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**Search details**

Do wrist watches pose an infection risk? Should they be worn when working clinically?

**Resources searched**

NHS Evidence; TRIP Database; Cochrane Library; AMED; BNI; CINAHL; EMBASE; MEDLINE; Google Scholar; Google Advanced Search

**Database search terms**: “wrist watch”; “wrist-watch”; wristwatch; timepiece; time-piece; “time piece”; watch*; infection; exp INFECTION; contamination; MICROBIAL CONTAMINATION; BACTERIAL CONTAMINATION; EQUIPMENT CONTAMINATION; risk; jewellery; jewelry; JEWELRY; bracelet*; “wrist adornment”; “hand adornment”

**Google search string**: (wristwatch OR "wrist watch" OR wrist-watch OR timepiece OR "time piece") (infection OR contamination)

**Summary**

A lot of the guidelines, like the one from WHO below, specifies the removal of wrist watches during handwashing, but do not state whether or not they pose an infection risk. However the Health Protection Agency does require that wrist watches should not be worn by staff in its 2007 infection control guidance. On the basis that jewellery worn on the wrist may also pose an infection risk, I have also included studies covering this subject as well; however I have not included rings. The research does not come out wholly in favour of wrist watches causing infection. Studies 1, 4, 5, 18 and 28 say they do; 6, 19 and 21 say they do not. Also see 1, 12, 22, 23 and 24. The abstracts were not detailed enough to deduce their conclusions, but may include pertinent information in full-text.

**Guidelines**

**Health Protection Agency**

Hospital infection control guidance 2007
Rings, wrist watches and wrist jewellery must not be worn by staff.

World Health Organization
Infections and infectious diseases. A manual for nurses and midwives in the WHO European Region 2010

Standard handwashing procedures - Remove wrist watches, jewellery and nail polish.

Evidence-based reviews
None found.

Published research

1. Factors interfering with the microflora on hands: a regression analysis of samples from 465 healthcare workers.

   Author(s): Fagernes M, Lingaas E
   Citation: Journal of Advanced Nursing, 01 February 2011, vol./is. 67/2(297-307), 03092402
   Publication Date: 01 February 2011
   Abstract: Aims. This paper is a report of a study of the impact of finger rings, wrist watches, nail polish, length of fingernails, hand lotion, gender and occupation on hand microbiology of healthcare workers. Background. The impact of the above mentioned variables on hand microbiology of healthcare workers is not well defined. Large scale studies suitable for multivariate analysis are needed to elucidate their role. Methods. Both hands of 465 Norwegian healthcare workers were sampled by the glove juice method during two study periods (2004 and 2007), and examined for total number of bacteria and presence of Staphylococcus aureus, Enterobacteriacea and non-fermentative Gram-negative rods. Multiple regression analysis was performed. Results. The use of a wrist watch was associated with an enhanced total bacterial count on hands compared to hands without a watch [(B) 3.25 (95% CI: 1.73-6.07), P < 0.001], while the use of one plain finger ring increased the carriage rate of Enterobacteriaceae [odds ratio 2.71 (95% CI: 1.42-5.20), P = 0.003]. The carriage rate of Staphylococcus aureus was enhanced with fingernails longer than 2 mm [odds ratio 2.17 (95% CI: 1.29-3.66), P = 0.004] and after recent use of hand lotion [odds ratio 22.52 (95% CI: 4.05-125.30), P < 0.001]. No effect of nail polish was observed. We found an association between occupation and carriage rate of S. aureus and Enterobacteriaceae. Conclusions. Healthcare workers should remove finger rings and watches at work. Fingernails should be shorter than 2 mm, nail polish may be used.
   Source: CINAHL

2. Patients' perceptions of doctors' clothing: should we really be 'bare below the elbow'?

   Author(s): Bond L, Clamp PJ, Gray K, Van Dam V
   Citation: Journal of Laryngology & Otology, September 2010, vol./is. 124/9(963-6), 0022-2151;1748-5460 (2010 Sep)
   Publication Date: September 2010
   Abstract: INTRODUCTION: In September 2007, the Department of Health published Uniforms and Workwear: an Evidence Base for Guiding Local Policy. Following this, most National Health Service trusts imposed a 'bare below the elbow' dress code policy, with clinical staff asked to remove ties, wristwatches and hand jewellery and to wear short-sleeved tops. There is currently no evidence linking dress code to the transmission of hospital-acquired infection. We designed the current survey to assess patients' perceptions of doctors' appearance, with specific reference to the 'bare below the elbow' policy.MATERIALS AND METHODS: A questionnaire showing photographs of a doctor in
three different types of attire (‘scrubs’, formal attire and ‘bare below the elbow’) were used to gather responses from 80 in-patients and 80 out-patients in the ENT department. Patients were asked which outfit they felt was the most hygienic, the most professional and the easiest identification of the person as a doctor. They were also asked to indicate their overall preference.

**RESULTS AND ANALYSIS:** Formal attire was considered most professional and the easiest identification that the person was a doctor. Scrubs were considered most hygienic. Respondents’ overall preference was divided between scrubs and formal clothes. ‘Bare below the elbow’ attire received the lowest votes in all categories.

**DISCUSSION:** This finding raises significant questions about the Department of Health policy in question. The authors suggest that an alternative policy should be considered, with scrubs worn for in-patient situations and formal attire during out-patient encounters.

**Source:** MEDLINE

**Full Text:**
Available in *fulltext* at the ULHT Library and Knowledge Services’ eJournal collection; Note: Click Athens Log In to access this journal. Enter NHS Athens username and password if required.

3. **Wrist watches in the hospital: are they really a risk factor for increased bacterial colonization of the hands?** [German] Armbanduhren im Krankenhaus: Sind sie wirklich ein Risikofaktor für eine vermehrte Keimbesiedlung der Hande?

**Author(s):** Panknin H.T.

**Citation:** Kinderkrankenschwester : Organ der Sektion Kinderkrankenpflege / Deutsche Gesellschaft für Sozialpadiatrie und Deutsche Gesellschaft für Kinderheilkunde, July 2010, vol./is. 29/7(290-291), 0723-2276 (Jul 2010)

**Publication Date:** July 2010

**Source:** EMBASE

4. **Aseptic precautions in epidural catheterization for surgery**

**Author(s):** Haraga I., Shono S., Abe S., Higa K.

**Citation:** Japanese Journal of Anesthesiology, May 2010, vol./is. 59/5(585-588), 0021-4892 (May 2010)

**Publication Date:** May 2010

**Abstract:** We describe aseptic precautions in epidural catheterization for surgery. Every patient has to be checked for immunodeficiency, atopic dermatitis, preoperative use of antibiotics, and local infection of the epidural puncture site. Physicians who perform epidural catheterization should wear a mask and a cap and take off a wrist watch and rings on the fingers before an epidural kit is opened. Fingers and hands should be disinfected before wearing surgical gloves. The skin for epidural puncture site should be disinfected with 0.5% chlorhexidine in 80% ethanol. A micropore filter should be used when epidural catheterization is expected to remain over 24 hours.

**Source:** EMBASE

5. **Wristwatch use and hospital-acquired infection.**

**Author(s):** Jeans AR, Moore J, Nicol C, Bates C, Read RC

**Citation:** Journal of Hospital Infection, 01 January 2010, vol./is. 74/1(16-21), 01956701

**Publication Date:** 01 January 2010

**Abstract:** The wrists and hands of hospital-based healthcare workers (HCWs) were sampled for bacterial contamination in two consecutive cross-sectional cohort studies of wristwatch wearers and non-wristwatch wearers. In the first study (N=100), wrists were sampled by skin swabs and hands by direct plate inoculation. In the second study (N=155) wrists were sampled after each HCW removed the watch immediately prior to sampling. Staphylococcus aureus was found on the hands of 25% of wristwatch wearers and 22.9% of non-wristwatch wearers in the first study. Watch wearers had higher counts of bacteria
on their wrist (P<0.001) but not on their hands. In the second study, removal of the watch prior to sampling resulted in increased counts of bacteria on both hands as well as on the watch wrist compared with non-watch wearers (P<0.001). In conclusion, wearing a wristwatch results in an increase in bacterial contamination of the wrist but excess hand contamination does not occur unless the watch is manipulated.

Source: CINAHL

6. Pants, policies and paranoia.

Author(s): Dancer SJ

Citation: Journal of Hospital Infection, 01 January 2010, vol./is. 74/1(10-15), 01956701

Publication Date: 01 January 2010

Abstract: In response to the rising tide of hospital-acquired infections (HAIs) in UK hospitals, governmental health departments have introduced dress codes for healthcare staff. These include measures such as the use of short sleeves, no wristwatches or jewellery, and avoidance of ties and white coats. Although hospital pathogens have been found on such items, there is no evidence that they play a major role in transmitting HAIs and these policies have received much criticism. This Leader examines the evidence underpinning the new dress codes and concludes that there is insufficient evidence to justify recent policies. Dress codes appear to have been imposed more for political purposes than in deference to effective infection control. In addition, the UK ‘zero tolerance’ mandate towards HAI does not balance personal accountability against a failing healthcare system. These policies may try to impose good practice but over-reliance on cheap, short-term solutions will not adequately address longer-term problems with HAI.

Source: CINAHL

7. Watch out for infection control-successful removal of wrist watches by developing an extendable fob watch

Author(s): Ikeda M., Terunuma N., Nevill M.

Citation: American Journal of Infection Control, June 2009, vol./is. 37/5(E119), 0196-6553 (June 2009)

Publication Date: June 2009

Abstract: Issue: Hand decontamination is fundamental to good hygiene and is basic to the prevention and control of infection. Removing wrist watches is recognized as a positive step towards infection control and contributes to increased peace of mind among patients. From a practical perspective looking at the role wrist watches play in the performance of everyday duties, the banning of wrist watches is not an easy step to take. Against this, the Department of Nursing Services, in our Hospital in collaboration with the Infection Control Department developed a retractable watch in 2005 for use by medical and healthcare professionals. Project: With a pendant design, the watch is attached to the breast pocket or waist belt by a retractable reel. Unlike a wrist watch, the retractable watch does not come into contact with patients. This prevents any possibility of scratching and also enables the thorough washing of hands. Collaborative development and support among departments, combined with practical application and infection prevention efficacy, speaks wonders for our organization and is a source of great pride. Unlike the conventional nurse watch, the retractable watch is distinguished by its retractable reel. The retractable watch has also been presented as a commemorative gift to new students entering the our University and more importantly has served as an education and training tool for student nurses, establishing the habit of removing wrist watches during hospital work. Results: Following preliminary sales, the retractable watch received positive feedback from hospital personnel including nurses, doctors, pharmacists, physiotherapists and medical technologists. Removing wrist watch ratio was increasing from 0% (in 2004) to 92% (in 2007) by audit. Ultimately, the retractable watch has raised awareness among all medical and healthcare professionals and effectively contributed to infection control. Lessons Learned: In promoting the thorough washing of hands, the abolition of wrist watches was inevitable. Through the support of a wide spectrum of parties including the university, hospital and manufacturers, the development and subsequent broad use of a unique watch specifically designed for medical and healthcare professionals was successfully introduced. This
relatively minor innovation is generating a significant expectation of a major contribution to infection control in the future.

**Source:** EMBASE

8. **Potential pitfalls in adherence to hand washing in the community.**

**Author(s):** Nazarko, L

**Citation:** Br J Community Nursing, February 2009, vol./is. 14/2(64-8), 1462-4753 (2009 Feb)

**Publication Date:** February 2009

**Abstract:** Overview of evidence-based practice for overcoming barriers to good hand hygiene in the community setting, including inadequate facilities in patients' homes, inappropriate clothing and jewellery, and dermatitis caused by frequent washing. Hand washing techniques are described, with diagrams, and recommendations are included for hand care products, infection risk assessment, nail length and avoiding dryness. 18 refs.

**Source:** BNI

**Full Text:**
Available in fulltext at [EBSCO Host](#)

9. **Watch out for infection control.**

**Author(s):** Hotham J, Warren K

**Citation:** BMJ: British Medical Journal, 10 January 2009, vol./is. 338/7686(106-106), 09598146

**Publication Date:** 10 January 2009

**Source:** CINAHL

**Full Text:**
Available in fulltext at [Highwire Press](#)

10. **A prospective comparative study of the relationship between different types of ring and microbial hand colonization among pediatric intensive care unit nurses.**

**Author(s):** Yildirim, I, Ceyhan, M, Cengiz, A

**Citation:** Int J Nursing Studies, November 2008, vol./is. 45/11(1572-6), 0020-7489 (2008 Nov)

**Publication Date:** November 2008

**Abstract:** Research in Turkey on the effect of ring wearing and ring types on hand contamination and the effectiveness of alcohol-based disinfection among nurses in paediatric intensive care settings. Hand cultures were obtained from nurses wearing plain wedding rings, rings with stones or no rings in medical and surgical PICUs, after the use of alcohol-based disinfectant. Colonisation rates were compared. 19 refs.

**Source:** BNI

11. **Hand hygiene: More than just hands**

**Author(s):** Zanni G.R.

**Citation:** Consultant Pharmacist, June 2008, vol./is. 23/6(438-444), 0888-5109 (June 2008)

**Publication Date:** June 2008

**Abstract:** Each year as many as 90,000 patients die from facility-acquired infections. Data indicate up to 70% of acquired infections are antibiotic resistant. Hands are the most common routes for transmission of infections. Efforts to improve hand hygiene involve more than the duration of hand washing—they should address disinfectants used, fingernail cleanliness, jewelry worn, and shirtsleeve length. Several low-cost interventions help...
minimize the spread of infections; alcohol-based hand rubs are especially effective. Organizational improvement programs should address hand hygiene compliance. 2008 American Society of Consultant Pharmacists, Inc. All rights reserved.

Source: EMBASE

12. Bare below the elbows: Clinical value of a wristwatch

Author(s): Henderson J., McCracken S.
Citation: BMJ (Clinical research ed.), January 2008, vol./is. 336/7634(10), 1468-5833 (5 Jan 2008)
Publication Date: January 2008
Source: EMBASE

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Available in print at Lincoln County Hospital Professional Library
Available in print at Louth County Hospital Medical Library
Available in print at Pilgrim Hospital Staff Library

13. Hand adornment and infection control.

Author(s): Ward DJ
Citation: British Journal of Nursing (BJN), 14 June 2007, vol./is. 16/11(654-656), 09660461
Publication Date: 14 June 2007
Abstract: Studies have shown that despite infection control guidelines recommending that false fingernails, nail varnish, stoned rings and wrist watches not be worn by clinical staff, a large proportion of them continue to do so. The recently updated epic guidelines (Pratt et al, 2007) state that hand jewellery and false finger nails should be kept short, clean and free from nail polish. This article discusses the bacterial carriage, contributions to outbreaks of infection and interference with proper hand hygiene practices, thereby explaining why these recommendations are made in infection control policies and guidelines.
Source: CINAHL

Full Text:
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Available in print at Pilgrim Hospital Staff Library

14. A study of microbial load of different types of finger rings worn by healthcare personnel.

Author(s): Fagernes M, Nord R
Citation: Nordic Journal of Nursing Research & Clinical Studies / Vård i Norden, 01 June 2007, vol./is. 27/2(21-24), 01074083
Publication Date: 01 June 2007

Abstract: The aim of the study was to describe the growth of bacteria on plain rings worn in contact with patients compared to other kinds of finger rings carried in the same kind of patient contact. Through a sterile procedure 100 plain rings and 52 non-plain rings were shaken in 5-ml sterile salt water (0.9% solution). The solution was transferred to agar and kept incubated at 35DGC, for 48 hours. The sample was 152, finger rings worn by 118 nursing staff in 15 units at one average-sized (400 beds) hospital. The findings showed significantly fewer bacteria on plain rings (median 3075 cfu, n= 100) than on non-plain rings (median 134 250 cfu, n=52) (p=0.005, Mann-Whitney U, two-tailed test). Staphylococcus aureus were found only on two rings (both plain). Gram-negative rods were found on 11 (11.0%) of the plain rings, and on 16 (30.8%) of the non-plain rings (p= 0.002, Pearsons Chi-Square). Although the findings show that there are fewer bacteria on plain rings compared to non-plain rings, there is reason to believe that also plain rings may represent danger of infection.

Source: CINAHL

Full Text:
Available in fulltext at EBSCO Host

15. Should nurses wear jewellery to work?

Author(s): Toth, E, Brown, A

Citation: Nursing Times, July 2003, vol./is. 99/27(18-9), 0954-7762 (2003 8 Jul)

Publication Date: July 2003

Abstract: Debate series. 2 opposing views on the implications of wearing jewellery for infection control and the nurses' image.

Source: BNI

Full Text:
Available in print at Lincoln County Hospital Professional Library
Available in print at Louth County Hospital Medical Library
Available in print at Pilgrim Hospital Staff Library

16. In your face.

Author(s): Mahony, C

Citation: Nursing Times, July 2000, vol./is. 96/29(28-30), 0954-7762 (2000 20 Jul)

Publication Date: July 2000

Abstract: Issues of infection control and effect on patients raised by nurses with body piercings, tattoos and eccentric jewellery and dress.

Source: BNI

Full Text:
Available in print at Pilgrim Hospital Staff Library

17. Contamination of a bracelet following iodine-131 therapy: A case report

Author(s): Bybel B., Beebe W., Kim B.Y., Faiman C.

Citation: Journal of Nuclear Medicine Technology, 2000, vol./is. 28/4(257-258), 0091-4916 (2000)

Publication Date: 2000

Abstract: A 73-y-old patient who had thyroid carcinoma had a post-treatment, whole-body 131I scan. The scan demonstrated an artifact caused by a bracelet contaminated with radioactive perspiration. This finding resulted in an artifact on the scan and had potential radiation safety implications.
18. Bacterial Contamination of Anaesthetists Hands, Personal Mobile Phones and Wrist Watches used during Theatre Sessions

T Gunasekara, BP Kudavidanage - Sri Lankan Journal of ..., 2009 - sljol.info

10 We studied the bacterial contamination of 32 wristwatch swabs ... American Journal of Infection Control ... 4. Jeske, HC, Tiefenthaler, W., Hohlrieder, M., Hinterberger, G., and Benzer, A. Bacterial contamination of anaesthetists hands by personal mobile phone and fixed phone use ...

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19. Effects of bare below the elbows' policy on hand contamination of 92 hospital doctors in a district general hospital

CA Willis-Owen, P Subramanian, P Kumari - ... of Hospital Infection, 2010 - Elsevier

... the so-called 'bare below the elbows' (BBE) policy (short sleeves, no wristwatch, no jewellery, and ... has been no hard evidence that a BBE policy reduces nosocomial infection, or increases ... cuffs, pockets and sleeves) represent a potential source of microbial contamination, and a ...

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20. The impact of a governmental policy prohibiting wearing of wristwatches on the measurement of pulse and respiratory rate

D Spitzer - 2010 - dovepress.com

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22. The Journal of hospital infection | ResearchGate

Norovirus infection as a cause of sporadic healthcare-associated diarrhoea ... cross-sectional cohort studies of wristwatch wearers and non-wristwatch wearers (n=655) were evaluated to measure the rate of bacterial contamination. ...

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24. Infection Control in Healthcare; Artificial Nails and Jewelry ...

12 Aug 2009 ... Not possible to prove our healthcare associated infections are directly ... Wrist watch before hand hygiene. Wrist watch after hand hygiene ...

medical.wesrch.com/.../infection-control-in-healthcare-artificial-nails-and-jewelry - Cached
Wearing a ring or wrist watch tends to increase the moisture of the skin beneath, implicated in cross-\textit{infection} in health care settings.