The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

Florence Nightingale ‘Lady with the lamp’
(12-05-1820 – 03-08-1910)

12 May International Nursing Day

• Founder professional nursing
• Advocate improvement of care & hygiene
• Improvement reduced mortality rate from 42% to 2%
• Author books & manuscripts*

* Notes on Nursing: What is and what is not
* Notes on Hospitals: Sanitary techniques to medical facilities

Risk Factors HAI
- Antimicrobial resistance
- Human behaviour
- Staff-shortage
- Difference in medical- and nursing care structure
- Resource availability
- Lack of equipment
- Poor decontamination methods
- Deferred maintenance
- Lack of knowledge about the chain of infection

Do No Harm
Florence Nightingale & Hippocrates

2011 Healthcare Associated Infections (HAI)
± 10% in Hospitals (Netherlands 6,2%)
> 25% on Intensive Care
> 25% in Low income countries

Harm what could be prevented

Breaking the chain with basic precautions Nr.1
The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

Every day, >2.5 billion people suffer from a lack of access to improved sanitation
including in healthcare settings

Cleaning & Disinfection

Clostridium difficile associated Disease (CDAD)

Faeces 10^9 Micro-organisms
Including Multi Drug Resistant Organisms (MDRO)

• >10% of hospitalized patients may be colonized with Clostridium difficile
• Increasing prevalence of multidrug-resistance (MDR) among
  Gram-negative bacilli (GNB) & ESBL-producing GNB
• Transmission of nosocomial MDR GNB pathogens between patients
  involves a complex interaction of contaminated surfaces, clothing and hands
  of healthcare personal

Facing the rising tide of multidrug resistant Gram-negative pathogens
Healthcare Infection 16(1) 1-5  Luke F. Chen*, Matthew E. Falagas and Anton Y. Peleg

Not a new insight
1956 Book
John J. Perkins Director of Research American Sterilizer Company

The objective in the handling of bedpans & urinals is to dispose of the excreta under the most sanitary and least offensive conditions and at the same time to disinfect the utensils

Surfaces & commodes are mentioned

What about the bedpan?

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

Bedpan Survey 2010

- Survey sent by e-mail to 1176 hospitals in 116 countries (2 reminders)
- Questions included:
  - Indentify empty and decontamination methods for bedpans
  - Audit sluice rooms
  - Identify if bedpans or Washer disinfectors (WD) has played a role in HAIs
  - Awareness of ISO15883 for WD
  - Specific national guidelines for handling bedpans

Results presented in posters and shall be published

Responding Hospitals

- Netherlands 77
- Western Europe 34
- East & South Europe 34
- Africa, Asia, Latin America, Eastern Mediterranean Region 58
- Australia, New Zealand 6
- USA, Canada 25

(responding hospitals - 54 countries)

Responding Countries: 54

<table>
<thead>
<tr>
<th>Country</th>
<th>Beds in hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Belgium</td>
<td>25-2500</td>
</tr>
<tr>
<td>Brazil</td>
<td>25-2500</td>
</tr>
<tr>
<td>Colombia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Croatia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>25-2500</td>
</tr>
<tr>
<td>Denmark</td>
<td>25-2500</td>
</tr>
<tr>
<td>Germany</td>
<td>25-2500</td>
</tr>
<tr>
<td>Ghana</td>
<td>25-2500</td>
</tr>
<tr>
<td>Hungary</td>
<td>25-2500</td>
</tr>
<tr>
<td>India</td>
<td>25-2500</td>
</tr>
<tr>
<td>Indonesia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Israel</td>
<td>25-2500</td>
</tr>
<tr>
<td>Italy</td>
<td>25-2500</td>
</tr>
<tr>
<td>Japan</td>
<td>25-2500</td>
</tr>
<tr>
<td>Jordan</td>
<td>25-2500</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>25-2500</td>
</tr>
<tr>
<td>Kenya</td>
<td>25-2500</td>
</tr>
<tr>
<td>Kuwait</td>
<td>25-2500</td>
</tr>
<tr>
<td>Latvia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Lebanon</td>
<td>25-2500</td>
</tr>
<tr>
<td>Malaysia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Morocco</td>
<td>25-2500</td>
</tr>
<tr>
<td>Netherlands</td>
<td>25-2500</td>
</tr>
<tr>
<td>New Zealand</td>
<td>25-2500</td>
</tr>
<tr>
<td>Nigeria</td>
<td>25-2500</td>
</tr>
<tr>
<td>Norway</td>
<td>25-2500</td>
</tr>
<tr>
<td>Pakistan</td>
<td>25-2500</td>
</tr>
<tr>
<td>Peru</td>
<td>25-2500</td>
</tr>
<tr>
<td>Qatar</td>
<td>25-2500</td>
</tr>
<tr>
<td>Russia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>25-2500</td>
</tr>
<tr>
<td>Singapore</td>
<td>25-2500</td>
</tr>
<tr>
<td>South Africa</td>
<td>25-2500</td>
</tr>
<tr>
<td>Spain</td>
<td>25-2500</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>25-2500</td>
</tr>
<tr>
<td>Sweden</td>
<td>25-2500</td>
</tr>
<tr>
<td>Switzerland</td>
<td>25-2500</td>
</tr>
<tr>
<td>Syria</td>
<td>25-2500</td>
</tr>
<tr>
<td>Thailand</td>
<td>25-2500</td>
</tr>
<tr>
<td>Turkey</td>
<td>25-2500</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>25-2500</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>25-2500</td>
</tr>
<tr>
<td>USA</td>
<td>25-2500</td>
</tr>
<tr>
<td>Venezuela</td>
<td>25-2500</td>
</tr>
<tr>
<td>Vietnam</td>
<td>25-2500</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>25-2500</td>
</tr>
</tbody>
</table>

- These figures do not represent the world, but give an impression
- Netherlands 69% reply is the country where I know the hospitals

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
Basic Precautions

Every patient must be treated as colonised or infectious

1. Handhygiene & personal hygiene
2. Cleaning & disinfection procedures
3. Aseptic technique
4. Laundry & waste handling
5. Careful human waste handling

WHO

Categories of health care waste

1. Pharmaceutical waste
2. Sharps
3. Radiactive waste
4. Genotoxic waste
5. Chemical waste
6. Pathological waste
7. Infectious waste

Suspected to contain pathogens, from isolation wards, materials or equipment that have been in contact with:

- infected patients
- excreta contaminated with potentially infectious fluids or blood

How do we recognize infected patients?

Guidelines and rules for Bedpan Management

- Where bedpans are cleaned in patient rooms, minimum bedpan cleaning facilities shall consist of a toilet room with bedpan lugs or spray arms.
- Where facilities for cleaning bedpans are not provided in patient rooms, bedpans shall be taken to a soiled utility room to be cleaned and disinfected using an EPA registered hospital disinfectant after each use.

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
Decontamination
Process that reduces the number of pathogenic micro-organisms from inanimate objects or skin to a level which is not harmful to health

- Cleaning
- Disinfection
- Sterilisation

The choice depends on:
- Budget
- Knowledge
- Risk of infection to patients & HCW
- Risk for environment
- Risk of damaging the utensils

Spaulding’s Classification Scheme (1968)
cleaning, disinfection, sterilization

Critical Items
Affect normally sterile tissues or the blood system and represent the highest level of infection risk. Most of the items in this category should be purchased as sterile. Surgical instruments, catheters, probe, etc.

Semi-critical Items
Second in importance and affect mucous membranes and small areas of non-intact skin and represent a high level of infection risk. These medical devices should be free from all microorganisms; however, small numbers of bacterial spores are permissible. Anesthesia equipment, endoscope, etc.

Non-critical Items
Items and practices that involve intact skin and represent the lowest level of risk. Bedpans, blood pressure cuffs etc.

One problem with implementing this scheme is: oversimplification

Efficiency of disinfection depends on:
- Material and design of the items
- Organic and inorganic load present
- Level of microbial contamination
- Cleaning episode prior for disinfection
- Reliability of the chosen method
- Exposure time
- Frequency

To err is human… also in decontamination bedpans

Manual Chemical disinfection
- Different (inter)national guidelines
- Frequency not clear
- Product-choice
- Exposure risk
- Time consuming procedure
- Expensive
- False sense of security
- Unpopular task
- No correct use disinfectants
- Microbial contamination of prepared disinfectants?
- Never a standard operated procedure

NOT a SAFE procedure!

Guidelines and rules for Bedpan Management

- All urine or faeces should be disposed of in the macerator as rapidly as possible.
- Cleaned and disinfected with Actichlor Plus as described in appendix 1, with careful attention to toilets, bathrooms and sluices, commodes and bedpans.

Guidelines and rules for Bedpan Management

- Clean all equipment should be carefully cleaned and disinfected using a sporicidal agent with 1000 ppm hypochlorite immediately after use on a C. difficile patient.

Guidelines and rules for Bedpan Management

- In that case a bedpan must be used, which the nurse must then immediately empty, clean and disinfect in a bedpan washer.

Guidelines and rules for Bedpan Management

- Always disinfect your hands before taking out the clean goods from disinfector!
Machinal disinfection preferred

- Standard operated procedure (SOP)
- Thermal disinfection
- Validation
- Continuous monitoring
- More reliable than chemical disinfection
- No residues
- Non-toxic for human beings
- Non-toxic for environment

Bedpan Management

1. Patient care
2. Transport to Empty
3. Emptying
4. Flushing
5. Cleaning
6. Loading in WD
7. Disinfection
8. Drying
9. Storage

Patient care

"My aide has a great sense of humor, but you'd never guess it from his bed pan delivery."

Transport to empty

Not as simple as we might think

Transport to empty

OSHA, USA
Occupational Safety & Health Administration

1910.1030(d)(2)(xiii)
- Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

Emptying

Environment often not cleaned afterwards

- Some MO survive months on dry surfaces
- Some MO survive months moist environment

Spores if not cleaned & removed can survive

A Webber Training Teleclass
Hosted by Paul Webber  paul@webbertraining.com
www.webbertraining.com
Sink & Slop hoppers still in use
- Flush
- Rinse
- Water spray
- No Disinfection
- Manual Handling
- Splash, Splatter, Aerosols

Cleaning with water-sprayers, brush or rinsing water (%)

Daily Practice Manual Handling

Risk Healthcare Worker
- Hands
- Eyes
- Uniforms

Risk Environment
- Floors
- Walls
- Surfaces
- Clean items

Something hardly noticed

Cleaning

Not always safe procedures

Manual Cleaning

Only 50% of surfaces is touched by Manual Cleaning

Will Bedpans 100% touched?

Loading WD

Malpractice

Best Practice

A Webber Training Teleclass
Hosted by Paul Webber  paul@webbertraining.com
www.webbertraining.com
The Faecal Quandary – Bedpan Management in a Modern Age  
Gertie van Knippenberg-Gordebeke, Netherlands  
Sponsored by Meiko (www.meiko.de)

Manual disinfection of bedpans (%)

A Webber Training Teleclass  
Hosted by Paul Webber paul@webbertraining.com www.webbertraining.com

OSHA, USA  
Occupational Safety & Health Administration

Other Potentially Infectious Materials means:

1. The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;

2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and

3. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Drying  
Potential Reservoirs!

Storage

• No separation clean & contaminated  
• Not much attention  
• Full room  
• Not recognized

Sluice rooms differs a lot
The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

Risk: Slophoppers

Risk: Bedpan sprayers
Aerosolisation of fecal material
major concern when bedpan sprayers are being used

Requirements
Dirty utility room / sluice room
- Reasonable distance from patients’ rooms
- Hand hygiene dispensers available
- Connection to drainage for WD
- Possibility to separate clean and not clean
- Protection against recontamination
- Easy to maintain and to clean
A well planned sluice room plays a role in infection prevention

Audit Dirty Utility / Sluice Room
Minimal once a year Safety Inspection
- Focus on what people DO
- Separation between clean & not clean
- Take photographs
- Use nose and eyes
- Microbial check?

Audit & Feedback WD

2006: Washer Disinfector (WD)
BS-EN-ISO 15883-Standard Part 1-6
- Part 1 General requirements, terms and definitions and tests
- Part 2 Requirements and tests for WD employing thermal disinfection for surgical instruments, anaesthetic equipment,
Part 3 Requirements and tests for WD employing thermal disinfection for human waste containers
- Part 4 Requirements and tests for WD employing chemical disinfection for thermo-labile endoscopes
- Part 5 Test soils and methods for demonstrating cleaning efficacy
- Part 6 Requirements and tests for WD employing thermal disinfection for non-invasive, non-critical medical devices and healthcare equipment

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

Awareness of ISO 15883 WD

2006: Washer Disinfector (WD)
BS EN ISO 15883-Standard Part 1-6

- ISO (International Standard Organization)
ISO members are the national standard organizations of all European countries, USA, Japan and many other countries
- EN In case European standards are published, national standards are automatically obsolete in the EC member countries
- BS British standards publications

Use of WD & Macerator (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>WD</th>
<th>Macerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>West-Europe*</td>
<td>85</td>
<td>15</td>
</tr>
<tr>
<td>East&amp; South Europe</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>Asia, L-America, Eastern Medit. Region, Africa</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Australia &amp; New Zealand</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>USA &amp; Canada</td>
<td>20</td>
<td>80</td>
</tr>
</tbody>
</table>

2* In UK many Macerators, only 1 hospital responded

- Safer results than manual reprocessing
- Prevention of transmission MRSA, C.diff, & MDRO
- Visual Clean product
- No Odour
- Validated Thermal Disinfection
- Saves Nursing Time
- Easy to use
- Common in North-West European Healthcare
- Protects the HCW from exposure
- Prevents Contamination Environment & Hands

Washer Disinfectors

Safe Handling Human Waste
at Any Patient at Any time by Any HCW

- Note: Sufficient Electricity, Water supply and Sewage connection

Use of WD & Macerator (%)

Minimize Risk Clostridium difficile spores

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
Validation & Maintenance in the Netherlands 2010

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Maintenance (N=18)</td>
<td>Teaching</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Validation (N=18)</td>
<td>Teaching</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Validation done by (N=15)</td>
<td>Teaching</td>
<td>25%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Who is Responsible?

Optimize bedpan management

- **Education WD**
- **System change WD**
- **Motivation WD**

Education for handling bedpans

- To all Nurses, housekeeping and cleaning staff
- Regular education & practical training
- Chain of infection & preventive measures
- Risk to contaminate and transmit MO
- Hand hygiene (minimize handling)

- Work together with patient safety department
- Cooperation between healthcare & manufacturers

System-change for handling bedpans

- Used bedpans must be covered during transport to utility room
- Restriction disinfectants
- Store clean separated from not clean
- WD installed in dirty utility rooms
- Say YES to system-change

- Work together with patient safety department
- Cooperation between healthcare & manufacturers

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com
Machinal Disinfection is preferred

**WHY?**
- Mechanical cleaning *(no hands involved)*
- Thermal disinfection
- Validation
- Continuous Monitoring
- More reliable than chemicals
- No residues
- Non-toxic

**Motivation for WD**
- WDs are safer for Patients & HCWs
- Nurses hands are made for Care
- Not for Manual Emptying & Cleaning Bedpans and Urinals
- Saves time
- Less Odour
- Nurses must realize their specific role
- Nurses can play an important role in demanding for WD

- Work together with patient safety department
- Cooperation between healthcare & manufacturers

**Requirements bedpan choice**
- Need for patient bound bedpans?
- Comfort for patient & HCW
- Safe transport with lid/cover and firm grip
- Easy to empty, clean & disinfect (seamless)
- Long lasting
- Heat resistant
- No water residue after process

**Spaulding's Scheme**

*NOT sufficient for handling bedpans*
- Bedpans can come in contact with mucous membranes *(the genital area)* or non-intact skin *(decubitus, wounds)*
- Full bedpans & urinals are contaminated inside & outside
- Risk during Emptying with splatter, splash and aerosol is not mentioned
- Manual decontamination is never a standard operated procedure (SOP)
- Compliance Hand hygiene is *(still)* low
- Mis-use and over-use liquid chemical disinfectants

**Bedpan types difficult to carry, clean or dry**

**Urine Catheters & Diapers for bedridden adult patients without medical indication should**

**NEVER Replacements for Use Bedpans & Urinals**

**Budget for WD**

Bedpan Washers are **Not Yet** everywhere on the budget priority list

DEMAND FOR IT!

1. *First they ignore you*
2. *Then they laugh at you*
3. *Then they fight you*
4. *Then you win!*

Mahatma Gandhi, India
The Faecal Quandary – Bedpan Management in a Modern Age
Gertie van Knippenberg-Gordebeke, Netherlands
Sponsored by Meiko (www.meiko.de)

<table>
<thead>
<tr>
<th>Costs 1 patient with CDAD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Results: cost vs. re-imbursement</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Falle</strong> (<em>n</em> = 45)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>cost per patient (€) = 53,965</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>re-imbursement per patient (€) = 47,888</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>financial loss per patient (€) = 6,107</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>financial loss per patient day (€) = 165</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Kontollen (<em>n</em> = 135)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>cost per patient (€) = 47,136</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>re-imbursement per patient (€) = 45,734</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>financial loss per patient (€) = 1,404</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>financial loss per patient day (€) = 51</td>
</tr>
</tbody>
</table>

**Worthwhile to Invest in WD**

Bedpan Management

- Focus on the current practice of handling bedpans
- Process improvements related to health-economics and methodology
- Develop specific guidelines for handling bedpans with or without WD
- Only validated & maintained WDs are effective for safe decontamination
- More study is needed for the role of bedpans and WD related to HAI
- Awareness rising & implementing WD ISO Standard 15883 for bedpans
- WD prevents healthcare personnel from a nasty unaesthetic job
- Architectural design for sluice rooms with space for WD

**Requirements WD:**

- Sufficient Electricity, Water supply and Sewage connection

**Resume Bedpanmanagement**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Manual handling _</th>
<th>Machinal handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor/Smell</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Emptying content</td>
<td>Top (or step hopper into sewer)</td>
<td>Bottom (or step hopper into sewer)</td>
</tr>
<tr>
<td>Occupational safety</td>
<td>Exposure (Splash, Splats, Aerosols)</td>
<td>No exposure</td>
</tr>
<tr>
<td>Contamination</td>
<td>Environment, hands</td>
<td>No risk</td>
</tr>
<tr>
<td>Drying</td>
<td>Speaker, spitz, etc.</td>
<td>Bedtime closed doors</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Sprays, soaking, brushing</td>
<td>100%</td>
</tr>
<tr>
<td>Disinfection</td>
<td>No monitored liquid disinfectant</td>
<td>Monitored thermal &gt;80 °C/176°F</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Only 50% affected</td>
<td>Standard Operated Procedure</td>
</tr>
<tr>
<td>Drying (Dry), Towel</td>
<td>Automatically</td>
<td></td>
</tr>
<tr>
<td>Validation process</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Chemotherapy in urine</td>
<td>Exposure risk HCC</td>
<td>No risk for HCC</td>
</tr>
<tr>
<td>Environment</td>
<td>Chemicals cause risk</td>
<td>Environmental protection</td>
</tr>
<tr>
<td>Residue Spores C. diff</td>
<td>Possible</td>
<td>Reduction factor 2- 4log.</td>
</tr>
<tr>
<td>Human Error</td>
<td>Possible</td>
<td>Possible</td>
</tr>
</tbody>
</table>

**Thank you**

- All who shared with me pictures, slides, knowledge, support & advise
- All colleagues who contributed to the survey
- All attendees of this teleclass

**COMING SOON…**

- 19 May 11 Human Factors Engineering Applications for Infection Prevention and Control
  Speaker: Dr. Hugo Saii, University of Geneva Hospitals
  Sponsored by GOJO (www.gojo.com)

- 26 May 11 Safe Injection Devices: 10 Years Out…Where are the Gaps?
  Speaker: Ed Knissman, JW&H International Inc.

- 30 May [Free Teleclass – Live Broadcast from CHICA-Canada Conference]
  Benchmark and Performance Measurement
  Speakers: Zahir Hirji, Bridgepoint Hospital (Toronto) and Leslie Forrester, Vancouver Coastal Health
  Sponsored by GOJO (www.gojo.com)

- 9 June 11 Using Checklists to Prevent Healthcare Associated Infections
  Speaker: Prof. Pilar Pronovost, Johns Hopkins University
  Sponsored by Vires Technologies Inc (www.vires.com)

- 14 June 11 [Free Teleclass – 10th Anniversary Lecture] Ten Years of Infection Prevention and Control: How Far Have We Come?
  Speaker: Prof. Syed A. Sattar, University of Ottawa
  Sponsored by Vires Technologies Inc (www.vires.com)
  and Diversity (www.diversity.com)

A Webber Training Teleclass
Hosted by Paul Webber paul@webbertraining.com
www.webbertraining.com