

# Looking ahead: Science and Data Needs



**2018 NIAA Antibiotics Symposium**

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# Question #1a

- Does this patient need an antibiotic?



## Question #1b

- Do the benefits of antibiotic therapy outweigh the risks of antibiotic exposure or risk of not treating (by an acceptable margin) in this particular patient?



# Science and Data Needs

- **DEFINED ACCEPTABLE RISK**
  - Promotion of antibiotic resistance
    - Risk to individual
    - Risk to society
  - Serious drug adverse events
  - Negative outcomes from withholding therapy
- Improved (better, faster, less invasive & cheaper) diagnostics
  - Detection of underlying resistance
  - Disease confirmation
- Effective adjunct / alternative therapies
- Optimal dosing regimens



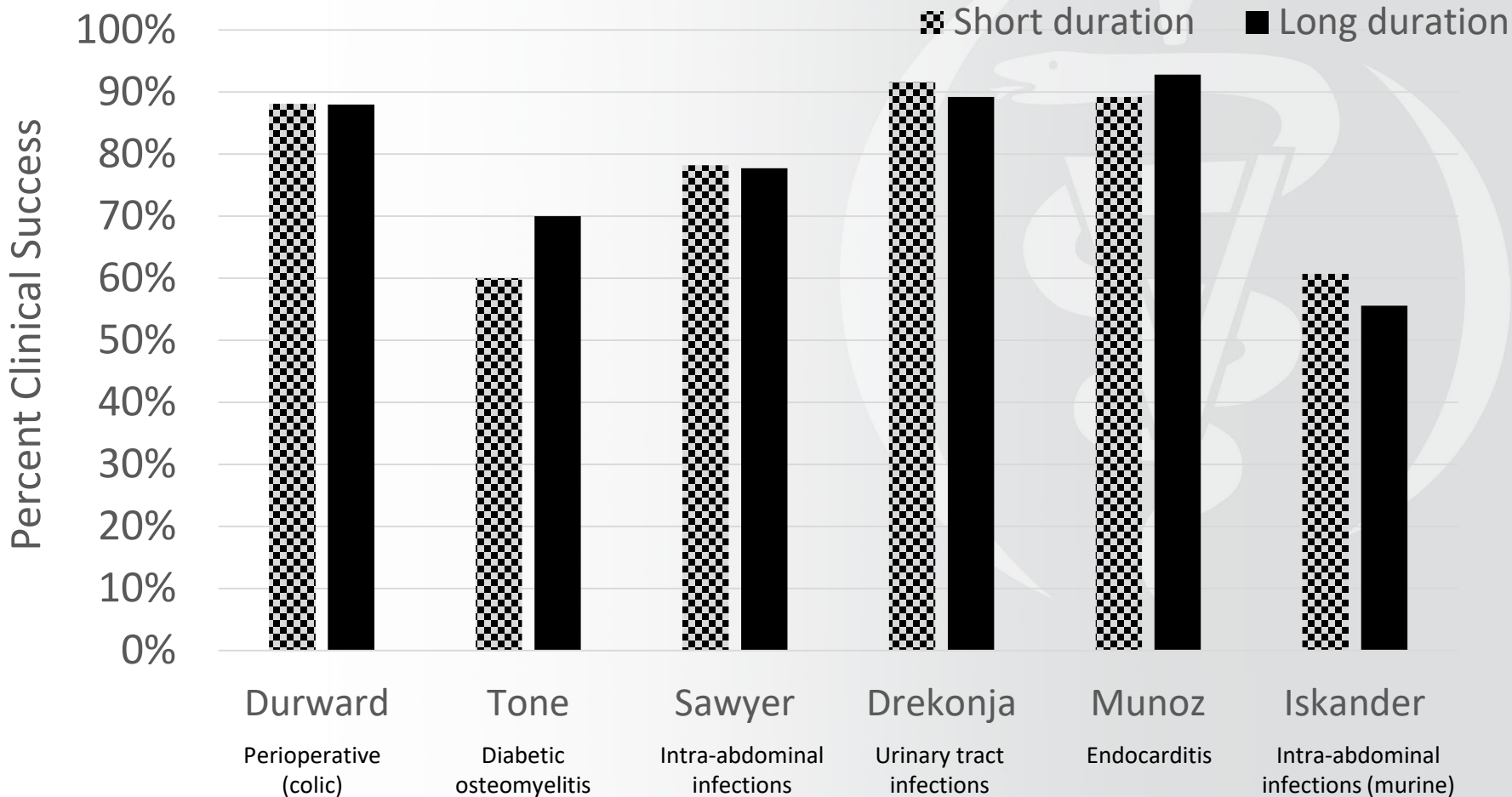
## Question #2

- What is the dosing regimen with the greatest chance for clinical efficacy and lowest probability of resistance selection?

“Hostage to history: The duration of antimicrobial treatment for acute streptococcal pharyngitis”

Radetsky, M.

Pediatric Infectious Disease Journal May 2017



# Science and Data Needs

- Balance clinical outcome with resistance consequences of specific exposures
  - Drug
  - Dose
  - Duration
  - Frequency





**Thank You!**

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