**Introduction**

*Staphylococcus aureus* can produce a toxin called Panton-Valentine Leukocidin (P.V.L). This can cause severe necrotising infection, leading to severe pneumonia, skin infections and even death. It can spread from person to person and all patients with suspected or known P.V.L. producing *S. aureus* must be isolated in a side room and may be started on additional antibiotics which act against the toxin.

**Method**

During the period 1st August until 31st October 2013, all isolates of *S. aureus* requiring testing for P.V.L. toxin genes were tested using the Progenie Realcycler SAPV real-time PCR assay. Isolates were subcultured to Columbia Horse Blood Agar (Blomerieux, U.K) and incubated in air at 37°C for 18-24 hours at City Hospital (Birmingham, UK). 4-5 colonies were harvested using a disposable 1µL loop (Sarstedt, U.K) (Figure 1) and emulsified in 0.5mL of molecular grade water (VWR, UK) in a 2mL Eppendorf (Figure 2). The suspension was then heated at 97°C for 30 minutes in order to lyse the bacterial cells and release genomic DNA (Figure 3), allowed to cool then centrifuged at 13,000g for 10 minutes to pellet cellular material. 7.5µL of supernatant was added to a Realcycler SAPV assay tube (Instrumentation Laboratory, U.K) (Figure 4).

**Results**

**Impact on Laboratory Turnaround Time**

When compared, the in-house use of the Realcycler SAPV assay clearly shows an improvement of laboratory turnaround time from 7.67 days to 1.9 days with most available within 1 working day (Figure 7).

**Conclusions**

The Realcycler SAPV assay is simple and easy to use. Using the RealCycler P.V.L. toxin real-time PCR method has dramatically improved turn-around times for this test.

Having the P.V.L. toxin status on average up to 5 days earlier, tailors the management of these patients in a timely manner and reduces inappropriate antimicrobial therapy and allows better management of isolation resources and prevention of transmission.

**References**