

Association between Contact Sports and Colonization with Methicillin-Resistant *Staphylococcus aureus* in a Prospective Cohort of Collegiate Athletes

Sports Medicine

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Online Table 1. Sensitivity analyses for unadjusted models comparing the odds of colonization with MRSA or MSSA vs. no colonization over time

	Model 1 ^a n=3,291		Model 3 ^b n=2,873		Model 4 ^c n=3,291	
	OR	95% CI	OR	95% CI	OR	95% CI
Non-contact sports	1.00	---	1.00	---	1.00	---
Contact sports						
MRSA	2.25	1.14, 4.43	3.30	1.50, 7.26	4.38	2.08, 9.22
MSSA	1.68	1.06, 2.65	1.47	0.85, 2.54	1.80	1.11, 2.93

Abbreviations: OR, odds ratio; CI, confidence interval; MRSA, methicillin-resistant *Staphylococcus aureus*; MSSA, methicillin-susceptible *Staphylococcus aureus*.

^a: Original model

^b: Excluding subjects swabbed 5 times or less

^c: categorizing baseball as a contact sport

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Online Table 2. Sensitivity analyses for adjusted models, comparing the odds of colonization with MRSA or MSSA vs. no colonization over time

	Model 1 ^a n=3,291		Model 2 ^b n=3,291		Model 3 ^c n=2,873		Model 4 ^d n=3,291	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Non-contact sports	1.00	---	1.00	---	1.00	---	1.00	---
Contact sports								
MRSA	2.36	1.13, 4.93	3.08	1.36, 6.99	3.59	1.50, 8.62	3.79	1.68, 8.52
MSSA	1.57	0.94, 2.62	1.57	0.89, 2.77	1.33	0.71, 2.50	1.67	0.95, 2.92
Male	1.00	---	1.00	---	1.00	---	1.00	---
Female								
MRSA	0.26	0.13, 0.50	0.25	0.13, 0.48	0.42	0.19, 0.90	0.36	0.17, 0.75
MSSA	0.80	0.50, 1.28	0.79	0.49, 1.26	1.15	0.66, 2.00	0.91	0.55, 1.53
Caucasian	1.00	---	1.00	---	1.00	---	1.00	---
African-American								
MRSA	0.35	0.15, 0.79	0.34	0.15, 0.78	0.38	0.17, 0.86	0.33	0.15, 0.72
MSSA	0.77	0.44, 1.34	0.76	0.43, 1.35	0.78	0.43, 1.43	0.79	0.46, 1.38
Other race/ethnicity								
MRSA	0.46	0.09, 2.31	0.40	0.08, 2.02	0.18	0.02, 1.53	0.41	0.08, 2.04
MSSA	1.39	0.47, 4.15	1.47	0.49, 4.40	2.73	0.76, 9.85	1.40	0.47, 4.13
Freshman	1.00	---	1.00	---	1.00	---	1.00	---
Sophomore								
MRSA	1.25	0.53, 2.79	1.40	0.63, 3.13	1.22	0.54, 2.75	1.24	0.56, 2.75
MSSA	1.79	1.02, 3.14	1.82	1.03, 3.22	1.61	0.88, 2.95	1.74	0.99, 3.04
Junior								
MRSA	1.25	0.54, 2.90	1.26	0.55, 2.90	1.33	0.58, 3.07	1.27	0.55, 2.92
MSSA	1.69	0.94, 3.04	1.67	0.92, 3.01	2.04	1.09, 3.82	1.71	0.95, 3.07
Senior								
MRSA	1.07	0.40, 2.81	0.84	0.31, 2.29	0.89	0.29, 2.79	1.10	0.42, 2.86
MSSA	1.20	0.61, 2.37	1.21	0.60, 2.46	1.38	0.60, 3.19	1.23	0.63, 2.40
Trainers								
MRSA	0.97	0.14, 6.69	1.06	0.15, 7.37	1.67	0.25, 11.15	1.54	0.22, 10.86
MSSA	0.82	0.21, 3.27	0.74	0.18, 3.01	0.73	0.17, 3.13	0.90	0.22, 3.65
No previous SA infections	1.00	---	1.00	---	1.00	---	1.00	---
Previous SA infections								
MRSA	5.35	1.51, 18.87	5.41	1.55, 18.87	7.75	2.30, 26.32	5.38	1.54, 18.77
MSSA	2.19	0.86, 5.52	2.09	0.83, 5.29	2.89	1.10, 7.63	2.14	0.85, 5.40
No SA infections in contacts	1.00	---	1.00	---	1.00	---	1.00	---
SA infections in contacts								
MRSA	0.45	0.22, 0.94	0.47	0.23, 0.98	0.55	0.26, 1.13	0.44	0.21, 0.90
MSSA	0.72	0.43, 1.20	0.71	0.43, 1.19	0.75	0.43, 1.31	0.73	0.44, 1.20

Online Table 2. Sensitivity analyses for adjusted models, comparing the odds of colonization with MRSA or MSSA vs. no colonization over time (continued)

	Model 1 ^a n=3,291		Model 2 ^b n=3,291		Model 3 ^c n=2,873		Model 4 ^d n=3,291	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
No comorbidities	1.00	---	1.00	---	1.00	---	1.00	---
Any comorbidities								
MRSA	2.90	0.65, 13.01	2.91	0.66, 12.81	3.35	0.83, 13.58	3.21	0.73, 14.18
MSSA	1.71	0.59, 5.01	1.67	0.57, 4.87	1.87	0.62, 5.61	1.67	0.58, 4.88
No previous surgeries	1.00	---	1.00	---	1.00	---	1.00	---
Previous surgeries								
MRSA	1.28	0.63, 2.60	1.31	0.65, 2.63	1.33	0.66, 2.68	1.30	0.65, 2.61
MSSA	1.31	0.80, 2.15	1.29	0.79, 2.12	1.27	0.75, 2.15	1.35	0.83, 2.21
No previous antibiotics	1.00	---	1.00	---	1.00	---	1.00	---
Previous antibiotics								
MRSA	1.29	0.50, 3.34	1.30	0.51, 3.33	1.63	0.64, 4.20	1.40	0.54, 3.59
MSSA	0.59	0.30, 1.18	0.60	0.30, 1.19	0.66	0.31, 1.38	0.61	0.30, 1.20

Abbreviations: OR, odds ratio; CI, confidence interval; MRSA, methicillin-resistant *Staphylococcus aureus*; MSSA, methicillin-susceptible *Staphylococcus aureus*.

^a: Original model [Adjusted for gender, race (African-American, Caucasian, other), year (Freshman, Junior, Sophomore, Senior, trainer), history of staphylococcal infections, staphylococcal infections in contacts, any comorbidities, previous surgeries, previous antibiotics, contact sport – gender interaction, and time]

^b: Adjusting for the number of months athletes were swabbed

^c: Excluding subjects swabbed 5 times or less

^d: Categorizing baseball as a contact sport