We currently use MRSA nares NAAT for vancomycin de-escalation in Pneumonia. Is UW (or other sites) utilizing MRSA nares to de-escalate outside of Pneumonia? Is the negative predictive value as good in other infectious disease states?

Answer

☑ Pneumonia

☑ Intra-abdominal infection

✗ Skin and soft tissue
(culture the site of infection directly)

Why we like MRSA nares swabs

- Approx 97% Negative predictive value for MRSA pneumonia

- Non-invasive & can have a quick turnaround time

- Allows for rapid de-escalation of vancomycin when not needed
  - time-saved for pharmacy & nursing
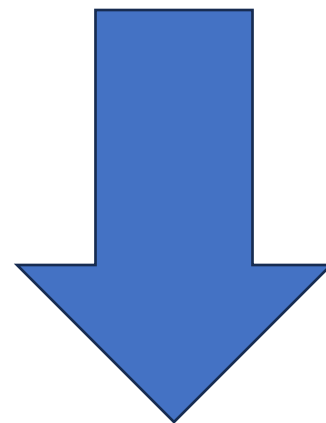 - Safety
  - good patient care

A note about predictive values

The performance of the MRSA nasal screening predicting clinical MRSA infection directly depends on the prevalence of MRSA infection.
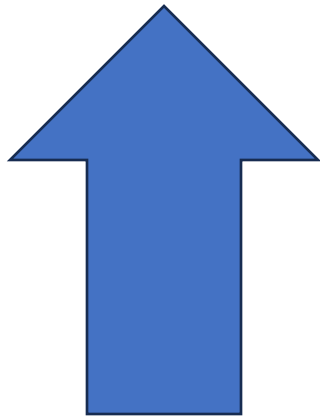
Prevalence of MRSA

Negative predictive value of MRSA nares swab

MRSA Nares & NPV

Site of infection	MRSA prevalence	PPV	NPV
Pneumonia	"low"	32%	99%
Bacteremia	< 5 %	21%	95%
Intra-abd infection (2 retrospective studies)	Not reported	53%	97%

Six (13%) of the 45 patients who developed an MRSA intraabdominal infection had a negative MRSA nasal screen

MRSA Nares Swabs and SSTI

Bigger sample = better reliability

Table 3. MRSA Skin and Soft Tissue Infections/Bone and Joint Infections

Country	Study design	Setting	Patient population	Sample size	Screening method	Testing method	Time from screening to clinical culture	Clinical MRSA prevalence, %	Sensitivity, %	Specificity, %	PPV, %	NPV, %
USA[24]	Retrospective	Tertiary care VA hospital	All	216 (subgroup)	Universal Nares only	Culture	NR	NR	60.0	71.8	6.6	98.1
USA[25]	Retrospective	129 VA hospitals	All	NR (subgroup)	Universal Nares only	Culture or PCR	2 days	17.7	58.0	84.1	44.1	90.3
USA[43]	Retrospective cohort	NR	DFI	57	On-demand Nares only	Culture	NR	29.8	41	90	66.7	80.0
USA[22]	Retrospective	Three-hospital health care system	All	1393 (subgroup)	Universal on admission and transfer Nares only	PCR	24 hrs	Extremities (n=457)				
								22.1	61	94	76	90
								Ulcers (n=72)				
								27.8	70	89	70	89
								Non-extremities (n=864)				
								8.7	60	96	61	96
Switzerland[44]	Retrospective	University hospital	Orthopedic with prosthetic implant infection	102	On-demand Nares and surface skin	Culture and PCR	2 wks	NR	58	85	71	76

DFI = diabetic foot infection; MRSA = methicillin-resistant *S. aureus*; NPV = negative predictive value; NR = not reported; PCR = polymerase chain reaction; PPV = positive predictive value; VA = Veterans Affairs.

Long time from screening to culture = reduced reliability

High prevalence = lower negative predictive value