Impact of sterile gloving during proximal manipulation of a central venous catheter : the multicentre study CleanHandPROX.

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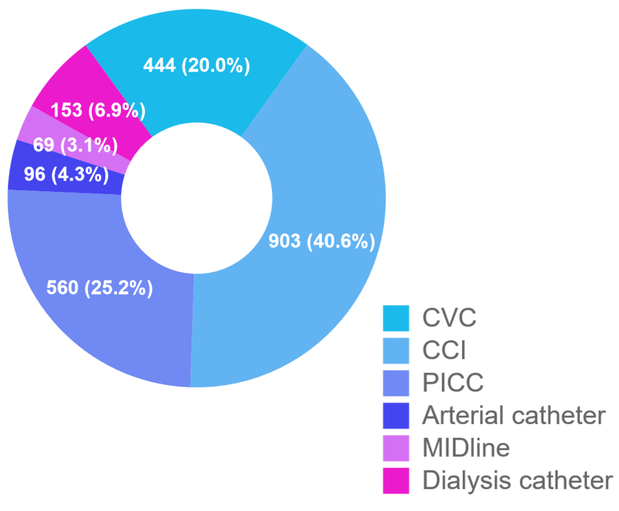
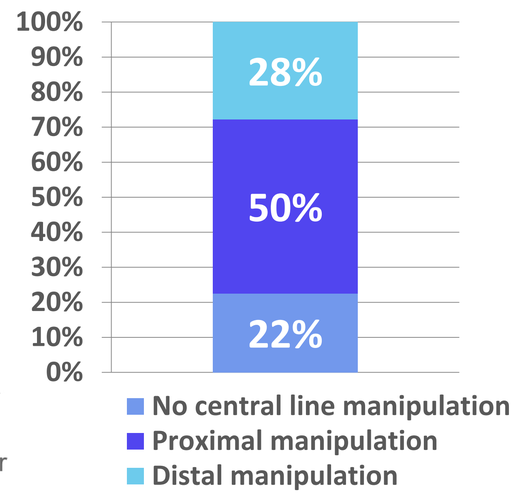
BACKGROUND

Nationwide French 3-month survey in 705 health establishments.

2 225 central-line related bloodstream infections (CR-BSI)



50% of CR-BSI occuring after proximal manipulations of central line



METHODS

260 direct observations of proximal manipulations of central lines in 36 French hospitals to detect differences between field practives / national guidelines.

260 studies of microbial flora of observed healthcare workers (HCWs) fingers.

Swab the fingertinps of HCWs immediately before proximal manipulation

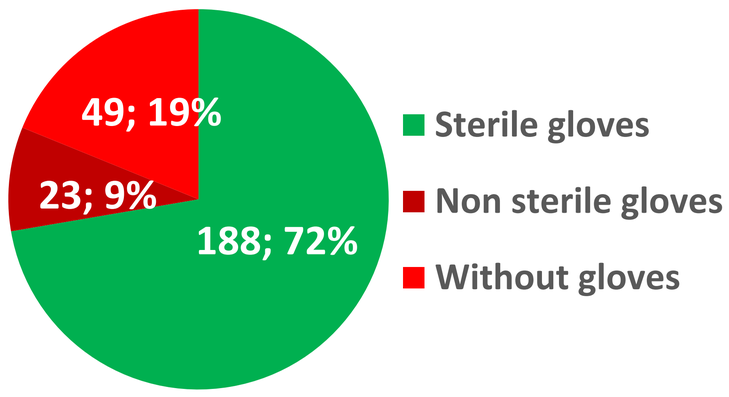
Enrichment phase in broth → Blood agar cultures (37°C-48h) → Microbial colonies identification by MALDI-TOF

RESULTS

Hand hygiene and using sterile gloves were insufficient.

Compliant friction hand hygiene

62 %



RESULTS

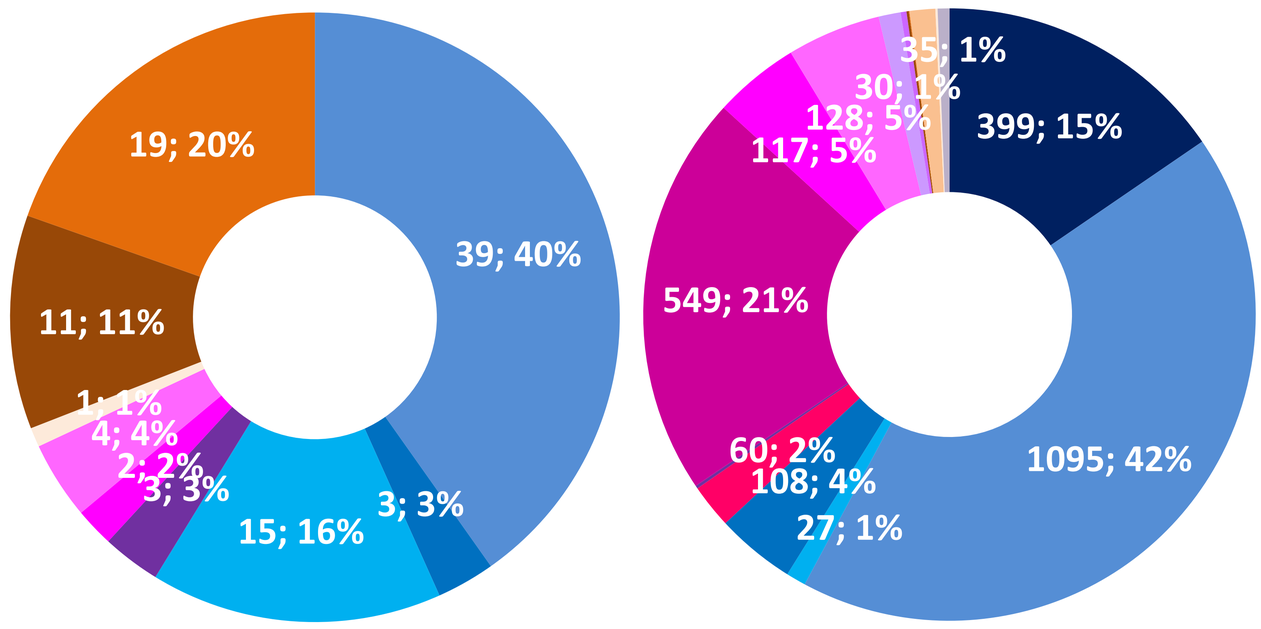
27% (n=72) HCWs fingers contaminated.
57% of microorganisms identified to HCWs fingers are similar to the microorganisms responsible for CR-BSI.

97 microorganisms identified in HCWs fingers

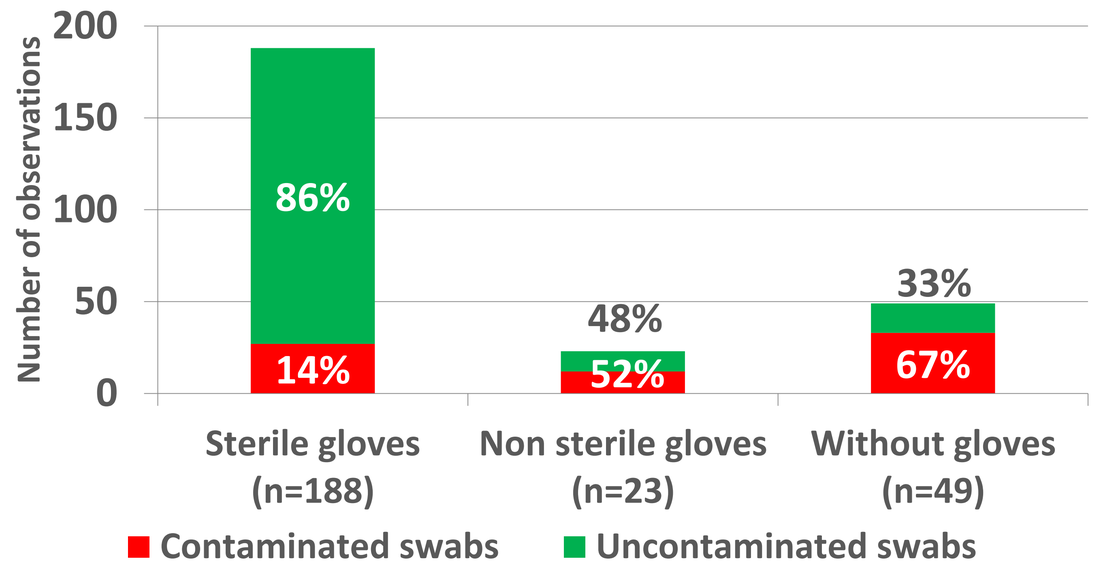
Resident skin flora 59%
Transitory human flora 10%
Environnemental flora 31%

2583 microorganisms associated with CR-BSI

Resident skin flora 63%
Transitory human flora 35%
Environnemental flora 2%



Fingertips of HCWs with sterile gloves are significantly less contaminated compared other HCWs (p<0,01).



CONCLUSION

The correlation between presence of microorganisms on fingers and level of the compliance with the use of sterile gloves and similarity between the microorganisms found on the fingertips ant those responsible of CR-BSI underscores the critical necessity of using sterile gloves during proximal manipulation of central lines.

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