

# Improving Orthopedic Surgeries Healthgrades Rating by Reducing Complications

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# Improving Orthopedic Surgeries Healthgrades Rating by Reducing Complications

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## Introduction

- Healthgrades is an online healthcare rating system for patients to compare different providers based on clinical outcomes
- Orthopedic surgery has a lower rating than the rest of LVHN with only 1 star out of a possible 5
- Healthgrades is calculated from instances of mortality and complications from public Medicare claims data over a 3 year period with a delay of 2 years<sup>1</sup>
- National average complication rate for hip and total knee replacements in 2013 was 3.4%<sup>2</sup>
- Severe complications only occurred in less than 2% of total joint replacement patients<sup>3</sup>
- Study at Northwestern University showed high complication rates caused by inconsistent record keeping, not poor hospital quality<sup>4</sup>
- Improving the Networks orthopedic Healthgrades rating will attract more patients and increase the its competitive edge in the area

## Methodology

- Analyzed hip (n=1883) and total knee (n=3011) replacement clinical outcomes from 2010 to 2012 using Microsoft Excel
- Confirmed trends with the clinical outcomes from 2013 and 2014
- Individual patients with complications were further analyzed by looking at their medical records, including history and physical, lab test results, and physician notes
  - This proved no standardized method of coding renal failure or other respiratory complications

## Results

	2010	2011	2012	2013	2014
<b>Hip</b>	8.8%	5.5%	8.2%	7.1%	3.9%
<b>Knee</b>	10.6%	7.6%	8.5%	8.0%	2.8%

**Table 1:** Complication rates from 2010 to 2014 for hip and total knee replacements

- Description of important complications:
  - 997.\*\* - complications affecting a specified body system
  - 584.9 - acute renal failure
  - 997.39 - other respiratory problems<sup>5</sup>

Complication	2010	2011	2012	2013	2014
<b>584.9</b>	4.9%	3.1%	2.3%	1.7%	1.3%
<b>997.**</b>	2.7%	0.7%	3.8%	4.7%	0.2%
<b>997.39</b>	0.3%	0.2%	3.0%	4.2%	0.2%

**Table 2:** Percent of total knee replacement procedures that resulted in acute renal failure, complications affecting a specified body system, and other respiratory complications by year from 2010 to 2014.

Complication	2010	2011	2012	2013	2014
<b>584.9</b>	4.4%	2.7%	1.5%	0.9%	1.0%
<b>997.**</b>	1.8%	1.5%	4.2%	4.9%	0.5%
<b>997.39</b>	0.0%	0.6%	3.3%	4.3%	0.0%

**Table 3:** Percent of hip replacement procedures that resulted in acute renal failure, complications affecting a specified body system, and other respiratory complications by year from 2010 to 2014.

## Conclusion

- Two most frequent complications are acute renal failure and all 997.\*\* codes including other respiratory problems
- Acute renal failure:
  - Occurrences decrease yearly after 2010
  - DRG changed from a major to a regular complication in 2010
- Other respiratory problems and all 997.\*\* codes:
  - Occurrences spike in 2012 and 2013
  - Result of outside contractors coding cases
- Reeducation program for coding staff
- Prebilling initiative put in place to catch any undesirable complication codes associated with orthopedics

## Additional Projects

- Analyzed various hospital metrics for Hazleton OR to identify areas for improvement
- Created a standardized way to calculate on time first case starts and turnover time for Tilghman
- Researched the cost and benefits associated with navigation tools or apps for orthopedics as well as hiring a nurse navigator

## REFERENCES

1. *Rating Methodology*. (2014). Retrieved June 2014, from healthgrades: <https://www.cpmhealthgrades.com/index.cfm/solutions/products-services/quality-achievements-plus/ratings-methodology/>
2. Rau, J. (2013, December 17). *Medicare Identifies 97 Best And 95 Worst Hospitals For Hip And Knee Replacements*. Retrieved July 2014, from Kaiser Health News: <http://www.kaiserhealthnews.org/stories/2013/december/17/medicare-best-and-worst-hospitals-for-hip-and-knee-surgery.aspx>
3. *OrthoInfo*. (2011, December). Retrieved June 2014, from AAOS: Association of American Orthopedic Surgeons
4. Avril, T. (2014, January 26). *Debate over readmission data after joint replacements*. Retrieved July 2014, from philly.com: [http://articles.philly.com/2014-01-26/news/46641290\\_1\\_readmissions-medicare-eight-complications](http://articles.philly.com/2014-01-26/news/46641290_1_readmissions-medicare-eight-complications)
5. *Appendix C Complications or Comorbidities Exclusion list*. (n.d.). Retrieved July 2014, from CMS: Center for Medicare and Medicaid Services: [http://www.cms.gov/icd10manual/fullcode\\_cms/p0031.html](http://www.cms.gov/icd10manual/fullcode_cms/p0031.html)

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