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IFH Newsheet (www.ifh-homehygiene.org)

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1. News and new publications on hygiene in home and everyday life

The Hygiene Doctor – passionate about hygiene



Dr Lisa Ackerley has been a Chartered Environmental Health Practitioner in the UK for over 25 years. During this time she has become passionate about making a difference to public health by ensuring that consumer hygiene issues are easy to understand – whether at home, work or on holiday. Building on her extensive experience in home hygiene research and media communications, she has recently fulfilled her ambition to set up her own independent website – the Hygiene Doctor. The site offers information about hygiene-related diseases in the “doctoids” area of the site. Through a

series of blogs, the site also offers common sense advice on various aspects of home hygiene, from hands to laundry to hygiene in the office, the garden and wherever. A key feature is her desire to build interactive communications with, and between, consumers through Facebook, Twitter, LinkedIn, etc. Visit the site at: www.thehygienedoctor.co.uk, sign up for her newsletter and get involved.

New publication from IFH: using antimicrobials as part of a risk assessment approach to home hygiene



A new review by IFH Scientific Advisory Board members Sally Bloomfield and Elizabeth Scott examines the place for antimicrobial products (often referred to as antibacterial products) in the home setting. The review is part of a special supplement published in the American Journal of Infection Control, which examines current issues, new research and new technologies in disinfection, sterilisation and antisepsis. Although the supplement is largely devoted to healthcare settings, this short review on the home summarises the basic scientific principles of a risk-based approach to home hygiene, where hygiene procedures are applied at critical points such as hands, hand contact surfaces, food contact surfaces etc., at appropriate times. It suggests that, although detergent-based cleaning of hands and contact surfaces etc. can be used to break the chain of infection, in some cases an antimicrobial product such as a disinfectant or alcohol hand sanitiser is required. The publication can be found at: American Journal of Infection Control 2013;41:S87-93.

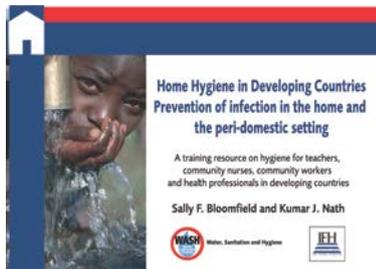
New review from IFH: Spread of antibiotic resistant strains in the home and community



In addition to preventing spread of infections in home and everyday life settings, there is a further aspect which needs to be considered – preventing the spread of antibiotic resistant strains. Tackling antibiotic resistance is a global priority, and there is increasing awareness that hygiene measures are a central part of tackling this problem. Currently, the focus is on preventing spread of resistant superbugs in hospitals, but this is now being seen as much as a home and community problem. In

the community, otherwise healthy people can become persistent skin carriers of MRSA, or faecal carriers of enterobacteria strains which carry multi-antibiotic resistance factors (e.g. NDM-1 or ESBL-producing strains). Because they are healthy i.e. no evidence of clinical disease, the risks are not apparent until they are, for example, admitted to hospital, when they can become “self infected” with their own resistant organisms following a surgical procedure, and then spread it to other patients. It is thought that the major source of nosocomial pathogens is the patient’s endogenous flora. Sometimes these infections occur in the community. As persistent nasal, skin or bowel carriage in the healthy population spreads “silently” across the world, the risks from drug resistant strains in both hospitals and the community increases. Thus hygiene measures in home and everyday life settings are important, not just because they reduce the need for antibiotic prescribing, they can also reduce the spread of resistant strains in the healthy community. We can no longer afford to tackle antibiotic resistance as a hospital problem alone – it’s a two-way street. In the last few years a whole range of studies have been published which examine this issue. These are reviewed in a new IFH paper at: <http://www.ifh-homehygiene.org/review/spread-antibiotic-resistant-strains-home-and-community>

Menstrual Hygiene management in developing countries



The IFH training resource “Home hygiene in developing countries: prevention of infection in the home and peri-domestic settings” is being updated to contain a section on menstrual hygiene management. This IFH training resource gives guidance on what, when, and how to prevent infection and cross-infection in home settings in developing country situations. The resource is primarily aimed at community workers and health professionals, and also family members who care for relatives in the home. It includes practical advice on hand hygiene,

general hygiene, food and water hygiene, disposal of human and other waste, care of domestic animals, insects and personal hygiene. It also deals with situations where is more risk i.e. infection prevention and control in healthcare situations. The updated resource containing information on menstrual hygiene management will be posted on the IFH website in June/early July 2013 and can be downloaded from <http://www.ifh-homehygiene.org/best-practice-training/home-hygiene-developing-countries-prevention-infection-home-and-peri-domestic>

Don't forget that the IFH also has a similar resource focused on developed country settings which can be downloaded from <http://www.ifh-homehygiene.com/best-practice-training/home-hygiene-%E2%80%93-prevention-infection-home-training-resource-carers-and-their>

Does microbicide use in consumer products promote antimicrobial resistance?

Use of microbicides in consumer products continues to raise concern about the possibility of enhanced microbicide resistance and potential cross-resistance to antibiotics. One of the things that is causing confusion and hindering progress in this field is the lack of clarity in the terminology used to communicate on this issue, and the lack of standardisation of test methodology. As a result, data from *in vitro* tests, which suggest reduced susceptibility to antimicrobials, are quite frequently taken to indicate resistance (i.e. treatment failure) in clinical practice. This new white paper, which is based on a 2-day workshop which took place in June 2012, makes specific recommendations for harmonisation of key terms and sets out a consensus view on the methods to study changes in bacterial susceptibility to

microbicides. It also proposes key points toward developing a risk assessment framework for microbicides in the context of emerging bacterial resistance. The article also identifies key research questions which, if addressed, could promote improved knowledge and understanding to assess any related risks for consumer and environmental safety. The paper can be found at: Microbial Drug Resistance 2013: DOI: 10.1089/mdr.2013.0039 1-11.

Lifting the lid on toilet hygiene

Over the years, there has been constant debate about whether and to what extent western toilets might be a route of transmission of infection. In Western Europe, for a long time, the general “expert” consensus was that, for a “normal healthy household”, the infection risk from the toilet was negligible. However, although it seems likely that the risks are less than those associated with hands and high frequency contact surfaces, there is now a feeling that there may be some risk, particularly where someone in the home is vomiting into the toilet or has fluid diarrhoea. The concerns relate both to direct transmission via inhalation of aerosols generated during flushing, as well as surface and hand transfer resulting from aerosol deposition on surfaces around the toilet. This article gives a comprehensive review of the data on this subject that has accumulated from various sources over the past 60–70 years, and highlights some of the changes that have occurred to influence opinion. Some of the change in attitudes has come from increasing concerns about viruses, particularly norovirus, the emergence of *C. difficile*, and the ongoing shift towards shorter hospital stays and increased care of vulnerable groups in the community. The review includes a compilation of the epidemiological studies of disease outbreaks such as norovirus and SARS and the possible relationship to spread via toilet aerosols. The review can be found at: American Journal of Infection Control 2013;41:254-8.

Parents who suck on their infants' dummy/pacifier may protect their child against allergy



Although there is increasing evidence that exposure to harmless microbes during infancy may be protective against allergy, it is still proving difficult to pinpoint which microbes, at what time, and by which route exposure should occur. Researchers at the University of Gothenburg report that parental sucking on the baby's pacifier may give significant protection against allergy development. In 184 children, parents were assessed on how they cleaned the pacifier before giving it to the baby. Most parents rinsed the pacifier in tap water, some also boiled it, whilst others had the habit of putting it into

their mouth to clean. It was found that children of parents that habitually sucked the pacifier were three times less likely to suffer from eczema at 1.5 years of age, compared with children of parents who did not. Importantly, no more upper respiratory infections were seen in children whose parents sucked on their dummies. The researchers believe that oral commensal microbes are transferred from parent to infants when they suck on the same pacifier. They argue that early establishment of a complex oral microflora in the baby could promote healthy maturation of the immune system, thereby counteracting allergy development. The team has previously conducted large-scale studies on gut microbiota and allergy development and showed that a complex gut microbiota very early in life reduces the risk of allergy development. The online version of this paper is at:

<http://pediatrics.aappublications.org/content/early/2013/04/30/peds.2012-3345>

Comparing cross contamination after hand drying with paper hand towels or an air blade dryer



There has been much debate as to whether hand drying with an air dryer increases infection transmission risks via aerosols. Margas et al, Campden BRI, UK, carried out a study of 2 x100 volunteers who washed their hands and dried them by air drying and paper towels. The study indicated that the air blade produces more ballistic droplets which are spread further, than paper towel drying, but no difference for nonballistic aerosols. Using settle plates, it was

estimated that approx. 1.7×10^5 cfu more micro-organisms were left on the laboratory floor (area approx. 17.15 m^2) after using the air blade dryer compared to paper towels. The authors concluded that, whilst the increased microbial levels in the environment are not significant if only nonpathogenic species are spread, it may increase risks of pathogen spread if pathogens are present on people's hands. Over all trials however, coliforms faecal indicator organisms from all swabbing positions and settle plates were below the detection limits for swabs and zero for settle plates – apart from a bin and an air blade front panel which recorded 1.0 and 1.6 log cfu per 25 cm^2 , respectively. In assessing the relative risks for the two methods, however, the relative efficiency of hand drying by paper towels compared to air dryers needs to be taken into account, since it is known that touch transmission is higher from wet compared with dry hands. The study can be found at: Journal of Applied Microbiology 2013: doi:10.1111/jam.12248

Global child health: Water, sanitation, hygiene and enteric infections in children

In this article, Joe Brown, Sandy Cairncross and Jeroen Ensink from LSHTM review the current evidence linking Water, Sanitation and Hygiene (WSH) measures to faecal-oral diseases in children. Evidence from the last 150 years supports extending life-saving WSH measures to at-risk populations worldwide. A recent estimate held that 95% of diarrhoeal deaths in children under 5 years of age could be prevented by 2025, at a cost of US\$6.715 billion, through targeted scale-up of proven, cost-effective, life-saving interventions. This article reviews current data related to access to safe and accessible excreta disposal, basic hygiene practices such as food hygiene, hand washing with soap, and provision of a safe and reliable water supply. The review concludes with a summary of current international targets and progress. The review can be found at: Arch Dis Child archdischild-2011-301528 Published Online First: 12 June 2013 doi:10.1136/archdischild-2011-301528

2. Conferences and Events

Good news for hygiene – asthma and other chronic inflammatory diseases are not the price we have to pay for enjoying protection against infectious diseases?



On June 6th, the 6th Annual Europaediatrics Conference in Glasgow hosted a lunchtime symposium entitled “The hygiene hypothesis, old friends and their implications for child health and home hygiene”. The session included a presentation from Professor Graham Rook, University College London, entitled The Darwinian reformulation: the "Old Friends" mechanism which explained how the original “Hygiene Hypothesis” concept has evolved in the light of the most recent data suggesting that the microbial exposures we need for regulation of the immune system are not infectious diseases, but the “old friends” from our Palaeolithic past. The second presentation was by Professor Sally Bloomfield of the

London School of Hygiene and Tropical Medicine and was entitled: The hygiene hypothesis – the implications for child health and home hygiene. This presentation looked at the possible causes of the loss of exposure to old friends. It also evaluated possible strategies to reverse the upward trends in allergies and other chronic inflammatory diseases, whilst sustaining protection against infectious disease through good hygiene. Both presentations are available for download at: <http://www.ifh-homehygiene.org/review/hygiene-hypothesis-old-friends-and-their-implications-child-health-and-home-hygiene-symposium>

European Antibiotic Awareness Day, Nov 18th – calling all teachers



Do you have an innovative approach to teaching? Would you like to share this with others? If so, then why not take part in the e-Bug competition to support

European Antibiotic Awareness Day? European Antibiotic Awareness Day is an annual campaign to raise awareness of prudent antibiotic use and the threat of antibiotic resistance. This year the e-Bug team are focussing their competition on the teachers and educators of our young people. To enter, send a video recording, YouTube link or written lesson plan with photos of how you inform your students about antibiotics, to e-bug@phe.gov.uk or directly to Donna.lecky@phe.gov.uk . The winner in each category will take home £100 for themselves and £500 for their school. You can find out more about the competition by visiting the webpage at http://www.e-bug.eu/games_home.aspx?cc=eng&ss=1&t=e-Bug%20Games. The deadline is July 28th, so go on, get your thinking caps on and enter for a chance to showcase your skills!