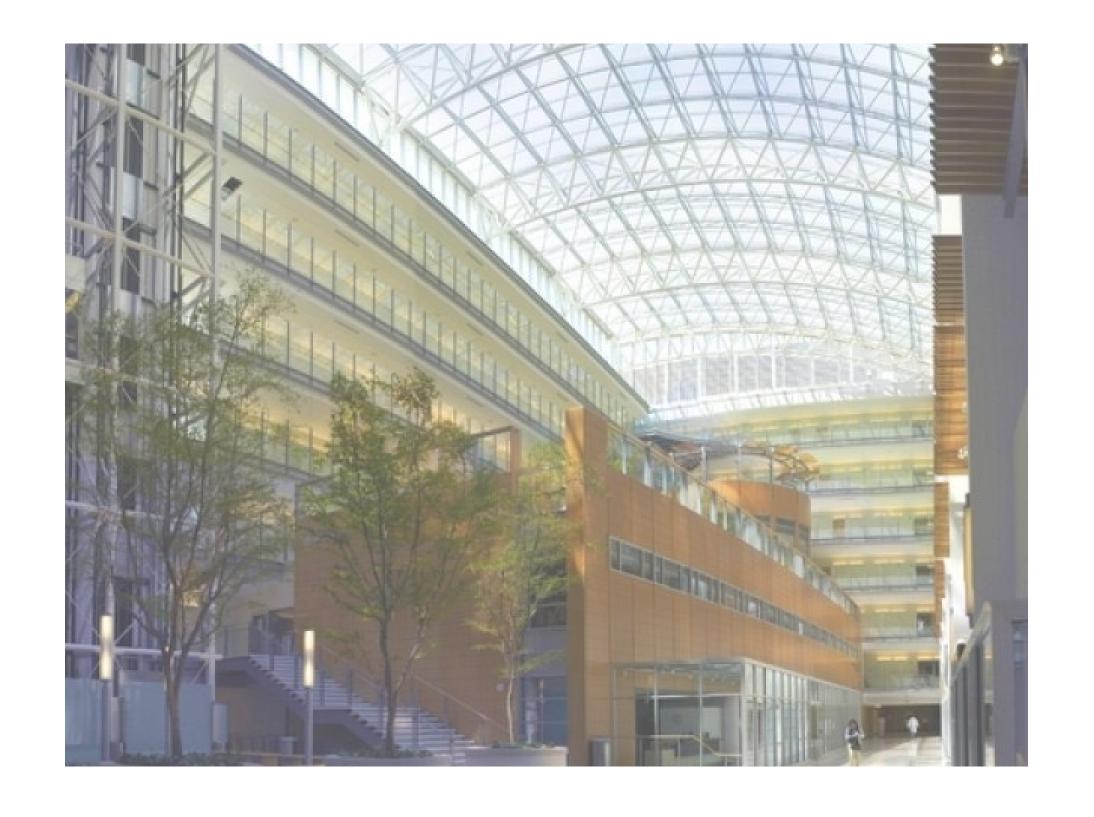


Conclusion

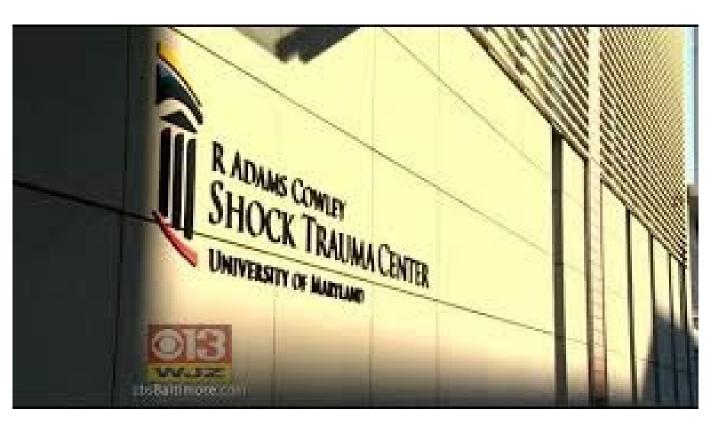
- Do we have the tools we need?
 - -Yes, but... room for improvement
 - Decrease labor
 - Improve accessibility (ideally real time)
 - Define meaningful metrics
 - Improve analytics and projections
 - Integration (Dashboard)



Thank You









J. Milo Sewards, MD, FAOA

Lewis Katz School of Medicine at Temple University





Join at slido.com #8495574



Completion of residency and fellowship training adequately prepares an Orthopaedic Surgeon for mastery and efficiency in the operating room through the remainder of their career.

⁽i) Start presenting to display the poll results on this slide.



Attendance at conferences and obtaining CME credit is sufficient for continual improvement as a surgeon over the course of a career.

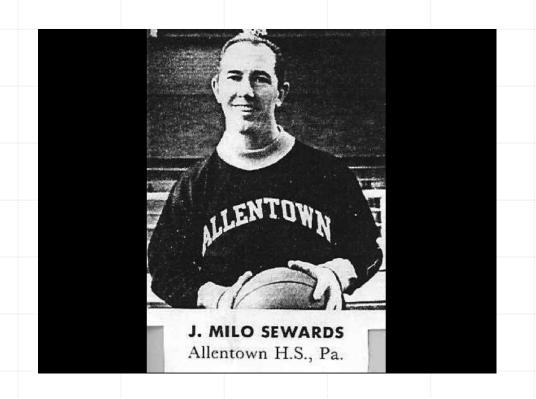
(i) Start presenting to display the poll results on this slide.

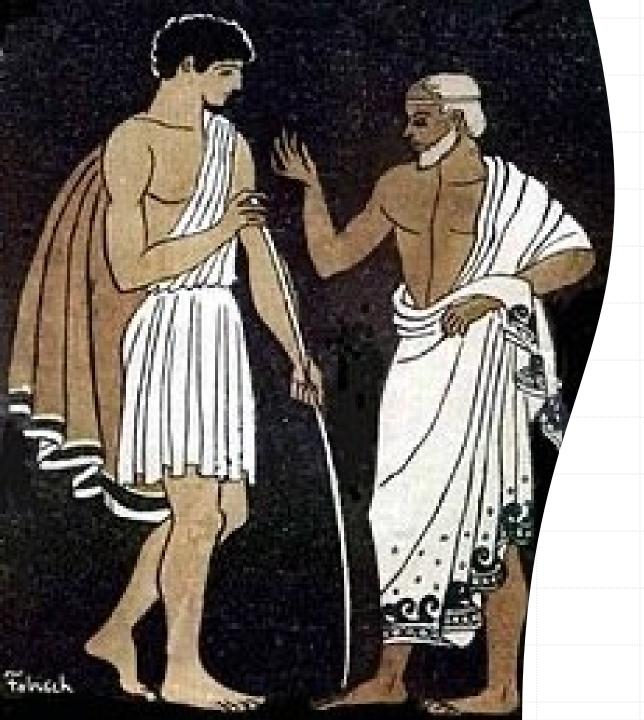


In my own practice, I would:

Coach

- An instructor who has expertise
- In this context, it is one-on-one
- Oxford in 1830 "carry" students through their examinations
- Short-term achievement of specific goals





Mentor

- Telemachus
- Older, more experienced
- Longer term relationship
- Role model

Atul Gawande, MD

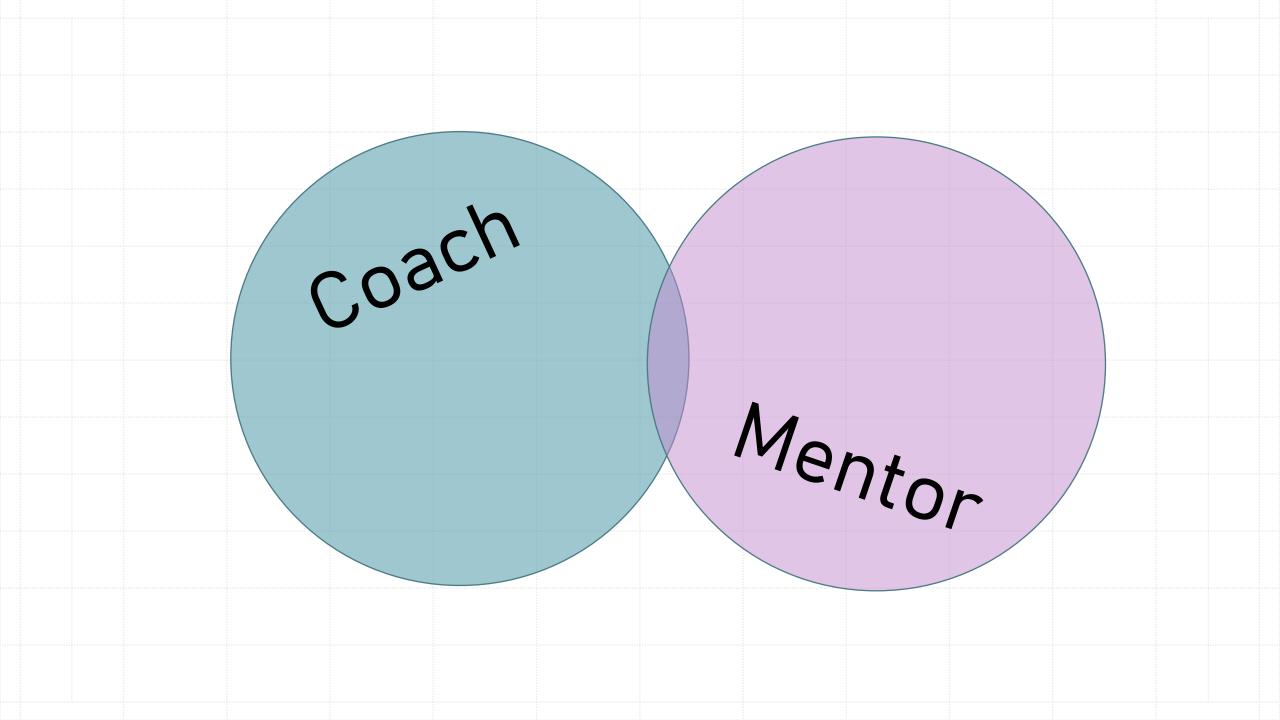
- New Yorker, Oct 2011
- "The Coach in the Operating Room"



Coaching in Orthopaedics











Getting Residents back on Track: Let's talk about Remediation

RATHLEEN BEEBE MD

PROFESSOR-DEPARTMENT OF ORTHOPAEDIC SURGERY
RUTGERS- NEW JERSEY MEDICAL SCHOOL



Disclosures

•I have nothing to disclose

Remediation

Goal:

Intending to correct or improve one's skill in a specific field

What we hear:

Problem resident

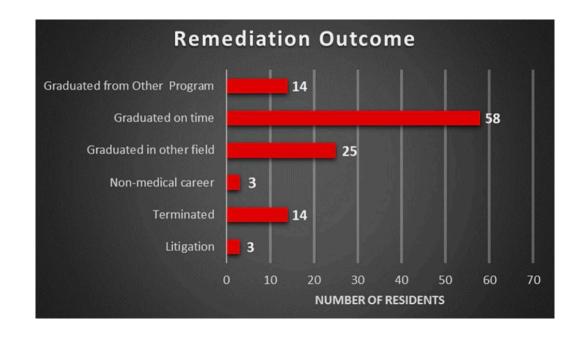
Just get rid of him/her

Can't be salvaged



How common it is and what is the outcome?

- •70 of 159 Program directors replied
- •58 Program directors implemented remediation interventions
- 158 residents total
- Outcome for 117 residents
- •72 graduated from specialty
- •58 graduated on time
- •14 graduated from another program
- •25 graduated from another specialty
- •14 terminated
- 3 pursued litigation
- •3 left medicine



Residents' perspectives on remediation

"Faculty are very hesitate to criticize residents"

"If you are that struggling resident, you may not even know if because no one tells you"

"We can't talk about that, you don't want them to get embarrassed"

"We just keep hoping it gets better for months and months and months because no one wants to say something negative"

"Its like such a big deal if remediation fails"

"It would be hard to say something to my friends"

Faculty's perspectives on remediation

Fear retaliation

Lack confidence in assessment

Fear that nothing will change

Uncertainly as to how to document

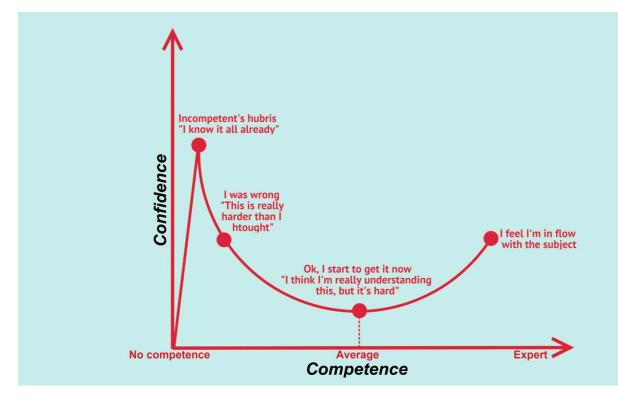


The struggling learner's perspective on remediation

Struggling learners are unlikely to self identify

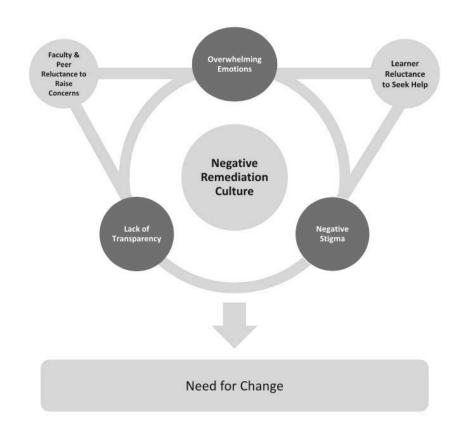
More likely to overestimate their abilities, particularly in the area of professionalism and interpersonal skills

Real concerns about unconscious bias



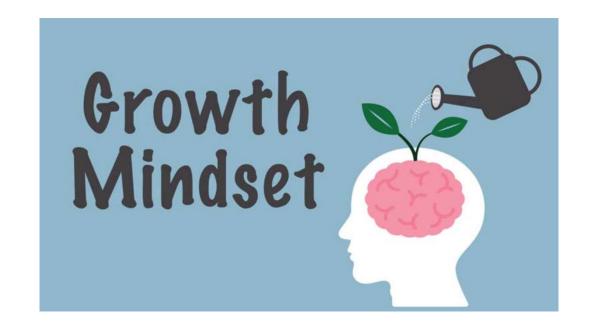
Main issues in remediation

- Lack of Transparency
- Overwhelming emotions
- Negative stigma
- Leads to a need for change



Need for change in the Educational Culture

- •Feedback culture should be a growth mindset such that deficits=opportunities for learning and success results from hard work and training
- Establish a culture of excellence where remediation is part of the regular program and nonpunitive



Need for change in Peer feedback

ACGME requires Formative Evaluation that must include multiple evaluators (peers as an example)

Need a structured forum in which residents can provide peer feedback

Challenge is lack of training

Need to empower residents and others to provide peer feedback and create this space to identify those that are struggling earlier

Feedback from subordinates are needed too



Need for change in the Remediation Culture



"There's nothing about your performance that you need to change ... other than everything."

Watch negative language such as "doctor in difficulty" and "incompetence"

Avoid "othering" language that leads to the negative stigma of remediation

Involve peers in the remediation process

Balance between disclosure to help support and privacy for the learner

Normalizing the concept of struggling

It's a 5 year program for a reason

Adaptive learning - starts by identifying a gap or struggle in performance.

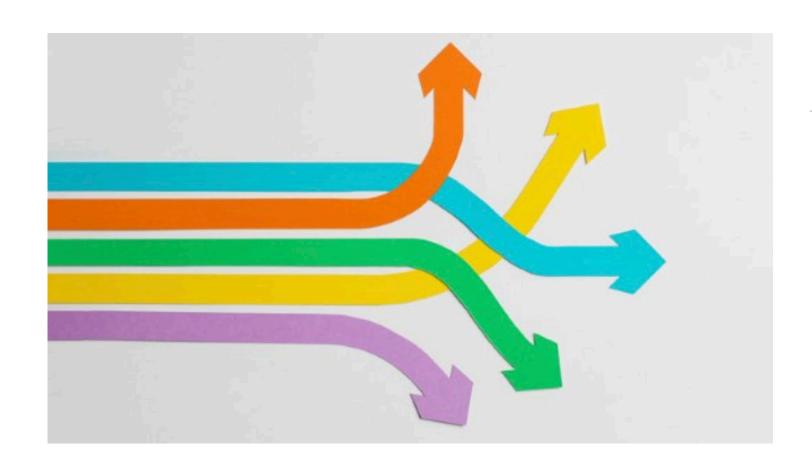
Condition residents that performance deficits will be addressed

Emphasizing learning and growth throughout the program

Setting the expectation for progressive competency-based feedback

Feedback needs to be frequent, timely, multisource and formative





Before formal remediation

Learners should self identify personal areas of weakness and request specific feedback in these areas

Faculty competency champions to assist residents that have specific focal competency issues

Coaching and mentoring

Informal, internal remediation



Remediation process

Clear understanding by all of the process and standards

Normalization of feedback and remediation

Involvement of Coaches, mentors and co-mentors (residents)

Challenges to remediation

With forced timeline it can be challenging to give learners the space they need to progress

Assessments can be subjective

Unconscious and conscious racial and gender bias

Societal implications for patient safety



So specifically, how do we remediate best?

- Early identification of struggling learners-specifically, early resident reviews in the first 6 months of learning
- Group evals (CCC)
- End of rotation feedback isn't terribly helpful
- Transparent feedback process
- Written remedial plan



What does a remedial plan look like?

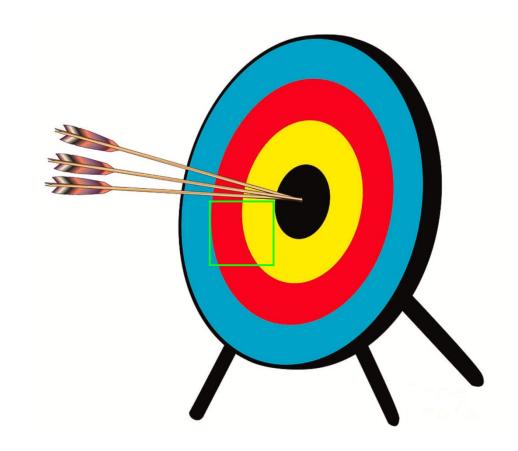


Outcomes for those that are remediated

Review of Gen Surgery residents on remedial plans

12% do not have an active license to practice medicine after an average of 11 years after graduation (compared to controls that all had a license)

41% are not board certified in any specialty after an average of 11 years after graduation (compared to all the controls)



Not all can be remediated

Poor professionalism, lack of engagement, refusal to address the underlying problem are associated with unsuccessful remediation

Lack of insight and mental health disorders may also be a barrier to remediation

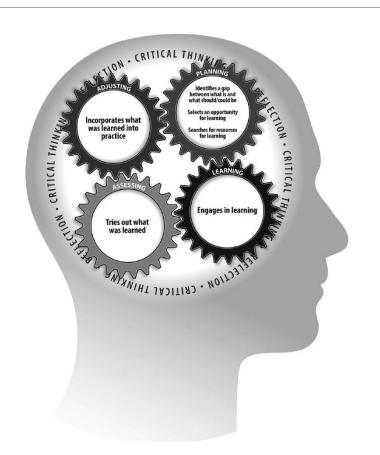
Societal implications related to patient safety for those that lack appropriate patient care skills





Thank You!

Adaptive Learning



Planning Phase-questioning, prioritizing, goal setting

Learning Phase-critically appraise sources, assess learning strategies that work

Assessing Phase-self assessment, external feedback

Adjusting Phase-incorporation into the new routine, new learning to solve problems, opportunites and barriers

Remediation Summary



Address the environment

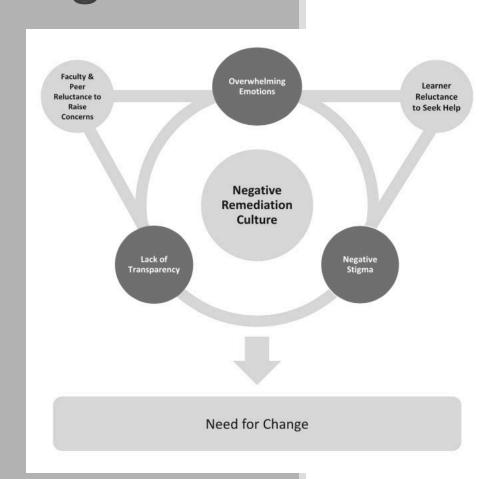
Provide the tools

Monitor the process

Document



Negative Remediation Culture



A cycle of overwhelming emotions, lack of transparency and Stigma all feed a negative remediation culture

Krzyzaniak S et al, Journal of Graduate Medical Education 2021

R2C2

Phase 1: Build rapport and relationship-learn about the learner's practice, challenges and concerns about assessment process

Phase 2: Explore reactions to the performance data how does this data compare to how you thought you were doing

Phase 3: Explore understaning of the content-clarify data guide learner in recongnizing streths, gaps and opportunities

Phase 4: Coach for performance change-development of realistic goals and and action plan, identify actions and barriers

PD attitudes toward Attrition

Program directors at High attrition programs were morel likely than their counterparts at low- attrition programs to agree with this statement "I feel that it is my responsibility as a program director to redirect resident who should not be surgeons

So how do we do remediation better?

4 areas to improve:

Educational Culture

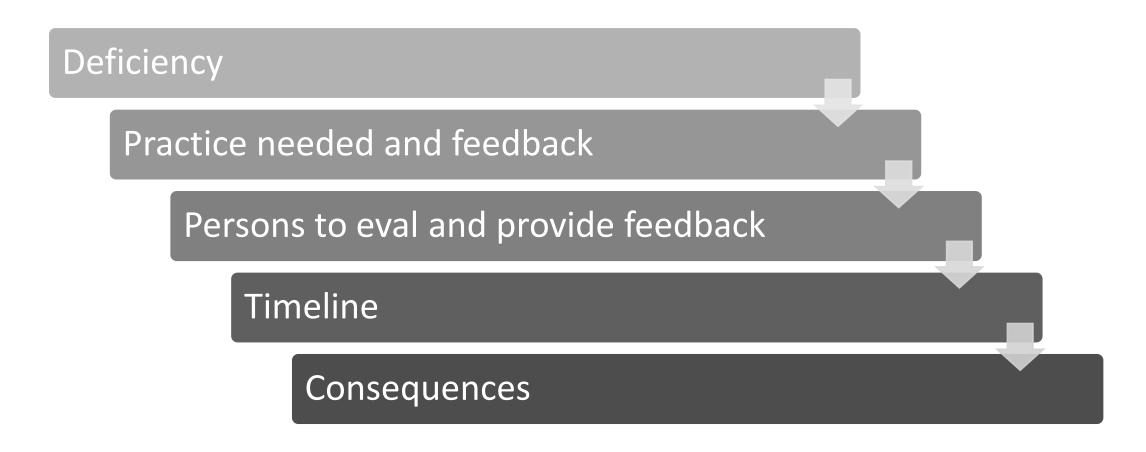
Peer feedback

Negative culture around remediation

Normalizing the concept of struggling

Krzyzaniak S et al, Journal of Graduate Medical Education 2021

What's in a remedial plan



TOPME CHANGING MEDICINE

Helping Great Residents Exceed Expectations

MaCalus V. Hogan, MD, MBA, FAOA

Vice Chair of Education and Residency Program Director

Chief, Foot and Ankle Division

Senior Medical Director, Orthopaedic and Musculoskeletal Services UPMC Health Plan Professor, Department of Orthopaedic Surgery, Bioengineering, and Katz School of Business University of Pittsburgh School of Medicine – UPMC





Disclosures

AOFAS, OFAF BOD

J. Robert Gladden Society, BOD

Nth Dimensions, BOD

ISKAOS, Leg, Ankle, Foot Committee

NIH/DOD/MTF, Research Funding

I have no conflicts relevant to this presentation.



Helping Great Residents Exceed Expectations

It starts with building a strong TEAM!







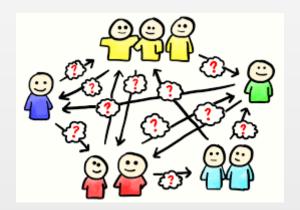
Environment Matters





Expectations

Setting expectations begins day one....





Respect

There must be respect across the group





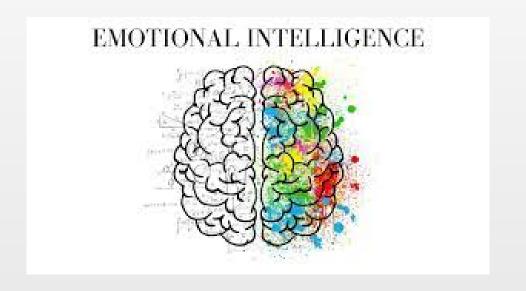
Connections

Encourage connecting and comradery



EQ

Encourage <u>and</u> Exemplify emotional intelligence





Positive Motivation

Perpetual optimism is a force multiplier.
- Colin Powell

Optimism is infectious





Communication

Not possible to over communicate...

Ask questions....



Rewards

Encourage good work....

Reward GREAT work



Recruit Diverse Teams



2011 American Academy of Orthopaedic Surgeons Diversity Award

Diversity of Perspectives



Culture of Inclusion



Pitt Ortho Program

Residents — 2021-2022





PDs Can't Do It Alone































IT'S NOT JUST GENDER AND RACE, IT'S CULTURE!



Relationships Matter

Partnerships Key







orthopaedic AACI Facilitate Exposure AACIS ASSOCIATION FACILITATE Exposure AACIS AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS



















Facilitate Mentorship





White Coat Ceremony

Freddie H. Fu, MD, DSc (Hon), DPs(Hon) MED '77

Distinguished Service Professor, University of Pittsburgh

David Silver Professor and Chairman, Department of Orthopaedic Surgery, University of Pittsburgh School of Medicine



Thoughts for
Young Doctors
From

Freddie H. Fu, Md

White Coat Ceremony

Freddie H. Fu, MD, DSc (Hon), DPs(Hon) DC'74, MED '75

Distinguished Service Professor,
University of Pittsburgh

David Silver Professor and Chairman, Department of Orthopaedic Surgery, University of Pittsburgh School of Medicine





- 1. Do what you love
- 2. Mentors
- 3. You've got friends
- 4. Talking without speaking: hearing without listening
- 5. Multi-tasking is overrated
- 6. IQ vs EQ
- 7. Face time
- 8. For better or for worse
- 9. Does no difference really mean no difference?
- 10. Is evidence based really evidence based?

- 11. Is the latest always
- the greatest?
- 12. Do the right thing
- 13. Credibility and Integrity
- 14. Patients come first
- 15. Be a dreamer
- 16. Don't be a dinosaur
- 17. Medicine without borders
- 18. Terrible towel
- 19. Home sweet home
- 20. "I never dared to be radical
- When young for fear it would
- Make me conservative when
- Old" Robert Frost

Thank You, Thank You, Thank You





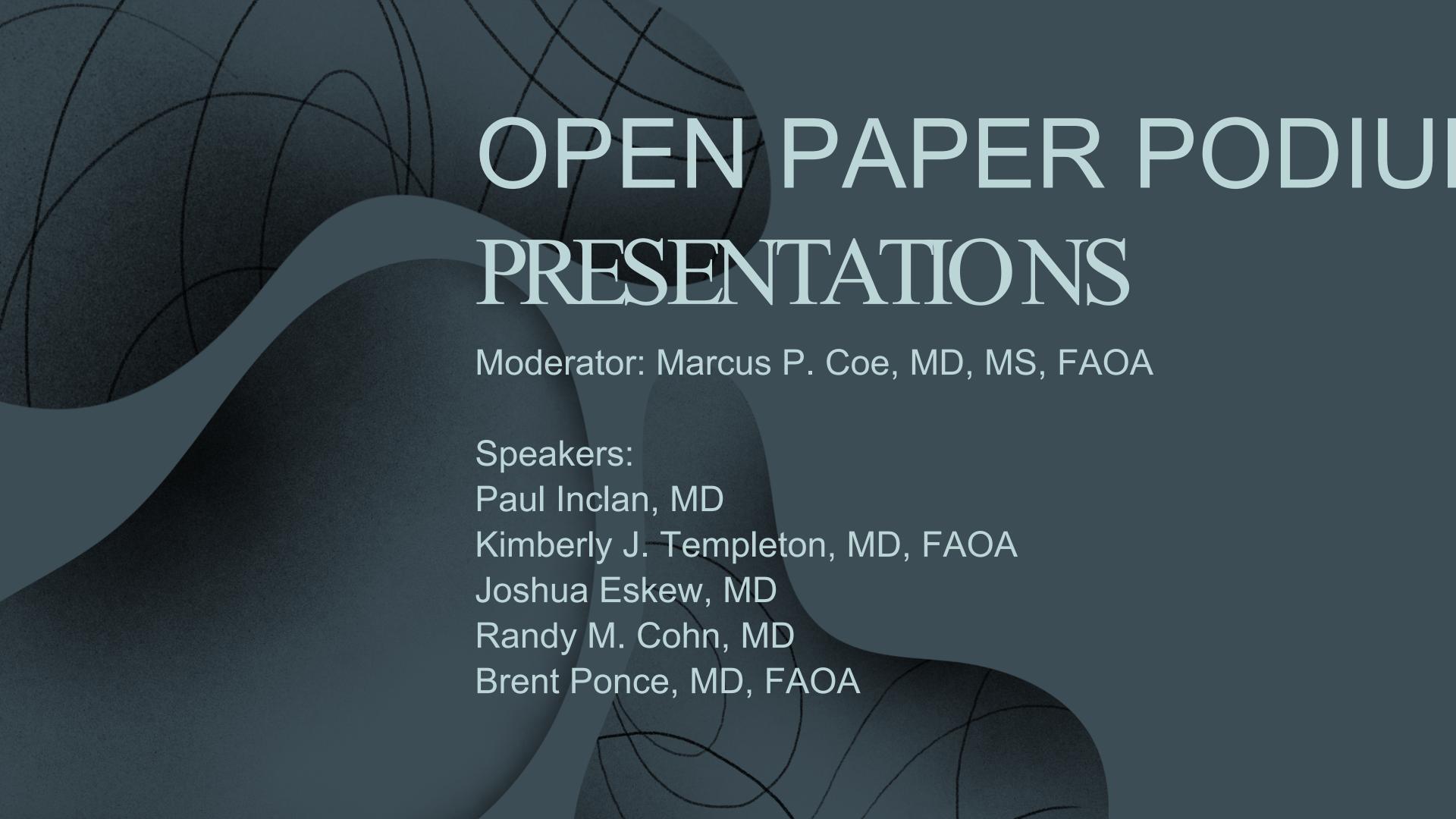
Freddie H. Fu, MD

1950 - 2021

Thank You, Thank You







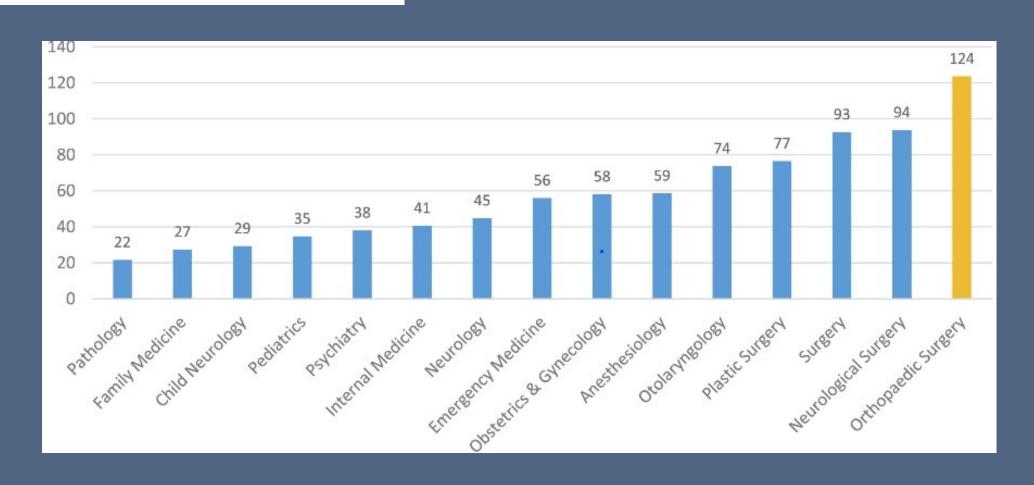
The Impact of Excluding USMLE Score Data on Inter-Observer Reliability During Applicant Selection

Paul M. Inclan. Alisa A. Cooperstein. Sandra E. Klein. Alexander W. Aleem.

Department of Orthopaedic Surgery

Washington University in St. Louis





Factors in Resident Selection

• Letters of Recommendation

AOA Status

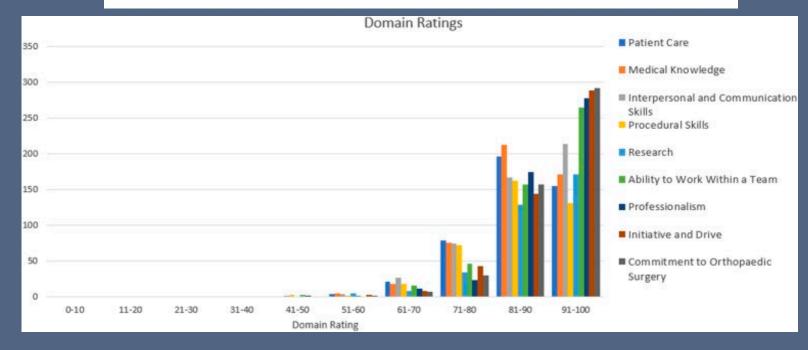
• USMLE Step I

• USMLE Step II

AOA Critical Issues in Education

When (Almost) Everyone is Above Average

A Critical Analysis of American Orthopaedic Association Committee of Residency Directors Standardized Letters of Recommendation



Purpose

• Determine if exclusion of USMLE Step 1 scores from applicants' profiles significantly affects individuals chosen for a formal interview.

• Determine if exclusion of USMLE Step 1 scores from applicants' profiles changes the relative value of other characteristics in an application.

Methods

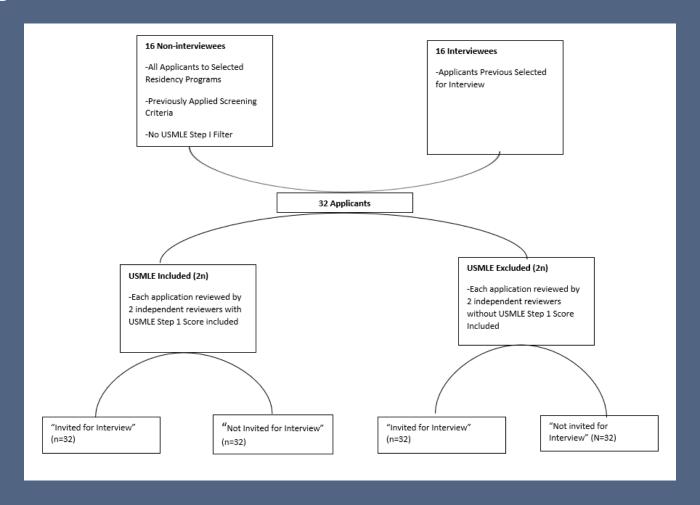


Figure 1: Study design and distribution of applications to reviewers

Unblinded to Step Score		Blinded to Step Score	
Inter-observer Reliability	66%	Inter-observer Reliability	56%
Kappa (interpretation)	0.31 (Fair)	Kappa (interpretation)	0.13 (Slight)

Table 1: Inter-rater reliability when comparing reviewers within the study.

Unblinded to Step Score	Blinded to Step Score		
Inter-observer Reliability	70%	Inter-observer Reliability	62%
Kappa (interpretation)	0.41 (Moderate)	Kappa (interpretation)	0.25 (Fair)

Table 2: Inter-rater reliability when comparing reviewers within the study to original interview designation (i.e., granted interview during 2020-2021 application cycle).

Selection Factor n (%), median (IQR)	Blinded to Step Score (Selected for Interview)	Unblinded to Step Score (Selected for Interview)	p-value ^a
Member of AOA	13 (50.0%)	17 (54.8%)	0.716
Member of GHHS	5 (19.2%)	2 (6.5%)	0.228
Female	9 (34.6%)	7 (22.6%)	0.314
URM	13 (50.0)	15 (48.4)	0.903
Undergraduate	\$51,170 (\$26,320 -	\$31,090 (\$ 13,393-	0.086
Tuition	\$54,977)	\$56,169)	
Medical School Ranking	62.0 (21.5-87.0)	47.0 (25.0-109.5)	0.543
Medical School	\$37,791 (\$27,764 -	\$36,295 (\$30,079 -	0.903
Tuition	\$59,990)	\$59,486)	
Publications	3 (5 (2.0-6.5)	3 (2.0-8.0)	0.646
Posters	5.5 (2.0-7.0)	6 (3.0-7.0)	0.904
Oral Presentations	1 (0.0-2.0)	2 (0.0-4.0)	0.068
Step 1	251 (243-256)	255 (243-257)	0.077
Step 2	259 (255-263)	262 (255-269)	0.668

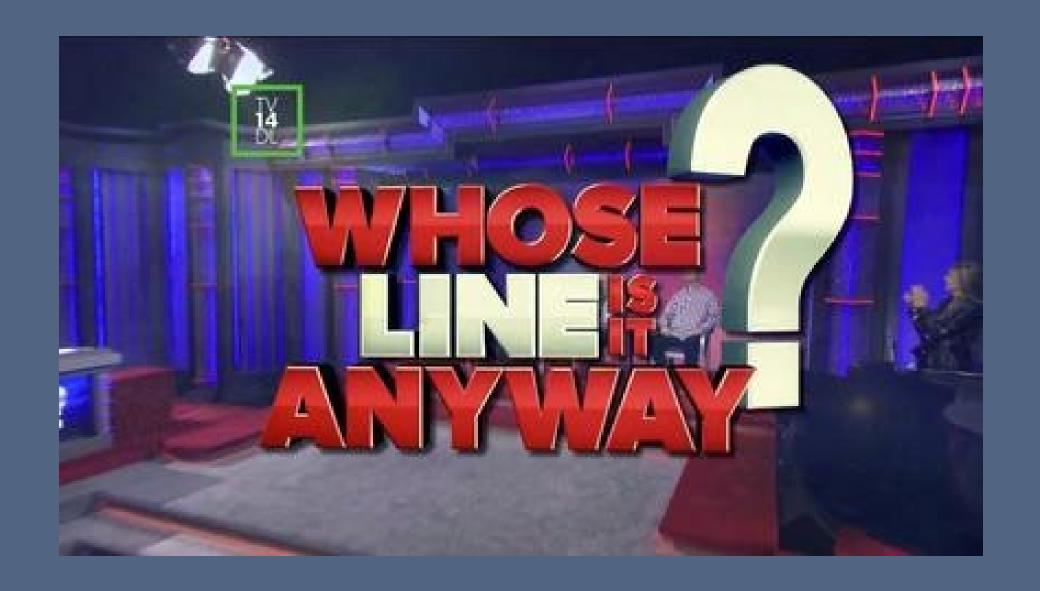
Table 3: Descriptive and Comparative Statistics Between Blinded and Unblinded Groups.

Conclusions

 Reduction in inter-rater reliability with exclusion of USMLE Step Scores

No detected change in relative importance of other variables

Challenges in selecting future applicants



References

- 1. Chen AF, Secrist ES, Scannell BP, Patt JC. Matching in Orthopaedic Surgery. *J Am Acad Orthop Surg.* 2020;28(4):135-144.
- 2. Gu A, Farrar J, Fassihi SC, et al. Effect of Change in USMLE Step 1 Grading on Orthopaedic Surgery Applicants: A Survey of Orthopaedic Surgery Residency Program Directors. *J Am Acad Orthop Surg Glob Res Rev.* 2021;5(5):e20.00216.
- 3. Huebner C, Adnan M, Kraeutler MJ, Brown S, Mulcahey MK. Use of the United States Medical Licensing Examination Step-1 Score as a Screening Tool for Orthopaedic Surgery Away Rotations. *J Bone Joint Surg Am.* 2019;101(20):e106.
- 4. Inclan PM, Cooperstein AA, Powers A, Dy CJ, Klein SE. When (Almost) Everyone is Above Average: A Critical Analysis of American Orthopaedic Association Committee of Residency Directors Standardized Letters of Recommendation. *JB JS Open Access.* 2020;5(3).





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- ►MORGAN HADLEY, MD
- ▶TANNER CAMPBELL, MD
- ►KIMBERLY TEMPLETON, MD, FAAOS, FAOA



BACKGROUND

RESEARCH REGARDING RESIDENT BURNOUT

- Burnout reported by ~50% of orthopaedic residents³
- Almost half of residents have identified their call experience as a primary factor contributing to burn out⁴

IMPROVING BURNOUT

- Many studies conducted on burnout interventions
 - Personal vs systemic interventions
 - Decreasing work burden
 - Improve on-call experience

KU ORTHOPAEDIC RESIDENT ON-CALL EXPERIENCE

- On-call residents take all patient phone calls outside normal work hours
- High call burden



OBJECTIVES

- IMPROVE RESIDENT EXPERIENCE
 - Identify primary reason for patient calls
 - Find opportunities to limit the number of calls
 - Reduce resident burn-out
- IDENTIFY OPPORTUNITIES TO IMPROVE PATIENT CARE
 - Better pre- and post- op education for orthopaedic surgical patients
 - Other?



METHODS

DATA COLLECTION:

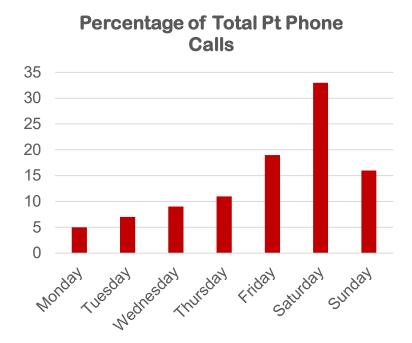
Patient phone calls received by the on-call resident were documented over 82 shifts

- INFORMATION RECORDED:
 - Attending
 - Length of call
 - Day of week
 - Subject of call (12 categories & other)
 - Resultant ED visit



RESULTS

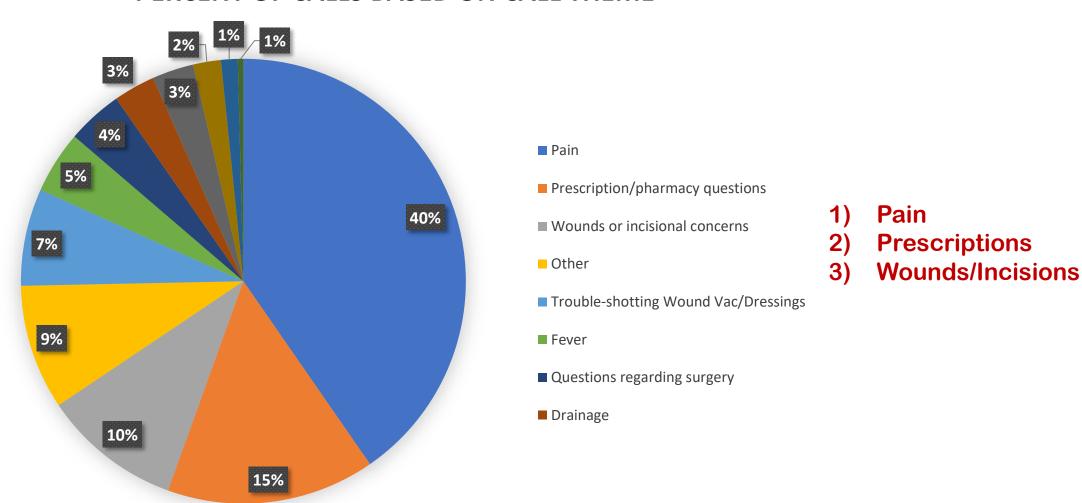
- 510 calls total
 - Approximately 33% of phone calls occur on Saturdays
 - 19% and 16% on Fridays and Sundays respectively
- Average time answering calls/shift = 53 minutes
 - Average phone call 8.5 minutes
 - Average phone calls/shift 6.2
- About 4% of phone calls resulted in a visit to the ED





RESULTS

PERCENT OF CALLS BASED ON CALL THEME





Discussion

Opportunities

PATIENT COUNSELING

- Additional pre- and post-operative counseling has been shown to increase patient understanding (health literacy) of their injury/recovery process
- Tsahakis et al found significant improvement in understanding at first post-op visit when discharged with informational document including text and pictures vs verbal instructions⁵
- Cosic et al utilized a pre-discharge discussion printed material & an x-ray¹
- Kaafarni et al found that prescribing guidelines along with provider and pt education led to fewer opioids prescribed at discharge and fewer refills²
- AAOS CPG "Limited evidence suggests patient education can be used to improve patient function and earlier cessation of opioid use", but this does not mean no evidence

Pharmacologic, Physical, and Cognitive Pain Alleviation for Musculoskeletal Extremity/Pelvis Surgery:

Clinical Practice Guideline

- Quality Report
- August 8, 2020

Patient knowledge and opioids

- Patients recruited 6 weeks to 1 year after their THA or TKA
- Focus groups to discuss the patient's experience with educational material: pre-surgery, hospital stay, recovery period, and future recommendations
- Key outcome: patients wanted more information on expected levels of pain, pain medication usage, management of side effects, and guidelines for weaning off opioids
- Relied on family, friends, and "Dr. Google" for information

Kennedy et al BMC Musculoskeletal Disorders, 2017

Future Directions

TARGETED PATIENT EDUCATION

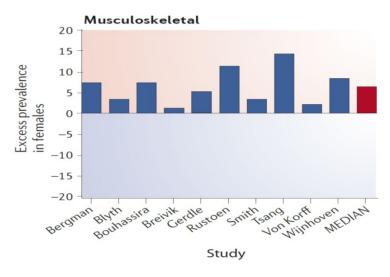
- Pain level expectations
- Normal wound healing

INTERVENTIONS

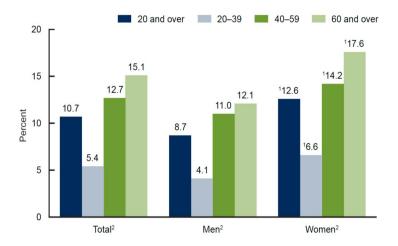
- Implement additional discharge education
- Post-op education to include additional information in hard copy form (in-pt, PACU) and assess understanding
- Information (e.g., AAOS materials) to be provided in more than one language
- Additional support (APP) on Friday evenings and Saturday

INTERVENTION ASSESSMENT

- Recollect phone call data, including patient demographics (e.g., gender) and frequency/duration/theme of calls
- Ask during the calls if the patients received the pre- and post-op instructions
- Survey residents prior to intervention and following regarding signs of burnout



From Mogil, JS Nature Reviews Neuroscience 2012, 13:859-866



Hales CM et al. Prevalence of prescription pain medication use among adults; United States, 2015-2018. NCHS Data Brief no. 369 Hyattsville MD National Center for Health Statistics 2020

RESOURCES

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Thank you!!



PRISMA

HEALTH

The Fate of Orthopaedic Surgery Applicants from Medical Schools Without an Orthopaedic Surgery Residency

Joshua R. Eskew, MD; Amelia Weingart, MD; Jacob Jackowski, MD; Lisa Cannada, MD; Kyle Jeray, MD









Disclosures

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Background

- Increasing difficulty to match into Orthopaedic Surgery
 - Match Rate MD & Overall Applicants:

	MD	Total	# Positions
• 2018:	84% (678/810)	73% (738/1,017)	742
• 2019:	83% (693/830)	73% (752/1,037)	755
• 2020:	80% (645/804)	71% (844/1,192)	849
• 2021:	84% (699/934)	67% (866/1,289)	868
· 2022:	65% (705/1,086)	60%(875/1,470)	875

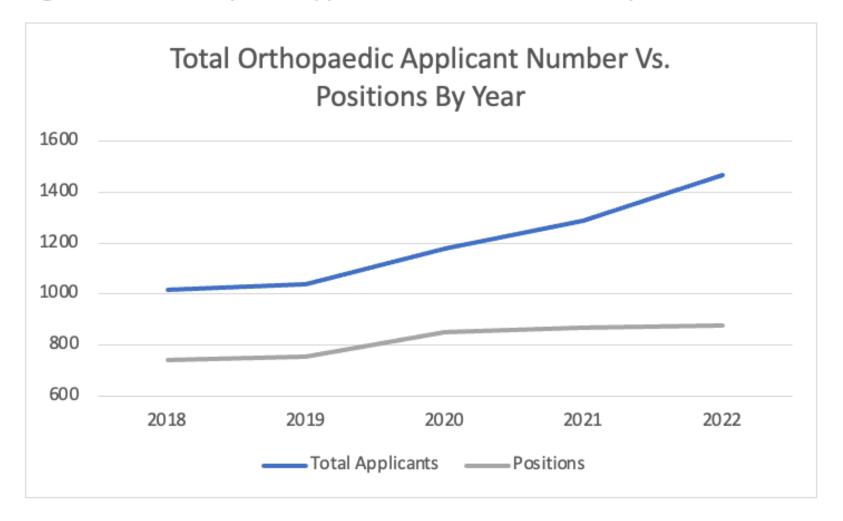








Figure 1. Total Orthopaedic Applicant Number Vs. Positions By Year











> J Am Acad Orthop Surg. 2020 Feb 15;28(4):135-144. doi: 10.5435/JAAOS-D-19-00313.

Matching in Orthopaedic Surgery

Antonia F Chen ¹, Eric S Secrist, Brian P Scannell, Joshua C Patt

2016:

- 1,137 fourth year medical students applied to Orthopaedic surgier residency, 727 positions
- Average # total programs applied to: 79
- Average ratio of 124 applicants per position (+2SD above mean to other specialties)
- Average # of away rotations: 2.4
- 2 away rotations increases applicant's odd of matching
- -83% of Program Directors use USMLE Step 1 as screening tool
- -Average matched applicant: 11.5 interviews
- USMLE Step 1 Scores, Research Productivity, AOA status used to predict the # applications necessary to obtain 12 interviews (AOA with the strongest yield)
 - Average cost: \$7,000 and 72% borrowed money to cover these costs









Review > JB JS Open Access. 2021 Mar 17;6(1):e20.00158. doi: 10.2106/JBJS.OA.20.00158. eCollection Jan-Mar 2021.

Cost Analysis of Medical Students Applying to Orthopaedic Surgery Residency: Implications for the 2020 to 2021 Application Cycle During COVID-19

Adam M Gordon ¹, Azeem Tariq Malik ¹, Thomas J Scharschmidt ¹, Kanu S Goyal ¹

2019-2020:

- Inquiry of Texas STAR Database of applicants applying to Orthopaedic Surgery
- -473 responses
 - -Mean applications cost: \$1,990
 - -Away rotations costs: \$3,182
 - -Interview costs: \$3,129
 - -Total cost: \$8,205
- -In COVID-19 era, Orthopaedic surgery applicants could save up to \$6,311 through virtual interviews and lack of away rotations









> J Surg Educ. 2022 Feb 27;S1931-7204(22)00019-8. doi: 10.1016/j.jsurg.2022.02.004. Online ahead of print.

Analysis of Current Orthopedic Surgery Residents and Their Prior Medical Education: Does Medical School Ranking Matter in Orthopedic Surgery Match?

Brendan M Holderread ¹, Jonathan Liu ², Hadyn K Craft ³, Bradley K Weiner ¹, Joshua D Harris ¹, Shari R Liberman ⁴

- 187 total accredited Orthopaedic Surgery residency program website queried
 - Significant association between medical tier and orthopedic surgery residency tier
 - Majority of Tier 1 orthopedic surgery residents (50.5%) attended a Tier 1 medical school
 - Strong positive association exists between Tier 1 medical students attending Tier 1 residencies and strongest negative correlation associated with Tier 4 residencies with Tier 1 medical students
 - Medical school rankings is an important factor for prospective orthopedic surgery applicants and may become more important with less objective measures with USMLE Step 1 becoming P/F









Disparity in Opportunities: Is It Harder to Match Into Plastic Surgery Residency Without a Home Plastic Surgery Division?

Mohsen Baghchechi ¹, Parisa Oviedo ², Paige McLean ³, Riley Dean ³, Marek Dobke ³

- 2017-2021 Application Cycle Review
 - 72% of all plastic surgery residents attended school with home program
 - 77% of residents without home program felt at a significant disadvantage
 - 84% of third- and fourth-year prospective medical students believed joining plastic surgery research projects was more difficult, and 56% thought a research year was necessary to be competitive.









Purpose

 This is the first known study that aimed to analyze and assess students from medical schools without a home Orthopaedic surgery residency program when applying for a residency position

OLEMCON!







Survey of Medical Students without a Home Orthopedic Surgery Residency

- 23 question survey sent to medical students who successfully matched into
 Orthopaedic Surgery from medical schools without a home residency program
 - Six total schools represented
 - 43 total respondents
 - Questions:
 - Medical school, age, gender, ethnicity, year of graduation, AOA status, Honors in General Surgery/Internal Medicine/OB-GYN, USMLE Step 1 and 2CK scores, # of away rotations, # of LOR from away rotations/nonorthopaedic faculty, # of non-orthopaedic and orthopaedic related research presentations and publications









Questionnaire

- 1. What medical school did you attend?
- 2. What year did you graduate medical school?
- 3. How old are you?
- 4. What ethnicity are you?
- 5. What gender are you?
- 6. Were you an AOA member?
- 7. Did you couples match?
- 8. Did you receive an Honors in Surgery?
- 9. Did you receive an Honors in OB-GYN?
- 10. Did you receive an Honors in Internal Medicine?
- 11. How many total # of Honors did you receive during you 3rd year of medical school?
- 12. What was your step 1 score?
- 13. What was your step 2 score?
- 14. How many away rotations in Orthopedic Surgery did you do?
- 15. How many letters of recommendations did you receive from your away rotations?

- 16. How many letters of recommendation did you receive from non-orthopedic surgeons?
- 17. How many programs did you apply to for the match?
- 18. How many interview invites did you receive for the match?
- 19. Did you match at a program that you did an away rotation at?
- 20. At the time of your application, how many Orthopedic research publications did you have?
- 21. At the time of your application, how many TOTAL research publications did you have?
- 22. At the time of your applications, how many TOTAL research presentations did you have?
- 23. At the time of your application, how many ORTHOPEDIC research presentations did you have?









Demographics

Table 1. Demographics of Survey Respondents (n=43)

Age years (mean) 24-45 (28.9)

Gender (female/male) 18.6%/81.4%

Ethnicity African American 2.3%;

Asian 2.3%; Hispanic or

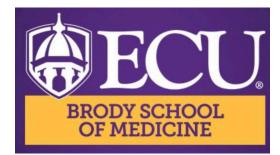
Latino 4.7%; White 90.7%

Couples match 18.6%























Orphan Medical Schools

Figure 2. Chart of Orphan Orthopaedic Allopathic Medical Schools Across the United States

- 1. Brody School of Medicine at East Carolina University*
- 2. California Northstate University College of Medicine
- 3. Carle Illinois College of Medicine
- 4. Central Michigan University College of Medicine
- 5. Charles E. Schmidt College of Medicine at Florida Atlantic University*
- 6. Creighton University School of Medicine
- 7. CUNY School of Medicine The Sophie Davis Biomedical Education Program
- 8. Eastern Virginia Medical School*
- 9. Florida International University Wertheim College of Medicine*
- 10. Florida State University College of Medicine*
- 11. Frank H. Netter MD School of Medicine at Quinnipiac University
- 12. Kaiser Permanente School of Medicine
- 13. Meharry Medical College School of Medicine
- 14. Mercer University School of Medicine*
- 15. Morehouse School of Medicine
- 16. Sanford School of Medicine The University of South Dakota
- 17. TCU School of Medicine and University of North Texas Health Science Center
- 18. UCLA/Drew Medical Education Program
- 19. University of Nevada, Reno School of Medicine
- 20. Virginia Tech Carilion School of Medicine
- 21. Washington State University Elson S. Floyd College of Medicine









^{*}Schools whose graduates participated in survey questionnaire

Results

- Average # of Program Applications: 84
- Average # of Interviews: 13.3
- 50% applicants matched at program they performed away rotation/sub-internship









Academic Performance

1.	AOA member	60.5%
2.	Honors in Surgery	60.5%
3.	Honors in OB-GYN	65.1%
4.	Honors in Internal Medicine	58.1%
5.	Total number of honors in junior	7% (0 Honors); 9.3% (1 Honors); 11.6% (2 Honors);
	clerkship	11.6% (3 Honors); 7% (4 Honors); 27.9% (5 Honors);
		23.3% (6 Honors)
6.	Step 1 score (mean)	249.2
7.	Step 2 score (mean)	256.6









Table ORS-1

Summary Statistics on U.S. Allopathic Seniors Orthopaedic Surgery

Mea	asure	Matched (n=678)	Unmatched (n=132)
1.	Mean number of contiguous ranks	12.5	6.6
2.	Mean number of distinct specialties ranked	1.1	1.3
3.	Mean USMLE Step 1 score	248	240
4.	Mean USMLE Step 2 score	255	246
5.	Mean number of research experiences	4.9	4.9
6.	Mean number of abstracts, presentations, and publications	11.5	6.7
7.	Mean number of work experiences	3.2	3.4
8.	Mean number of volunteer experiences	7.3	6.3
9.	Percentage who are AOA members	40.4	15.9
10.	Percentage who graduated from one of the 40 U.S. medical schools with the highest NIH funding	31.9	26.5
11.	Percentage who have Ph.D. degree	1.4	2.4
12.	Percentage who have another graduate degree	13.1	21.6

Table ORS-1

Summary Statistics on U.S. MD Seniors *Orthopaedic Surgery*

Me	asure	Matched (n=645)	Unmatched (n=159)
1.	Mean number of contiguous ranks	12.3	7.0
2.	Mean number of distinct specialties ranked	1.0	1.2
3.	Mean USMLE Step 1 score	248	239
4.	Mean USMLE Step 2 score	255	246
5.	Mean number of research experiences	5.4	5.7
6.	Mean number of abstracts, presentations, and publications	14.3	14.2
7.	Mean number of work experiences	3.6	3.8
8.	Mean number of volunteer experiences	8.0	7.6
9.	Percentage who are AOA members	40.3	11.3
10.	Percentage who graduated from one of the 40 U.S. medical schools with the highest NIH funding	33.6	25.8
11.	Percentage who have Ph.D. degree	0.8	0.7
12.	Percentage who have another graduate degree	16.7	25.2

2018 2020









Results

Number of aways in orthopaedic surgery	2.5
Number of letters from aways	1.9
Number of letters from non-orthopaedic surgeons	0.8
Number of programs applied to for the match	85
Number of interview invites received for the match	13.4
Did you match at a program that you did an away rotation at?	50%
Number of orthopaedic publications at time of application	1.9
Number of total publications at time of application	3.9
Number of total research presentations at time of application	9.8
Number of Orthopaedic research presentations at time of	6.5
application	

PRISMA HEALTH...







Conclusion

- Medical students without a home program performed higher on USMLE Step 1, Step 2CK, were more likely to be elected to AOA Honor Society, and completed more research publications and presentations with more limited access to mentorship and resources
- While orthopaedic surgery continues to remain one of the most difficult specialties to match into, students applying from medical schools without a home orthopaedic surgery residency are presented with these unique challenges and must perform at a high level across multiple aspects of their residency application to successfully match











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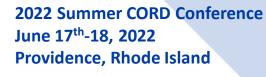






Differences in 4th Year Away Rotation
Opportunities and Fees Among
Allopathic and Osteopathic Medical Students
One Year Following the Implementation of the
Single Accreditation System

Peter B. White, DO, MS; James Henry DO; Adam D. Bitterman DO, Randy M. Cohn, MD





Introduction

- June 2020, concluded merger of the ACGME under single accreditation system
- Orthopaedic surgery well recognized as competitive specialty
 - 2021 residency application cycle:
 - 1,727 individual applicants for 868 positions
 - Avg 77 applications per applicant
- Common metrics to evaluate students:
 - USMLE scores
 - Class rank
 - Letters of recommendation
 - Research productivity
 - MSPE
 - 4th year away rotations



Introduction

- Value of away rotations
 - 57% of applicants match at home institution or away rotation site
 - Away rotation increases odds of matching by factor of 1.5
 - Virtual interviews may increase the importance of in person away rotations
- Role of single accreditation system on accessibility to 4th year away rotations yet to be established
- Purpose:
 - What percentage of allopathic and osteopathic students are eligible for an away rotation?
 - Is there a difference in cost/fees for students based on application type



Methodology

- Cross-sectional study of all non-military ACGME programs (n=194) in Apr to Nov 2021
 - 34 (17.5%) were formerly AOA accredited programs
 - 160 (82.5%) were solely ACGME accredited
- Eligibility criteria gathered from:
 - Affiliated medical school websites
 - Residency program websites
 - Visiting Service Application Service
- Costs
 - Application Fee
 - Tuition Fee



Month Day, Year

Results

- Overall, 90.6% (n=176) did not publicly state criteria for rotations
- 18 programs (9.4%) had criteria prohibiting students based on application type
 - 16 (8.3%) programs prohibited osteopathic students
 - 2 (1.0%) programs prohibited allopathic students
- Compared to pre-single accreditation (i.e. ACGME vs AOA) status showed no difference in number of programs prohibiting DO/MD Students (p=0.755)
 - 2/34 (5.9%) formerly AOA programs allowed only DO students
 - 16/160 (10%) former ACGME programs permitted only MD students
- Most common reasons for prohibiting students:
 - Allopathic students requiring training in osteopathic manipulative medicine
 - Osteopathic students requiring training from a LCME accredited medical school



Month Day, Year

Visiting Student Information and Application

(Are you a student from outside the US? See the guidelines for international visiting students)

The 2021 visiting student application cycle will be following the guidance of the Coalition for Physician Accountability recommendations, released on January 25, 2021. As such, applications will not open until April 15, and visiting rotations will begin no earlier than August.

annually accepts applications from visiting fourth year medical students from LCME accredited schools. (We cannot accept applications from D.O. students in Osteopathic programs)

accommodated, any remaining clerkship vacancies are open to visiting students. Third year medical students and students from schools not accredited by the LCME are not eligible. We cannot accept applications from Osteopathic Medicine students.

 An applicant who has not graduated from an accredited college of osteopathic medicine must take and obtain at least a 75 percent on the Core Osteopathic Recognition Readiness Examination (CORRE), as offered through the National Board of Osteopathic Medical Examiners (NBOME).



Month Day, Year

Results

- Costs
 - 5 (2.6%) programs had differences in costs for US med school seniors for away rotations
 - All 5 programs had higher costs for DO applicants compared to MD applicants
 - 2 programs had application fees for only DO applicants
 - \$50 vs \$0
 - \$100 vs \$50
 - 3 programs charge tuition fees for only DO applicants
 - 900 per Week
 - \$4000 per Rotation
 - \$5000 per Rotation

A nonrefundable application fee of \$150 for MD students is due on receipt of an offer for externship if the externship is accepted by the student. DO and International medical students are required to pay a nonrefundable fee of \$4,150 on receipt of an offer and acceptance of externship. Our tuition fee is assessed to any student outside of our common accreditation body, the LCME. The LCME accredits only the schools that grant a Doctor of Medicine (M.D.) degree. Osteopathic medical schools that grant the Doctor of Osteopathic Medicine (D.O.) degree are accredited by the Commission on Osteopathic College Accreditation of the American Osteopathic Association. Some allopathic schools may enter in to separate agreements with local osteopathic schools to ensure core rotations for their students at specific clinical sites but in VSLO, for our electives, that is not the case. We don't currently have preferential relationships with any schools. MD students are not assessed additional fees as they are able to attend reciprocal intuitions. Unfortunately, MD students are not able to rotate in clinical rotations at Osteopathic Institutions or International Institutions. Some departments have awards to help offset the cost of these fees and that information will be added in their course description. We also have the following discounts available below:



An additional registration fee of \$5000 per elective is charged for visiting students from non-LCME accredited schools who participate in clinical electives. This fee is charged in addition to the base fee.

Discussion/Conclusion

- 4th Year away rotations are one of the most important factors for students applying in orthopaedic surgery
- >90% of programs do not publish complete criteria on eligibility for away rotations
- Subset of programs/medical schools prohibit rotations based on degree candidacy
 - ~10% directly stated criteria
 - 2% indirectly discourage rotations by increased costs
- Limitations
 - Publicly accessible criteria dependent on accuracy
 - Data gathered from multiple sources not one entity responsible for policies
 - Possible non-public criteria for prohibiting/discouraging away rotations
 - Policies are dynamic and may not accurately represent eligibility today





Thank You



Perceptions of Universal Offer Day (UOD)

Council of Orthopaedic Residency Directors

https://www.aoassn.org/cord-program/

cord@aoassn.org

@aoa1887; #AOACORD



A Jardaly, **B Ponce**, T Balach, W Levine, M Kogan, J Patt

CORD Meeting, June 18, 2022





I (and/or my co-authors) have something to disclose.

Detailed disclosure information is available via:

"My Academy" app;



or

AAOS Orthopaedic Disclosure Program on the AAOS website at http://www.aaos.org/disclosure



Introduction

- COVID-19 pandemic caused paradigm shift in how programs and students interacted during residency application cycle
 - With a shift to virtual interviews it was anticipated that time and money would no longer self limit interviews accepted
- AOA/CORD tried to introduce processes that would help level the playing field *for applicants*
 - Historical -> interview offers than interview positions
- UOD GOAL: coordinate when interviews were offered to students
 - 2 stipulations = interview offer & positions; 48 hour respond window











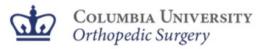




Methods

- Surveys distributed to Applicants & Program Directors
- Applicants surveyed had registered for the AOA/CORD eSLOR
- Survey distributed after rank lists were submitted by programs and students but before the Match
- Program Directors
 - 45% response rate (84/187)
- Students
 - 881 distributed out of 1289 total applicants (68% of applicants)
 - 43% response rate (383/881)
 - 30% of all applicants











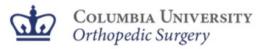




Results - Applicants

- 89% good first impression
- Anticipated stress going into the process:
 - 50% "worried"
 - 32% "very worried"
- UOD
 - Decreased stress: 64%
 - Increased stress: 20%
 - No change: 16%
- Continue UOD in future: 93%
- Recommend some changes to the system: 61%















Results - Program Directors

- 81% of programs participated
 - Started interviews before UOD
 - Not enough time to review applicants
 - Low participation by DO programs (different interview style)
- 96% of programs offered all slots on UOD
- 95% of programs did not feel disadvantaged by UOD guidelines
- 87% said they would participate in the future















Discussion

- UOD process led to fewer programs "over-inviting"
- Decreased need for applicants to be constantly "plugged-in" to email in order to not miss invitations
- Decreased interviews "lost"















Unanticipated Issues

- Interview hoarding
 - No time or financial constraints for interviews
- Rush to accept still present with same day offer/accept















Opportunities for Improvement

- Applicant Suggestions
 - All programs participating
 - Create time window between offer and acceptance
 - Consider a signaling system
 - Interview caps
- PD Suggestions
 - Better timing of UOD (applications released late in COVID year) creating a small window for review
 - Signaling system
 - Application and Interview caps















Conclusions

- 2021-22 UOD implemented with iterative changes
 - 48 hour moratorium between offer and acceptance
 - Timing voted on by PDs
 - Applications also released earlier
- Anecdotally well received
- Still plagued by interview disparity
- 2022-23 Signaling process added
 - To be continued...













Thank You



ORTHOPAEDICS at RUSH



The Training Room

Perceptions of the Universal Interview Offer Day in the Orthopaedic Surgery Residency Interview Process

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ABSTRACT

Introduction: The American Orthopaedic Association's Council of Orthopaedic Residency Directors recommended implementing a universal offer day (UOD) in the 2020 residency match. Although this decision was an attempt to benefit applicants, it is important to assess how this endeavor was perceived.

Columbia University Orthopedic Surgery







UChicago Medicine



JOBS

Moderator: Ericka Lawler, MD, FAOA

Speakers:

Ann E. Van Heest, MD, FAOA

Matthew C. Sardelli, MD

Craig P. Eberson, MD, FAOA

Mentoring in Career Development

Fellowship and First Jobs CORD 2022

Ann Van Heest MD
Professor, Vice Chair of Education
Department of Orthopedic Surgery



University of Minnesota

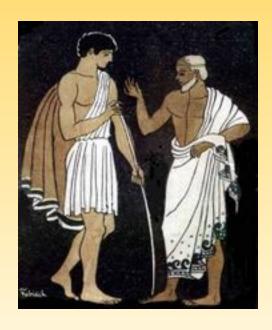
Driven to DiscoverSM

Objectives

- 1. To provide residency PDs with ideas/resources for mentoring senior level trainees and into first jobs.
- 2. To define Mentorship, Sponsorship, Coaching, Role Modeling
- 3. To understand the issues present in mentoring relationships for Residents and First Jobs

Who was Mentor?

- In Greek mythology, Mentor was a friend of Odysseus.
- When Odysseus left for the Trojan war, he place Mentor in charge of his son (Telemachus) and of his palace.



Definition: Mentoring

 "a wise and trusted counselor" (American College Dictionary)



- "a trusted counselor or guide; tutor, coach" (Webster)
- "The process of helping an individual develop skills, knowledge, and attitudes in order to set and reach his/her important life goals"

Informal and Formal Mentoring What's the difference?

Informal Mentoring

- Casual, unstructured
- Two individuals meet, work, or socialize together
- Help the other individual succeed



Formal Mentoring

- Mentors and mentees are matched or chosen
- A structured partnership
- A specific time period
- Monitored and supported
- Specified goals and objectives agreed upon

Role Modeling and Mentoring What's the difference?

- Role Modeling
 - A passive unidirectional exercise
 - Provide a positive example
 - May be conscious or without intent

- Mentoring
 - An active bidirectional process
 - Coaching and nurturing
 - Demands conscious participation

Role Modeling- Positive and Negative













Famous Mentor-Mentee Relationships



Yoda- Luke Skywalker



Glinda the Good Witch- Dorothy

Mentors in the Business World

Roche, Much Ado About Mentors, Harvard Business Review, 1979

Mentored executives were more likely to ...

Business Review, 1979

Mentored executives were more likely to ...

- Earn more money at a younger age.
- Be better educated.
- Follow a specific career path.
- Be happy with their career progress.
- Derive greater pleasure from their work.

Mentorship in Orthopedic Surgery

- Medical Students
- Residents
- Young Faculty
- Established Faculty

Issues for all stages of Career Development

Personal- Professional Balance/ Integration







Issues for all stages of Academic Development

 Time management to reflect priorities





RESIDENT Issues for Mentors



- Finishing residency
 - Faculty relationships
 - Research projects
 - Boards preparation
- How to get a fellowship
 - Faculty relationships
- How to select a career
 - Academic vs. Private practice
 - Becoming a professional

Don't go alone







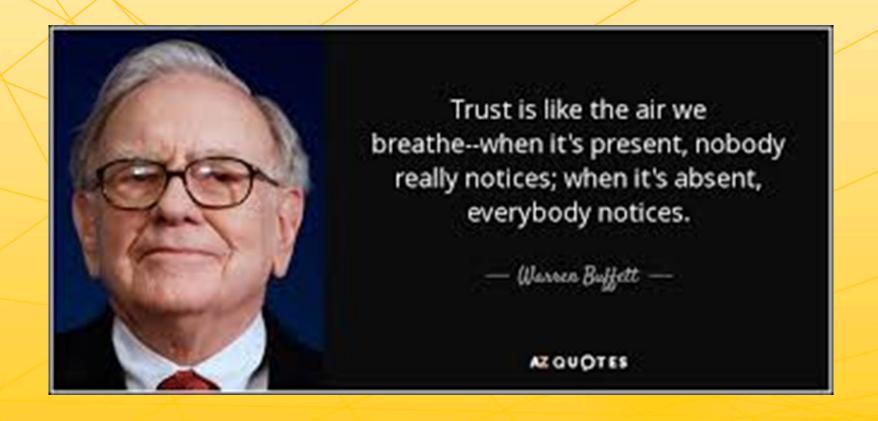


YOUNG FACULTY Issues for Mentors

- How to set up my schedule
- How to start a clinical practice
- How to conduct research
- How to fund research
- How to relate to residents and other faculty
- Good teaching tactics



Importance of Trust



Behaviors of High Trust Individuals

<u>behavior</u>

Principle (counterfeit)

Talk straight Straightforward, honest

(spinning, flattery)

Listen Understand, mutual respect

(pretend, thinking of

response)

Create transparency Openness, integrity

(illusion, different than they

are)

Career Development



CLINICAL PRACTICE

Building a Career- one brick at a time



The journey of a thousand miles begins with one step.

~Chinese proverb

Workplace Culture: Value People

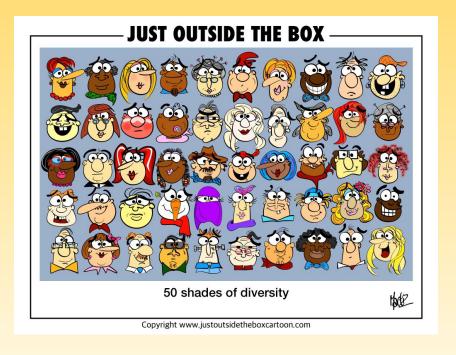
- Diverse leadership styles,
- Mentorship and Advocacy
- Caring and safe
- Respectful.
- Balanced.

2017 Report of 16 Global Leaders



Healthcare Organization

- Physicians
- Patients
- PA/NP/OT/PT/Tech
- MA/ATC
- RN/Surgery Tech
- Resident/Students
- Employees
- WORKPLACE CULTURE











Choosing an inclusive workplace will be an effective and innovative organization for all



This Photo by Unknown Author is licensed under CC BY

AOA Annual Leadership Meeting
Omni Providence Hotel Rhode Island Convention Center

June 14-18

Matthew Sardelli, MD

Chair, Department of Orthopedic Surgery McLaren Flint, MSU Flint Campus





Disclosures

- No disclosures pertinent to this talk
- Special thanks to Dr. Mary Mulcahey and Clare Coonan for assisting with this talk
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Outline

- Definition
- How a Career Coach helps
- How a Career Coach can be implemented and utilized





Definition

- A Career Coach is an individual that assists professionals at any stage in their career make informed decisions regarding their career trajectory
 - Career Coaches focus on results, actions, and accountability
 - Career Coaching differs from mentoring or advising in that it focuses only on the present and how to achieve future goals, and not ones past performance



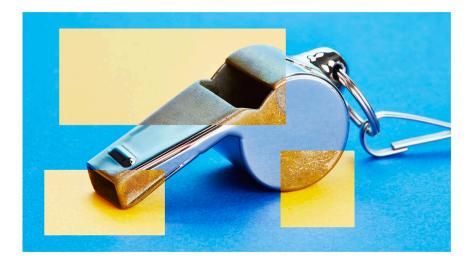


Harvard Business Review



Digital Article

Leadership & Managing
People



Do You Need a Career Coach?

















- Get clear about your goals
- What do you want to achieve with your career?



- What assignments and tasks can help you achieve those goals?
- Which committees should you join?
- What tasks could a resident trainee do to overcome anxiety in the OR?



Accountability

 A career coach walks alongside you and keeps you accountable to your goals and the tasks to get there



- Gentle Truth Sayer
- Have my interests changed?
 - Family
 - Work/life balance
 - Wellness



Career Coach

Lead yourself
Lead others and your team
Become a better influencer of people



- Other Aspects of Career Coaching
 - Negotiation
 - Communication
 - Relationship Dynamics
 - Creative Thinking



Implementation

Career coaches are often found within academic institutions

 Can be offered to residents as well who are interested
 More effective if offered to a resident rather than being "sent" to a career coach

- International Coaching Federation certification
 - Code of ethics
 - Recertify every three years



Summary



- Career coaches offer perspectives you may not see
- Provides someone outside the department to help shape or understand your goals
- Provide residents with someone not on faculty to assist with difficulties they are having in training

Thank you





Teaching Early Career Wellness and Resilience

Craig P. Eberson, MD

Professor and Division Chief, Pediatric Orthopedics Program Director, Orthopedic Surgery Alpert Medical School of Brown University





Self Care is a Skill

- Prioritizing: The thing is, keep the thing the thing
- Scheduling: You wouldn't cancel a surgery...
- Modelling: walk the walk so you can talk the talk









Prioritizing-Reverse engineer your path

- What do I need to do to get there professionally?
 - Surgical volume
 - Research
 - Teaching
 - Committees
- What else matters to me?
 - Family
 - Church/synagogue
 - Hobbies
 - Community
 - Building wellness and resilience





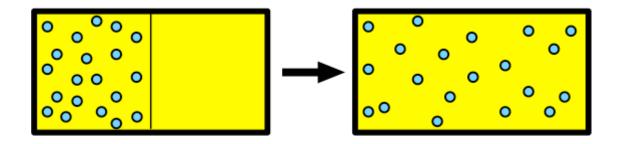




Work is a gas that expands to fill every crevice

Block out Vacations

Block out monthly events



Block out daily self care time







Well, excuuuuse me!



Don't have time

- Need to concentrate on building practice, I'll make time later
- My (patients, partners, group, etc) need me too much
- My family/friends know what I do is important and understand





Reality...

- Self care makes you a better
 - Father/Mother
 - Son/daughter
 - Friend
 - Husband/Wife/Partner
 - Doctor
 - Human being









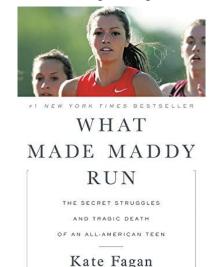


Waves of ecstacy/nausea

Being an orthopod has ups and downs

Without an outside life, you are what your work life says you are











So, How do I teach this?

Model behavior-your mentees want to be YOU

Arrange shared experiences

Bring in experts and DISCUSS













Make it easy

- Organized activities
- Involve family
- Accountability









(Some of the many) Mistakes I've made

- Chase the numbers (rVU, patients)
- Conferences as vacations
- Pedi Spine guys need to work all summer
- Round every.single.day
- Left no elbow unpinned
- Never transitioned from the "yes to everything" phase
 - Yes!!!→Yes (if I can)→no or Heck Yeah!!!
- Not telling the people who support me how much I appreciate them







Summary

Wellness needs to be a priority

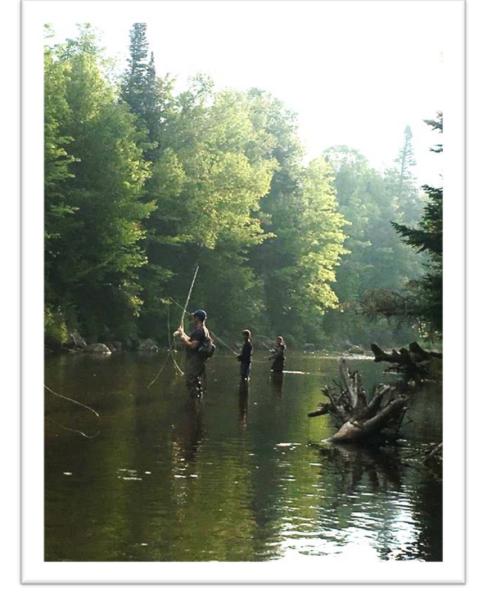
- Your trainees already see you being a Rockstar orthopod, let them see how you also prioritize your own wellness
- Knowing you are being watched by others brings accountability to model Self Care







Thanks!!!











Complete the Evaluation Survey

THANK YOU!

Email us at cord@aoassn.org if you have more questions.

CONTACTUS



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