The Relationship of Obesity & Immediate Postoperative Complications in Hand & Upper Extremity Surgery

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Disclosures

- I have no relevant disclosures

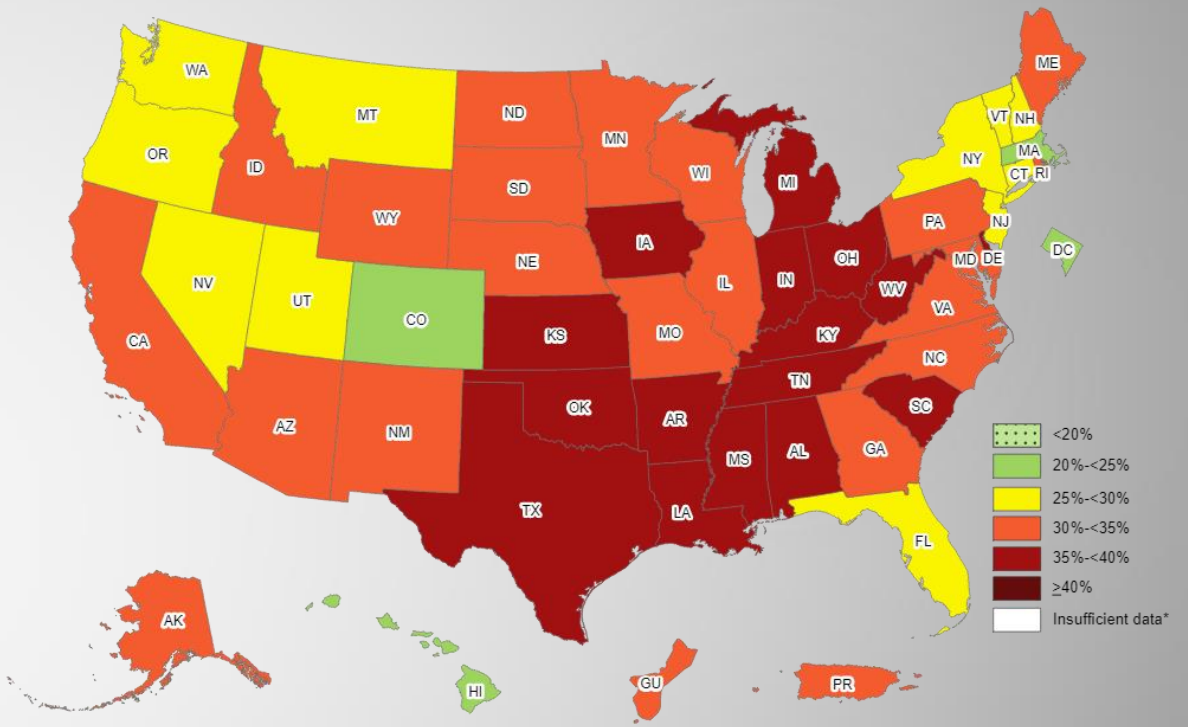
Obesity

Extremely Common

- Population % with Obesity (2015 → 2020)
  - National – 28.9% → 31.9%
  - Texas – 32.4% → 35.8%

Financial Burden

- Obesity causes increased medical cost
  - $147 Billion Annual Cost (2008 Study)



Why Obesity & Hand Surgery?

The Impact of Obesity on Orthopedic Upper Extremity Surgery

Jon Cooper Wall Jr, MD[a], Hillary Powers Wall, BS[b],
Bradley O. Osemwengie, BS[b],
Brendan J. MacKay, MD[a,c,*]

Easy…

Obesity = More Complications

The Impact of Obesity on Complications of Elbow, Forearm, and Hand Surgeries

Daniel A. London, MS, Jeffrey G. Stepan, MD, Gopal R. Lalchandani, BA, Ugochi C. Okoroafor, MD, Troy S. Wildes, MD, Ryan P. Calfee, MD, MSc

- 2014
- Retrospective Review
- 868 patients
- Procedures involving the elbow, forearm, wrist, or hand

Obesity Is Not a Predictor of Complications in Upper Extremity Surgery

Elan J. Golan[1], Jadie De Tolla[1], Maya Deza Culbertson-Scott[1], Ryan Krochak[1], and Jack Choueka[1]

- 2019
- NSQIP Database Study
- 8477 patients
- “18 CPT codes for common fracture fixation & arthroplasty procedures of the upper extremity”

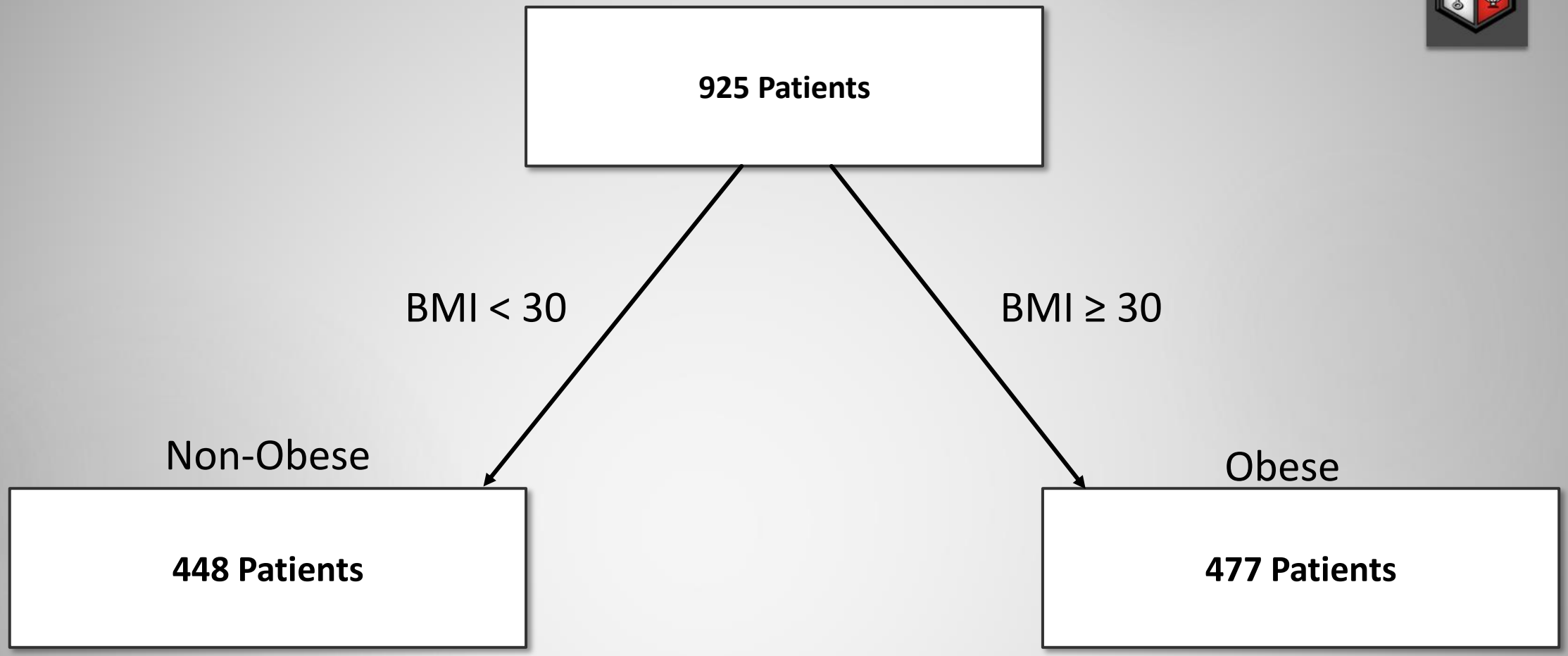
Both found no significant increase in complication rate in obese groups.

Study Purpose

- Study Purpose (Aims):
  - To assess whether obese patients are at increased risk of complications after surgery of the hand, wrist, forearm, or elbow, and add to the current body of literature on this topic.
- Hypothesis:
  - Obese patients do not have a significantly increased risk of immediate postoperative complications after hand, wrist, forearm, or elbow surgery compared with non-obese patients.

Study Population

- All patients >18yo who have undergone surgery of the hand, wrist, forearm, or elbow between 2008-2019
- Inclusion Criteria:
  - Recorded BMI near time of surgery
  - Underwent surgical procedures of the hand, wrist, forearm, or elbow
- Exclusion Criteria:
  - Primary diagnosis of infection or initial procedure coded as I&D
  - Pre-existing wounds near surgical site
  - < 30 days of follow up


925 Patients
BMI < 30
BMI ≥ 30
Non-Obese
448 Patients
Obese
477 Patients

List of Procedures

- Soft Tissue Procedures
  - A1 Pulley Release
  - DeQuervain Release
  - Cyst Excision
- Nerve Procedures
  - CTR
  - Cubital Tunnel Release
  - Guyon Canal Release
- Bony Procedures
  - LRTI
  - Amputation
  - MCP/PIP Arthroplasty
  - Carpectomy
  - Wrist Arthroscopy
  - Styloidectomy
  - Epicondyle Debridement

Outcome Measures

- Local Complications
  - Superficial or Deep Surgical Site Infection
  - Delayed Wound Healing
  - Wound Dehiscence
  - Worsening Nerve symptoms
  - Hematoma
  - Need for repeat procedure
- Systemic Complications

Results

- Complication rate was similar between groups with no significant association

Postoperative Complication Rates

Non-Obese	Obese	P-value
2.0%	2.7%	0.147

Conclusion

- Obese patients are not at increased risk of immediate postoperative complications compared with non-obese patients
- These results are consistent with a growing body of literature on this topic
- May be important for “value-based care”

Thank You!