Antibiotic Prophylaxis for Arthroscopy of the Knee & Shoulder: Is it Necessary?

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Disclosures

- **Consultant:**
  - Smith & Nephew
  - Exactech
  - Wright Medical Technology
  - Arthrex
  - Sanofi
  - Exscribe

- **Associations & Editorial Boards:**
  - Editorial Board, Orthopedics Today
  - BOD Retired NFL Player’s Association
  - Executive Advisor, AANA
There simply is no objective or scientific evidence indicating antibiotic prophylaxis is necessary for meniscal surgery.. just emotion and fear of litigation!
Introduction

Primary reason for giving antibiotics is perceived;
“medical legal risks”

or

“violation of the standard of care in the community”

AANA Winter Meeting, Whistler, 2007
Metcalf Memorial, Sun Valley, 1/08
Materials & Methods

- 3,784 knee & shoulder arthroscopy procedures were retrospectively reviewed in our MD owned in office surgery center

- Infection was defined as a positive joint aspirate
Material & Methods: Updated 12/8/09

• Originally published a series of 3,784 knee & shoulder arthroscopy procedures were retrospectively reviewed in our MD owned in office surgery center

• Infection was defined as a positive joint aspirate

• 10,013 knee scopes: majority men. (84%)

• 3,758 shoulder scopes: maj.LR & SAD (78%)

• 53% knees had prophylactic antibiotics

• 77% shoulders had prophylactic antibiotics
Results

• The infection rate for those patients in the published article that received antibiotics was 0.15% and for those that did not was 0.16% (p<.5) in the earlier series.

• Updated with larger numbers was .056% for knees with AB’s and .085% without for knees & 0.10% with and 0.10% without for shoulders (p<.5).

Bert, Arthroscopy, 2007
Updated, 2/2009
Results

• There was **no statistical difference** in infection rates between the shoulder & knee arthroscopy patients that had antibiotic prophylaxis and those that didn’t regardless of the arthroscopic surgical procedure or joint involved!
Discussion

• Prophylactic antibiotics are routinely used prior to arthroscopic surgical procedures.

• A previous study without a comparative control group of patients receiving prophylactic antibiotics concluded that antibiotics are unnecessary prior to routine arthroscopic surgery.

• Study, *in press*, by Jahangiri with ≈ 4,000 cases drew same conclusion.

Weick & Jackson, Orthopedics, 1997
Jahangiri et al, Advances in Orthopedics *in press*, 2014
Discussion

- Allergic reactions
- Antibiotic induced diarrhea
- Possible infection with Clostridium Difficile

have been reported with the use of prophylactic antibiotics!

Connor, QJM, 2004
Lemcke, Ther asp pract, 2003
Bartlett, NEJM, 2002
Harbarth, J Hosp Infect, 2001
Gordon, Gastroenterology, 2000
Chassany, Drug Saf, 2000
Conclusion

• At this time the results of this study, & others confirm there is *no valid scientific objective reason* to prescribe prophylactic antibiotics prior to routine arthroscopic surgery of the knee and shoulder.

Bert et al, Arthroscopy, 2009
Weick & Jackson, Orthopedics, 2007
This practice of usage will undoubtedly continue primarily due to fear of litigation that the “standard of care in the community” will be violated.
Conclusion

• This “fear of litigation” has been tested in court..

• Have personally testified on behalf of 2 orthopedists nationally who developed infections S/P routine knee scope, one who used antibiotics and another who did not.....

• Fortunately we successfully defended both cases!.....
Final Conclusions

• If the majority of orthopedists agree to follow strict ID protocol, then based upon objective clinical data confirming the same infection rates regardless of usage of prophylactic IV antibiotics, the standard of care in the community would be to avoid IV antibiotics prophylactically for routine arthroscopic surgery.
Thank You!