

## INTRO

*Staphylococcus aureus* is a bacterium that can be carried commensally, without causing harm, or as a pathogen, which may cause disease and is carried by 30% of the population (Karabiber). Swabs were collected then a series of culture tests were conducted to test for presence of *S. aureus*. Positive isolates were then tested for the presence or absence of alpha, TSST-1, SEI-X, and SEA toxins using polymerase chain reaction (PCR).

## STUDY BY THE NUMBERS

- 1,632 total Swabs collected
- 1,407 total Swabs processed
- 371 total positive
- 26.58% Carriage rate

## METHODS

1. Create template DNA stocks
2. Set up PCR reaction mixtures → run PCR
3. Create gel and run gels to identify presence or absence of toxins

## RESULTS

Isolates	TSST-1	SEA	ALPHA	SEI-X
S0039	-	-	+	-
S0043	-	-	+	-
S0050	-	-	+	-
S0054	-	-	+	-
S0056	-	-	+	-
S0060	-	-	+	-
S0061	-	-	+	-
S0062	-	+	+	+
S0071	-	-	+	-
S0072	-	+	+	+
S0077	-	-	+	-
S0079	-	-	+	-

# Excitatory effects of superantigens in *Staphylococcus aureus* on the immune system

Ladder + - 39 43 50 54 56 60 61 62 71 72 77 79

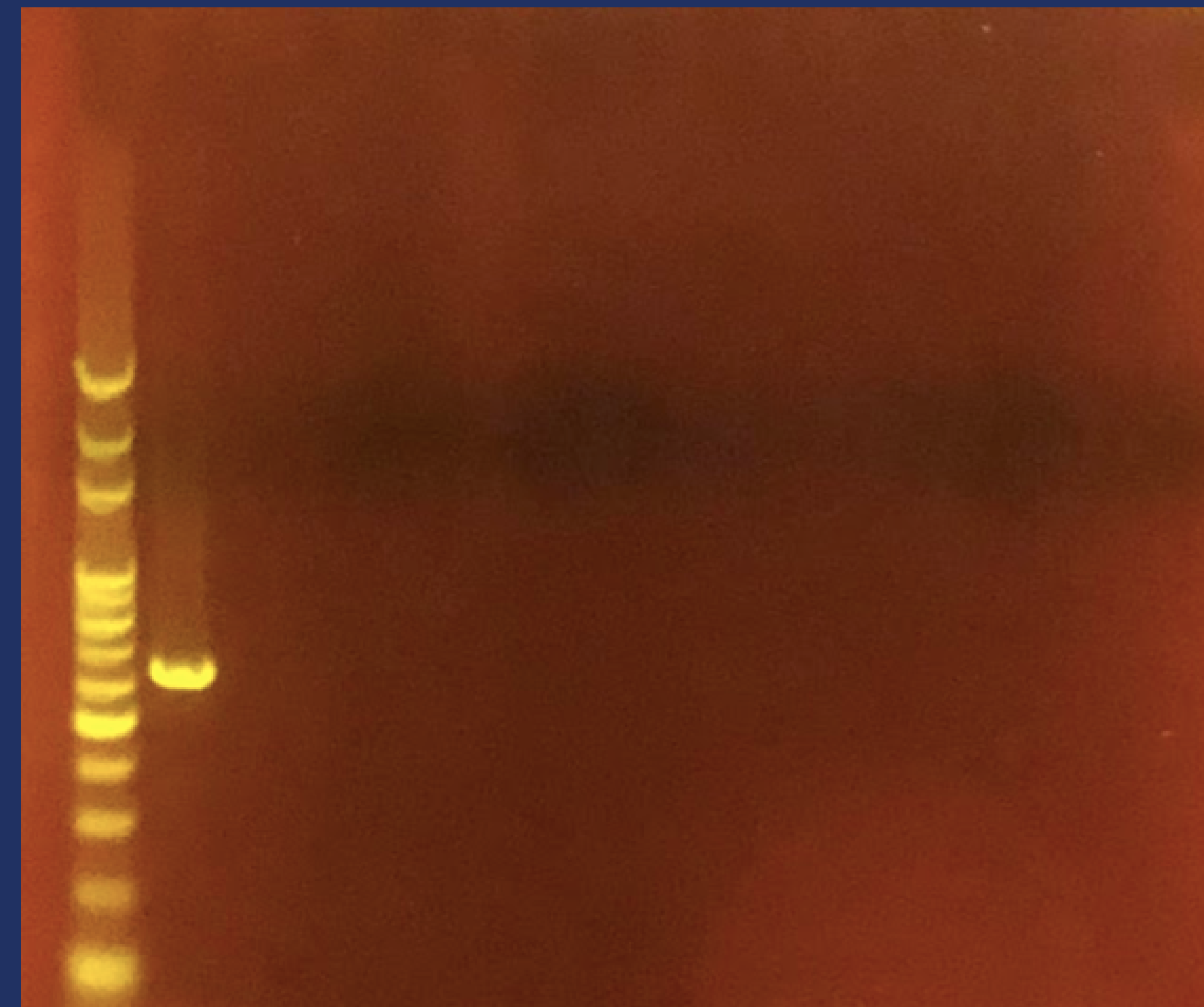
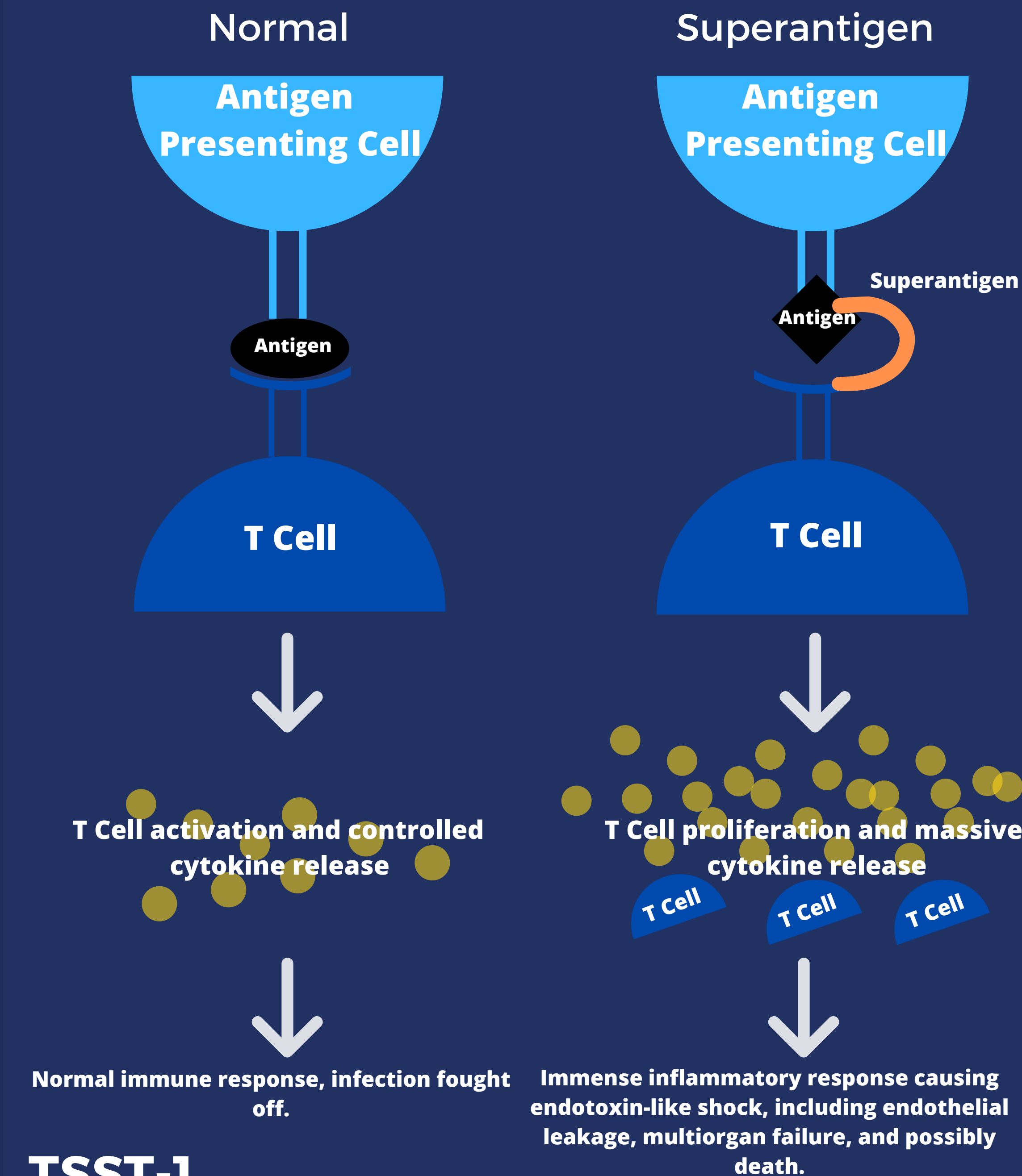


Figure 1. Agarose gel electrophoresis (2% agarose) of isolates after TSST-1 toxin PCR. TSST-1 expected band length is 650 base pairs. Positive control has band length of about 650 base pairs. Negative control should not have a band. No other isolate showed any bands, indicating there is no TSST-1 present.

## DON'T YOU KNOW THAT YOU'RE TOXIC?

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### The Superantigen Theory



## TSST-1

Toxic Shock Syndrome Toxin-1 (TSST-1) is a superantigen that causes a majority of menstrual TSS and half of non-menstrual TSS.

## ACKNOWLEDGEMENTS/REFERENCES

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Karabiber, N. "[Staphylococcus Aureus Nasal Carriage in the Normal Population and Hospital Laboratory Personnel]." Current Neurology and Neuroscience Reports., U.S. National Library of Medicine, Apr. 1991, www.ncbi.nlm.nih.gov/pubmed/1745152.