

How to handrub?

Taylor 1978 examined the hand surface coverage during hand hygiene with alcohol, and found that 89% missed some parts of their hands. Missed parts were usually the thumbs and fingertips [1].

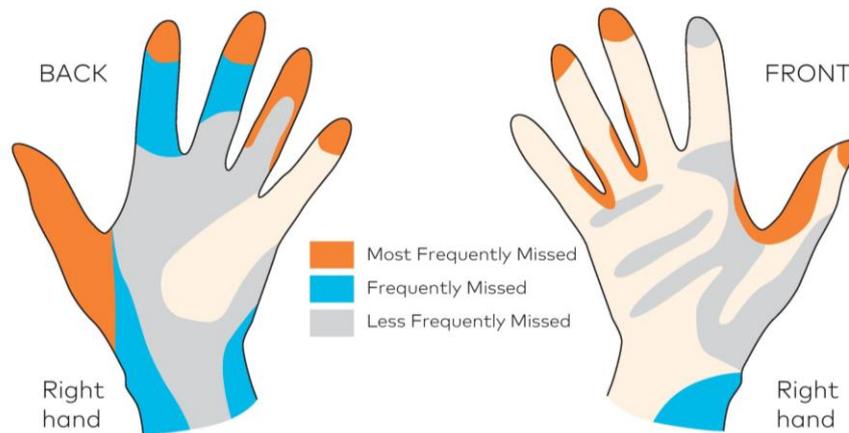


Figure 1: Distribution of areas inadequately treated during hand washing in Taylor 1978 paper.

Ayliffe 1978 described a procedure; a step-by-step guideline how to perform hand hygiene to reach complete coverage. This method consists of five strokes forwards and backwards in 6 different positions. It paid special attention to thumbs (step5) and fingertips (step6) [2]. In Bellamy 1993, the 6-step guideline is first referred to as a standard procedure [3]. The 6-step became the base of the EN 1500 regulation [4] about the efficacy validation of hygienic handrubs (first published in 1997, then updated in 2003 and in 2015) by the European Committee for Standardization. The same 6-step is the core element of the most widely known ‘How to handrub’ and ‘How to Handwash’ protocol released by the WHO in 2005 [5].

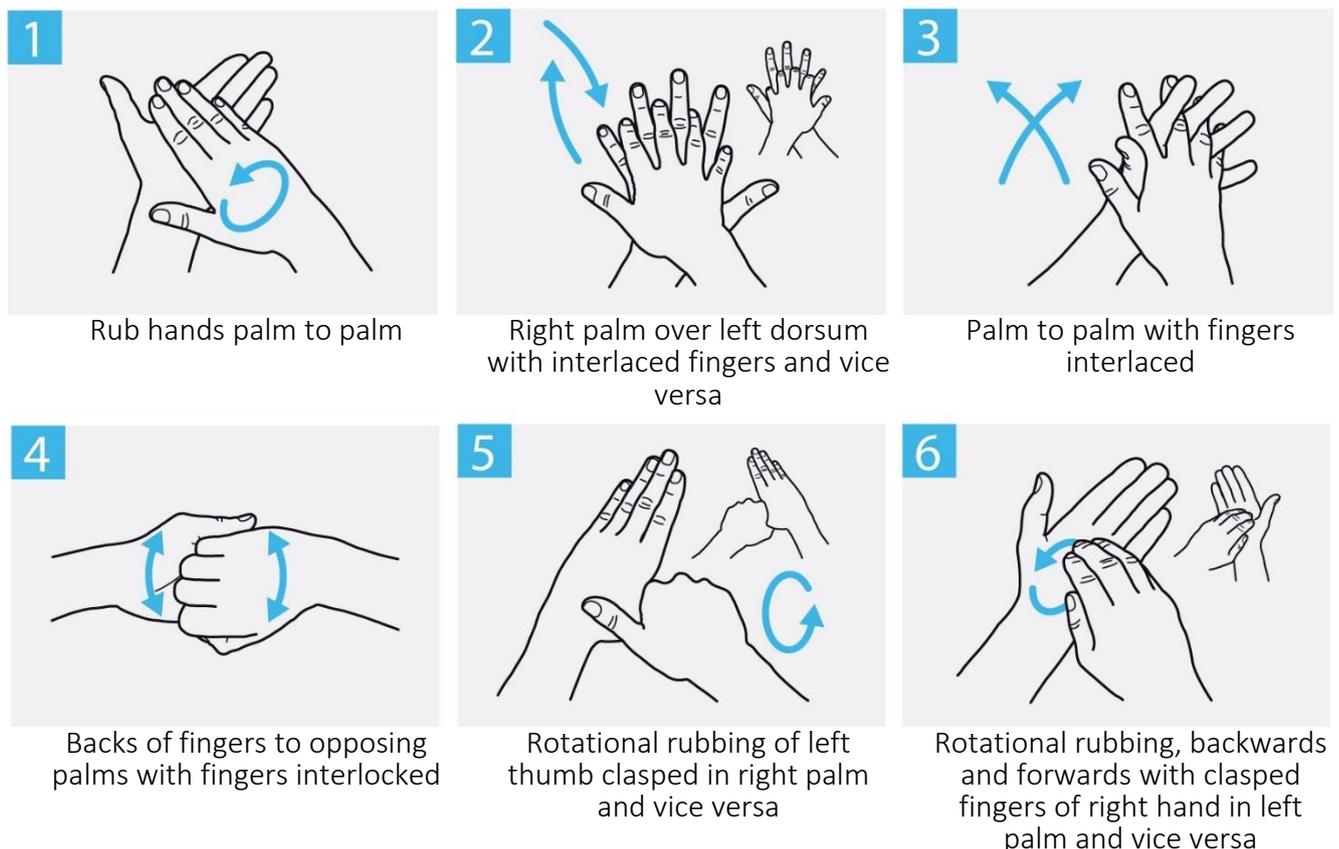


Figure 2: The 6-step from WHO ‘How to handrub’ and ‘How to handwash’ guide.



In [Ayliffe 1978](#) it was mentioned that wrists also need to be rubbed. Many hospitals use a [7-step handrubbing](#) protocol where the 7th step is rubbing the wrists worldwide.

Conclusion:

There are clear, stepwise protocols for proper hand hygiene, which are based on previous research about frequently missed areas. Nevertheless, there is still room for the efficacy and efficiency validation of them, including the currently dominating WHO protocol. In our next post, we will review the critical research results, and take on the alternative proposals.

References

- 1: Taylor LJ.: *An evaluation of handwashing techniques*. Nursing times, 12;74(2):54-5. 1978.
- 2: Ayliffe GA., Babb JR. and Quoraishi AH: *A test for 'hygienic' hand disinfection*. Journal of clinical pathology, 31(10):923-8. 1978.
- 3: Bellamy K. et al.: *A test for the assessment of 'hygienic' hand disinfection using rotavirus*. The Journal of hospital infection, 24(3):201-10. 1993.
- 4: European Committee for Standardization: *Chemical disinfectants and antiseptics - Hygienic handrub - Test method and requirements (phase 2/step 2)*, EN 1500:2013
- 5: WHO Guidelines on Hand Hygiene in Health Care. ISBN 978 92 4 159790 6. 2009