



**AAO- 20
HNSF 25**
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Risk Factors for Increased Postoperative Pain in Head and Neck Cancer Free Flap Reconstruction Patients

Daniel R. S. Habib, BA; Sindhura S. Sridhar, BS; Heezy Suh, BA; Daniel Larson, BS;
Brooke B. Swain, BS; Kelly Vittetoe, MD; Donald Sengstack, MS; Michael C. Topf, MD;
Melanie D. Hicks, MD

Daniel Roy Sadek Habib

MS4 at Vanderbilt University School of Medicine

✉ Daniel.r.habib@Vanderbilt.edu

✕ @danielrshabib



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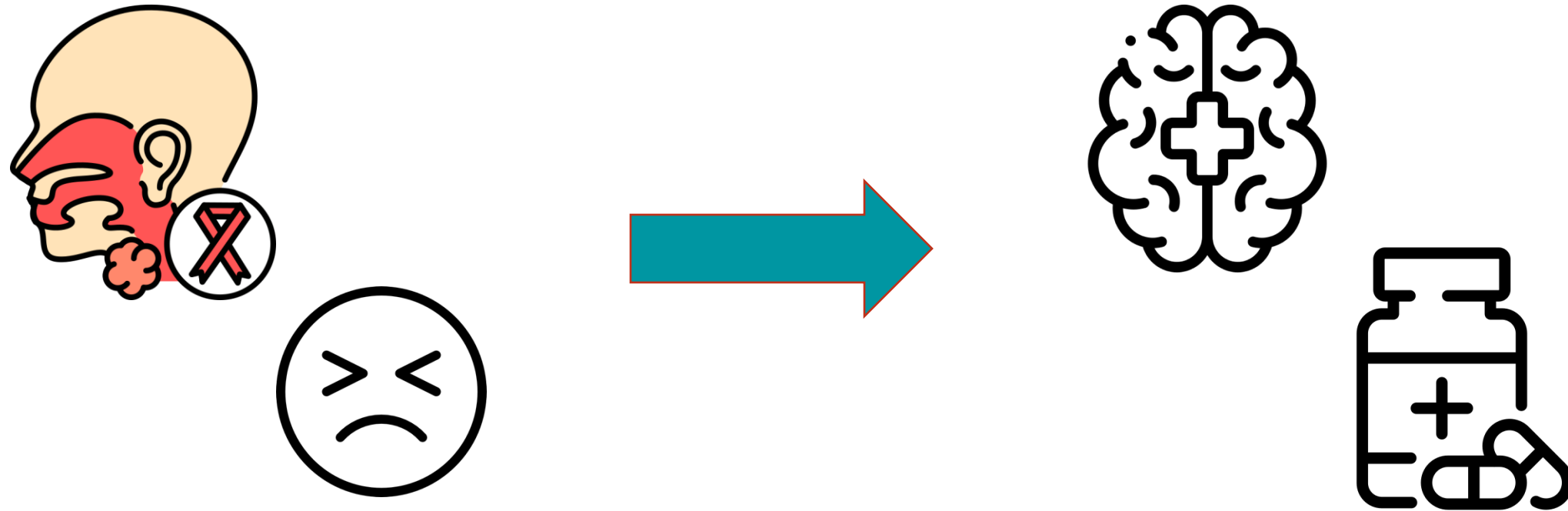
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HNC Pain Is Associated with Depression and Opioid Use



Research Question

Among HNC patients, does a pre-existing mental health disorder predict higher pain scores and higher likelihood of inpatient pain consultation 5 days after FFR surgery?



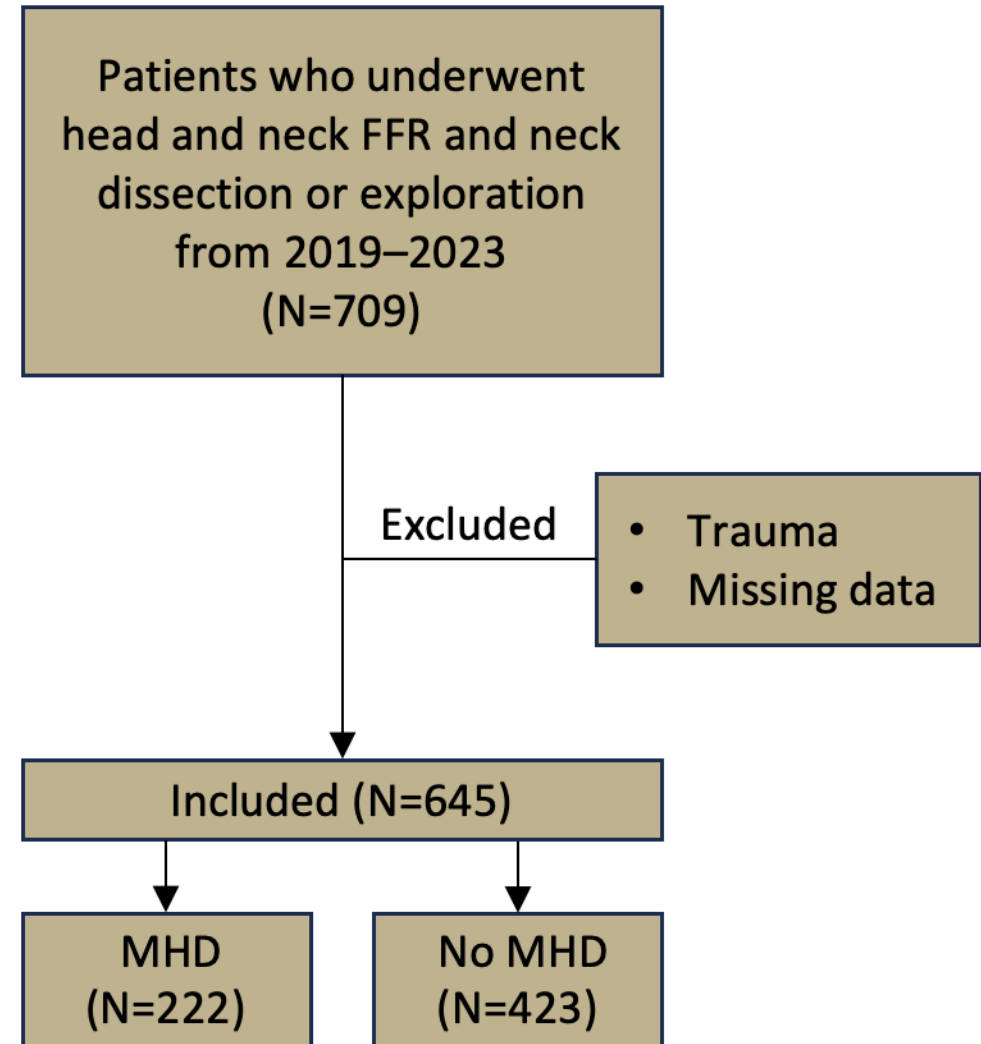
Hypothesis

HNC FFR patients with a mental health disorder will have higher post-op pain and be more likely to receive an inpatient pain consultation than HNC patients without a mental health disorder.



Cohort

- **Population:** Vanderbilt HNC Patients
- **Mental Health Disorder:** Depression or anxiety ICD-9/10 codes



Methods



POD5 Pain Scores (scale of 1-10) Stratified by MHD

- 1:1 Propensity-Score Matching
- Two-Sample T-Tests

Predictors of Increased POD5 Pain Score

- Multivariable Linear Regression

Predictors of Inpatient Pain Service Consultation

- Multivariable Logistic Regression

Matching and Regression Variables

Age at Surgery	Sex	Race
Marital Status	Insurance	Comorbidity Index (CDI)
FF Site and Type	Pre-op Narcotic Rx	Psychiatry Consult



Cohort Characteristics by Mental Health Disorder

Patients with MHD were more likely to be:



Younger (63 yrs vs 66 yrs)

Variable	All, N=645	MHD, N=222	No MHD, N=423	P-Value
Age at Time of Surgery, median [IQR]	65 [57-72]	63 [56-70]	66 [58-72]	.005
Sex				<.001
Female	198 (30.7%)	90 (40.5%)	108 (25.5%)	
Male	447 (69.3%)	132 (59.5%)	315 (74.5%)	
Race				.008
White	591 (91.6%)	213 (95.9%)	378 (89.4%)	
Not white	43 (6.7%)	7 (4.1%)	36 (10.6%)	
Marital Status				.236
Single	126 (19.5%)	45 (20.3%)	81 (19.1%)	
Married / Significant Other	377 (58.4%)	122 (55%)	255 (60.3%)	
Separated / Divorced	75 (11.6%)	33 (14.9%)	42 (9.9%)	
Widowed	59 (9.1%)	18 (8.1%)	41 (9.7%)	
Insurance Type				.091
Private	197 (30.5%)	64 (28.8%)	133 (31.4%)	
Medicare or Other Government	431 (66.8%)	156 (70.3%)	275 (65%)	
Medicaid or None	17 (2.6%)	2 (0.9%)	15 (3.5%)	
CDCI, median [IQR]	4 [3-6]	4.5 [3-6]	4 [3-6]	.919
Site				.167
Oral Cavity	387 (60%)	133 (59.9%)	254 (60%)	
Oropharynx	30 (4.7%)	9 (4.1%)	21 (5%)	
Larynx	108 (16.7%)	48 (21.6%)	60 (14.2%)	
Sinonasal	22 (3.4%)	5 (2.3%)	17 (4%)	
Cutaneous	82 (12.7%)	26 (11.7%)	56 (13.2%)	

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Female (41% vs 26%)

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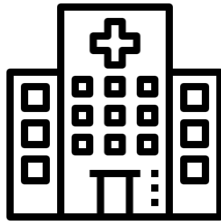
Female (41% vs 26%)

White (96% vs 89%)

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Cohort Characteristics by Mental Health Disorder

Patients with MHD did NOT differ by:

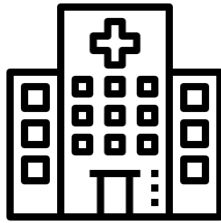


Stage

Variable	All, N=645	MHD, N=222	No MHD, N=423	P-Value
Pathologic T Stage				.403
pT1	30 (4.7%)	15 (6.8%)	15 (3.5%)	
pT2	67 (10.4%)	23 (10.4%)	44 (10.4%)	
pT3	110 (17.1%)	37 (16.7%)	73 (17.3%)	
pT4	262 (40.6%)	93 (41.9%)	169 (40%)	
Pathologic N Stage				.450
pN0	245 (38%)	93 (41.9%)	152 (35.9%)	
pN1	56 (8.7%)	15 (6.8%)	41 (9.7%)	
pN2	65 (10.1%)	22 (9.9%)	43 (10.2%)	
pN3	79 (12.2%)	27 (12.2%)	52 (12.3%)	
Free Flap Type				.376
Fasciocutaneous RFFF	325 (50.4%)	119 (53.6%)	206 (48.7%)	
OCRFFF	122 (18.9%)	46 (20.7%)	76 (18%)	
Anterolateral Thigh	107 (16.6%)	30 (13.5%)	77 (18.2%)	
Fibula	28 (4.3%)	9 (4.1%)	19 (4.5%)	
Other/Multiple	63 (9.8%)	18 (8.1%)	45 (10.6%)	
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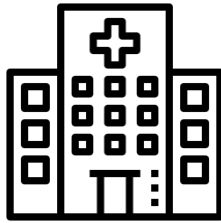
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Stage

Free Flap Type

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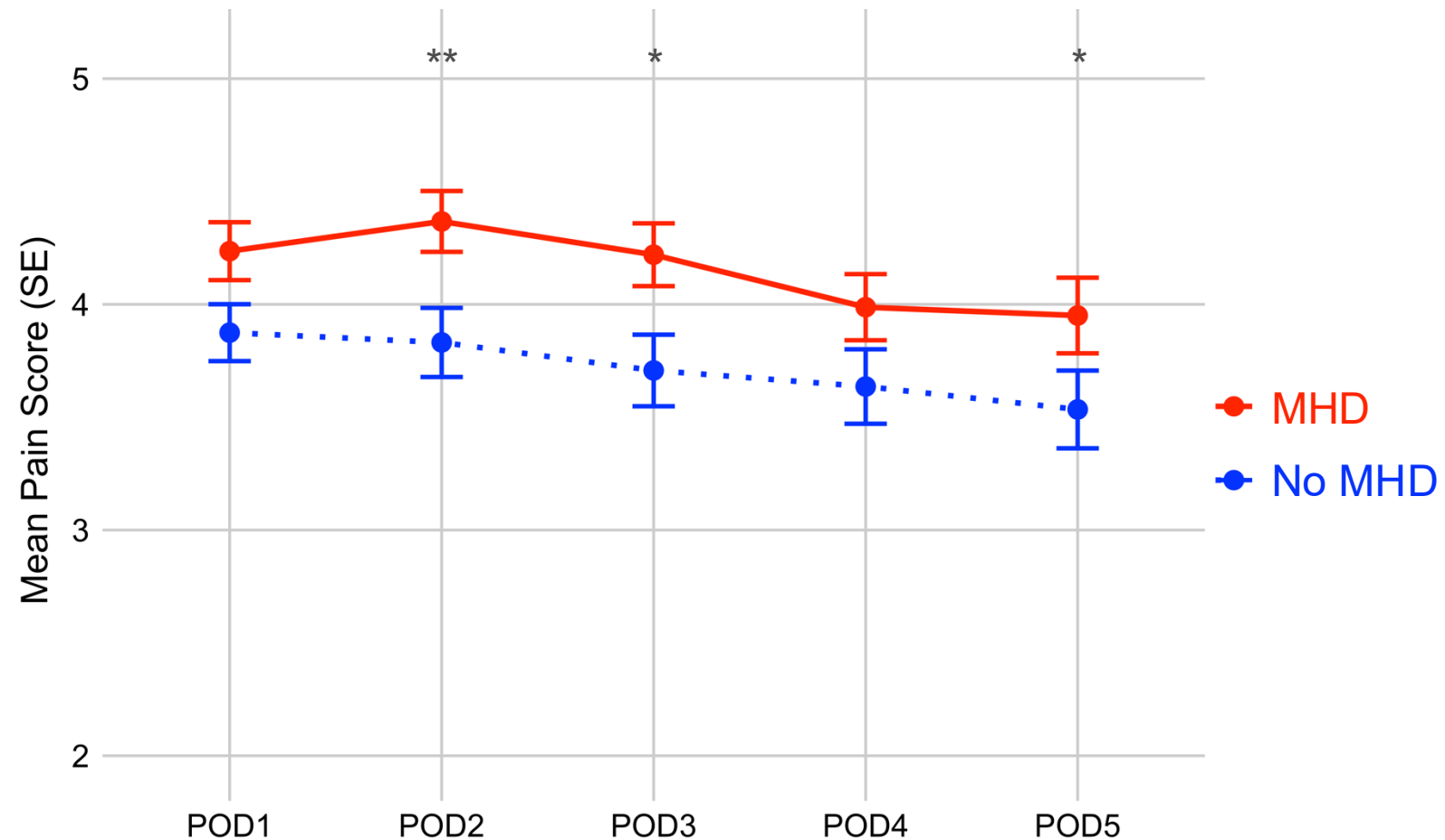
Patients with MHD were more likely have:



Pre-op Narcotic Rx (51% vs 36%)

Variable	All, N=645	MHD, N=222	No MHD, N=423	P-Value
Pre-op Narcotic Rx	266 (41.2%)	112 (50.5%)	154 (36.4%)	<.001

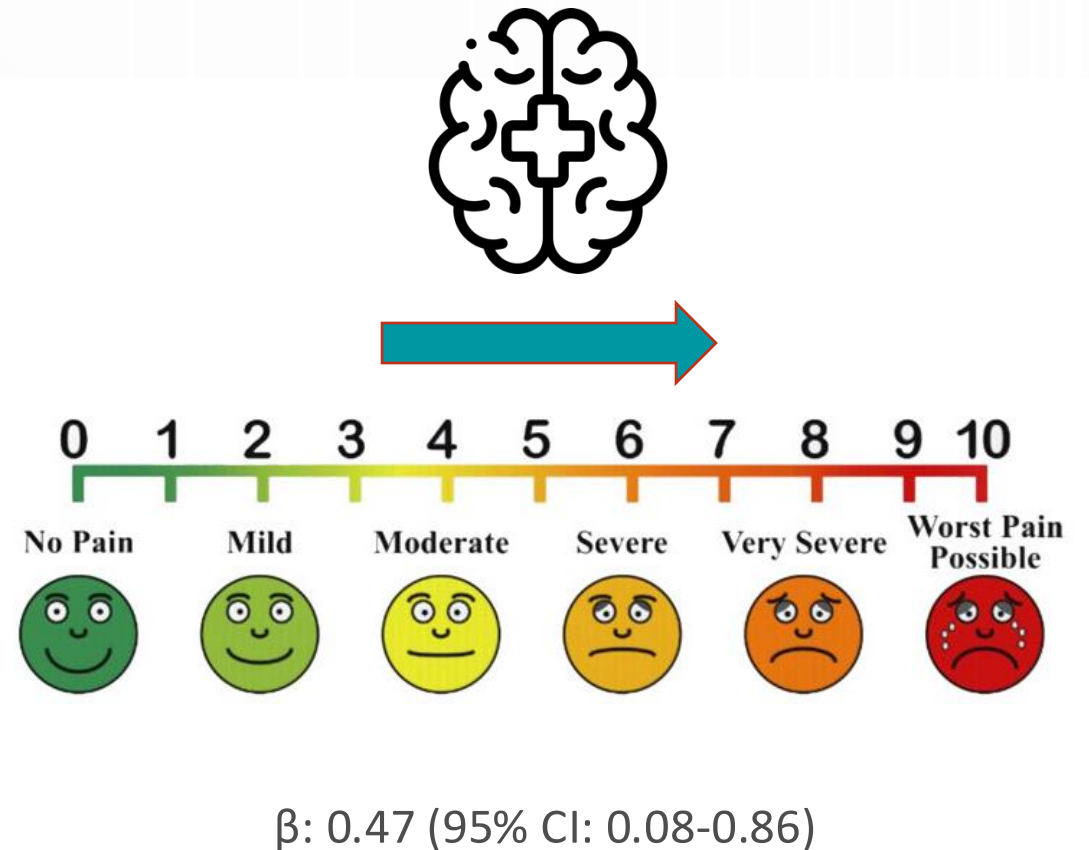
Patients with a MHD Have Higher POD5 Pain Scores



After propensity-score matching by: age at surgery, sex, race, marital status, insurance, Comorbidity Index (CDI), FF type, site, pre-op narcotic rx, and psychiatry consult

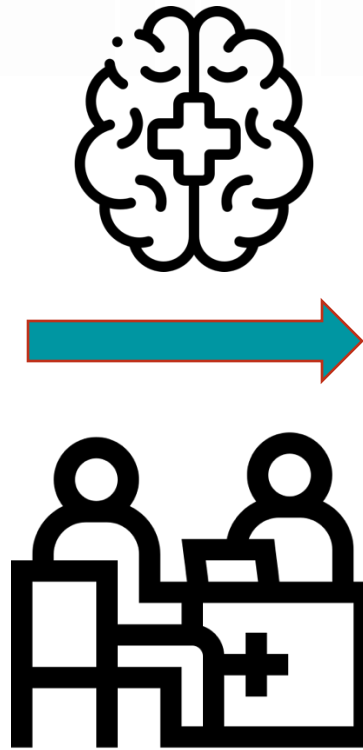
MHD Independently Predicts Higher POD5 Pain Score

Controlling for age, sex, race, marital status, insurance, Comorbidity Index (CDCI), FF type, site, pre-op narcotic rx, and psychiatry consult



MHD Independently Predicts Pain Consultation

Controlling for age, sex, race, marital status, insurance, Comorbidity Index (CDCI), FF type, site, pre-op narcotic rx, and psychiatry consult



aOR: 2.15 (95% CI: 1.26, 3.67)

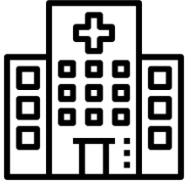
Limitations



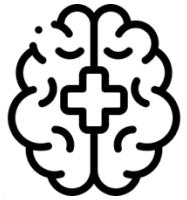
- Retrospective, single-institution study
- Clinically significant pain score differences
- Uncaptured factors that influence pain



Conclusion



- Patients with a MHD exhibited higher post-op pain scores across their hospital courses than patients without a MHD.



- MHD was independently associated with higher POD5 pain scores and inpatient pain consultation.



- Peri-op pain management tailored to individual risk factors may enhance post-op recovery and long-term outcomes.



References

1. Ren JL, Rojo RD, Perez JVD, Yeung SCJ, Hanna EY, Reyes-Gibby CC. Variations in pain prevalence, severity, and analgesic use by duration of survivorship: a cross-sectional study of 505 post-treatment head and neck cancer survivors. BMC Cancer. 2021;21(1):1-11. doi:10.1186/s12885-021-09024-8
2. Snijders RAH, Brom L, Theunissen M, van den Beuken-van Everdingen MHJ. Update on Prevalence of Pain in Patients with Cancer 2022: A Systematic Literature Review and Meta-Analysis. Cancers. 2023;15(3):591. doi:10.3390/cancers15030591
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Thank you!

Questions?

Daniel Roy Sadek Habib

MS4 at Vanderbilt University School of Medicine

✉ Daniel.r.habib@Vanderbilt.edu

✕ @danielrshabib

Slides



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