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# Feasibility and usefulness of device pocket closure with knotless sutures

Adam S. Budzikowski, M.D., Ph.D., FHRS  
SUNY Downstate Medical Center  
Brooklyn, NY USA

# Disclosure

- Noting to disclose



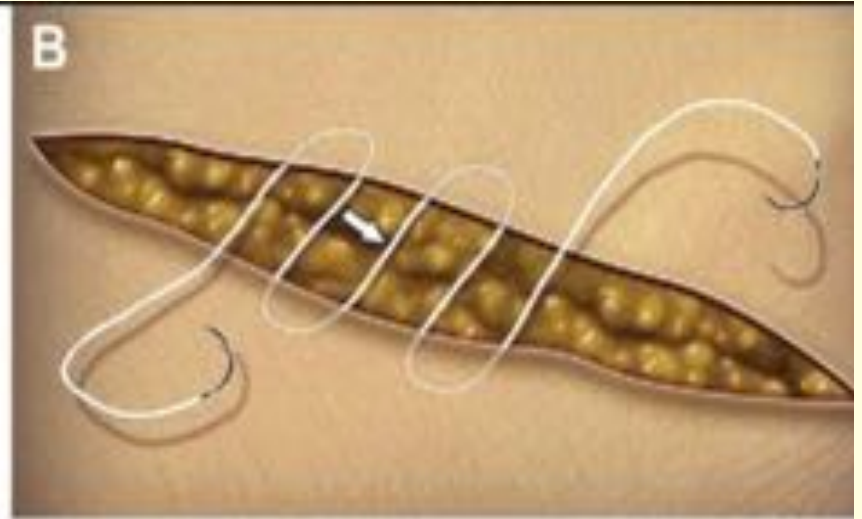
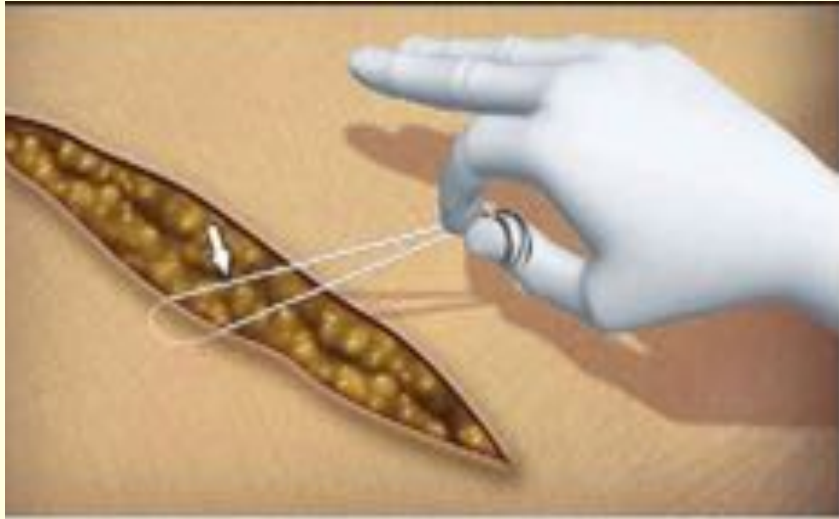
# Barbed knotless sutures

- In clinical practice since early 2000's
- Used in a wide range of surgical specialties
- Evenly distribute tension across the suture line, eliminating the need for knot tying and leading to decreased operative time, improved cosmetic appearance of surgical wounds
- Have a lower incidence of reported infection rates (0.05%)



# Quill Barbed Knotless Suture





# Our Study

- Retrospective analysis of 624 patients who underwent CID implantation at our institution over a 6 year period
- Patients undergoing device extractions were eliminated from the analysis
- Single operator involved in all implants
- All patients received periprocedurally iv antibiotics either cefazolin 1-2 gm or clindamycin 600 mg and oral antibiotics for 5 days.



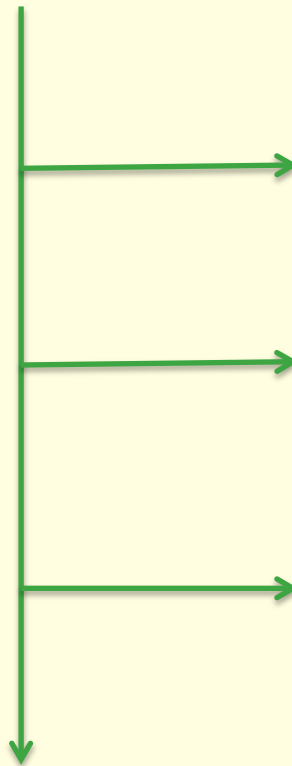
# Our study

- We looked for evidence of pocket infection/dehiscence occurring within 3 months of implantation



# Cohort Analysis

624 patients



7 deaths

10 lost to follow up

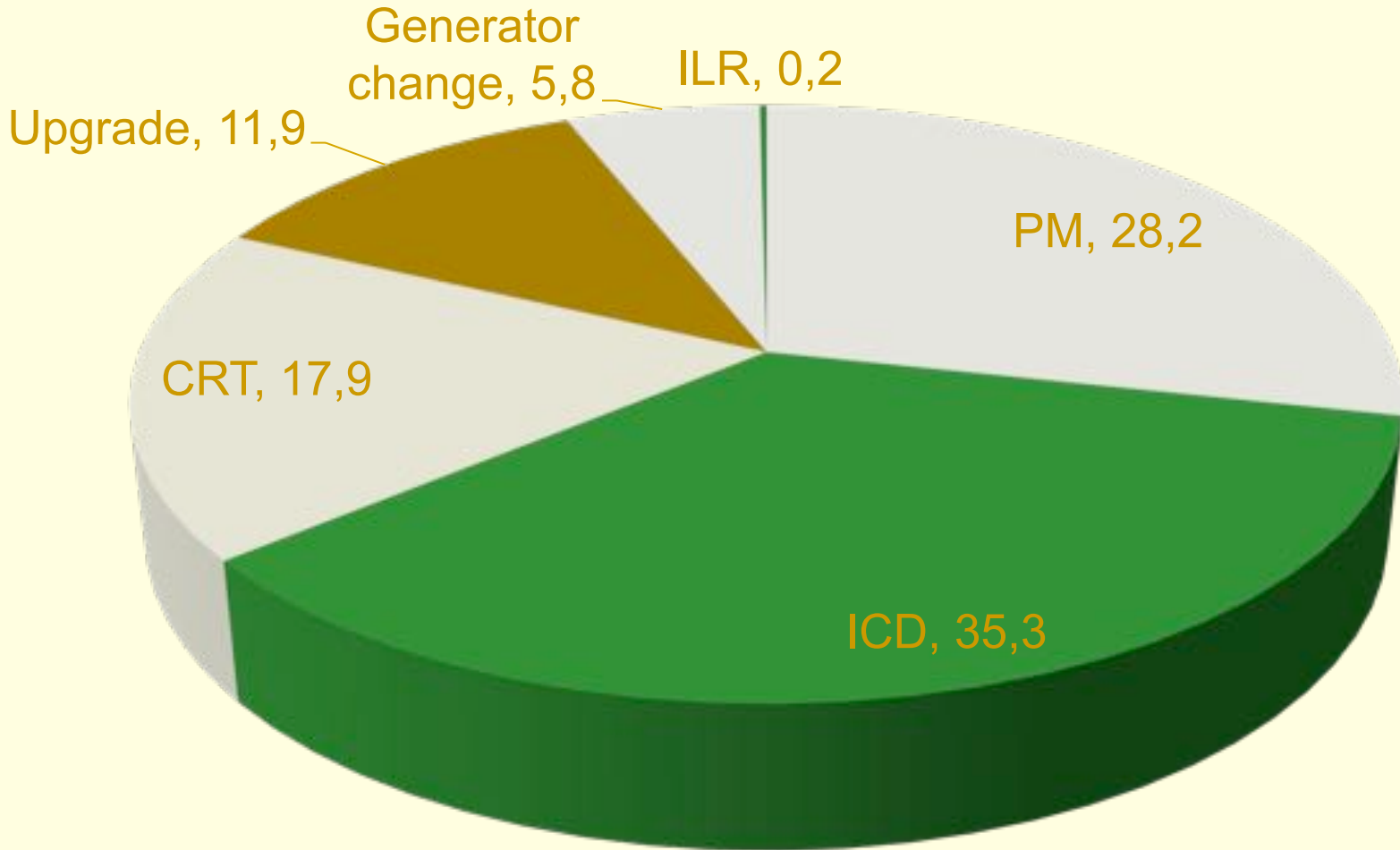
194 incomplete data

413 patients





# Procedure type

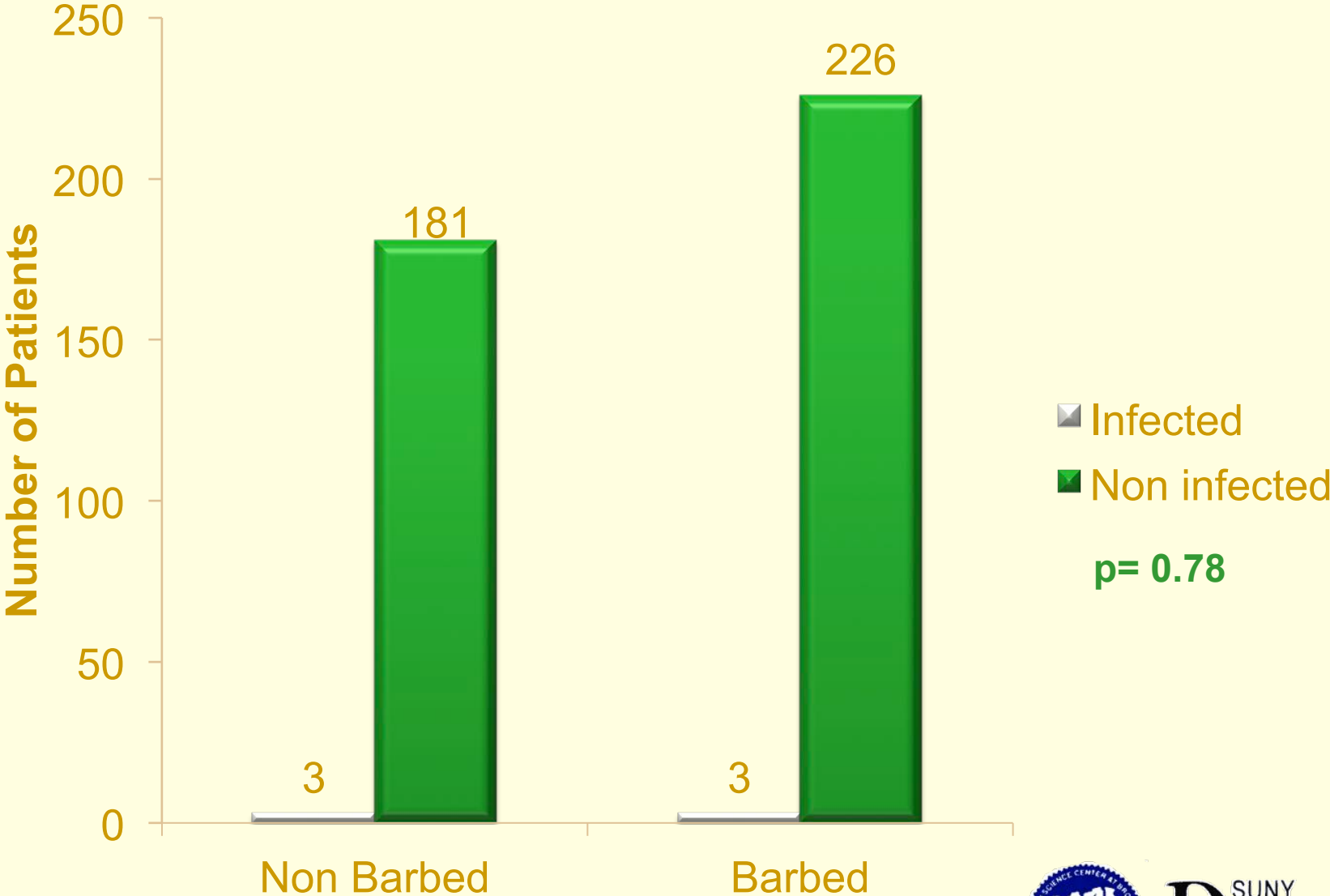


# Cohort Analysis

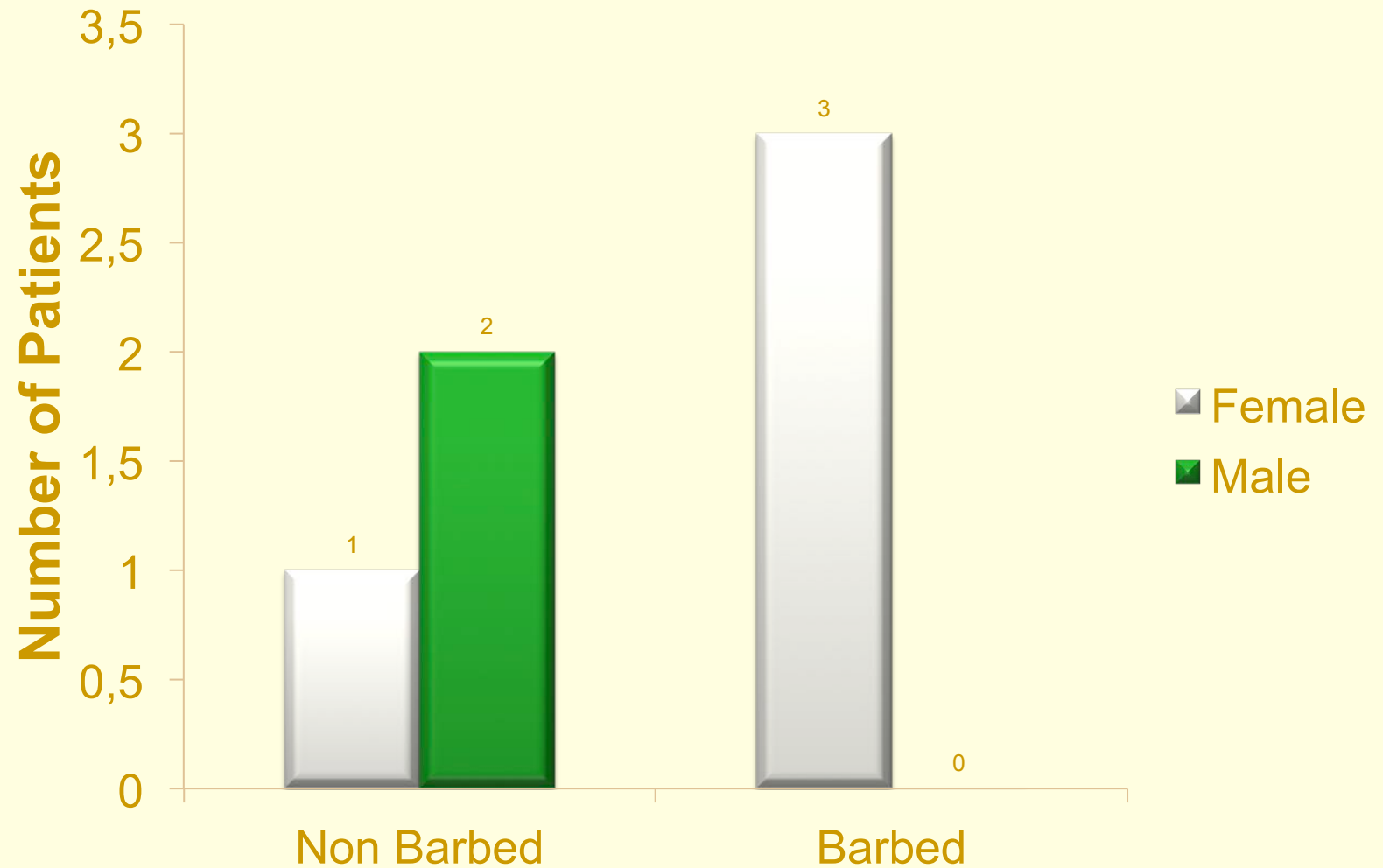
- **Gender**
  - 230 men
  - 183 women
- **Age**
  - 172 patients < 65 years
  - 241 patients > 65 years
- **Suture material**
  - barbed sutures were used in 229 cases
  - non barbed sutures were used in 184 cases



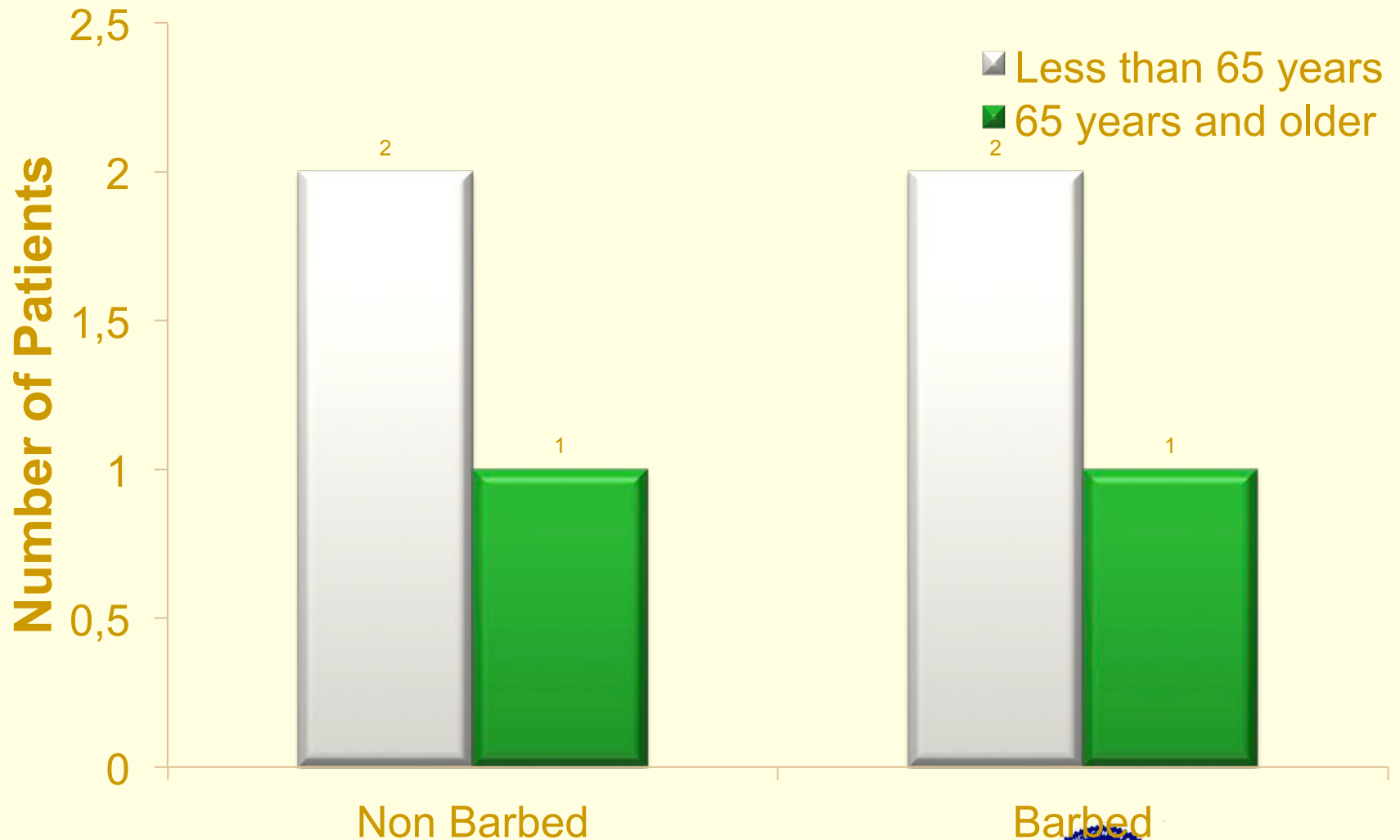
# Infection rate



# Gender and infection rate



# Age and infection rate



# Results

Suture Type	Infection Rate
Barbed	1.31%
Non barbed	1.63%
U.S National Average *	1.61%

\* Greenspon et. al J Am Coll Cardiol. 2011;58(10):1001-1006



# Characteristics of the patients with pocket infections

<b>Risk Factor</b>	<b>Number of patients</b>
Systolic Dysfunction (EF < 35%)	5
Renal Impairment (CKD stage 3, 4)	2
Hypoalbuminemia (serum albumin < 3.0)	2



# Conclusions

- Infection rates with barbed sutures similar to those observed with traditional sutures.
- Infection rates with non barbed sutures in our study matched that of the US national average
- Higher infection rates were seen in women and patients under age 65

