

# Infection is spread by Stethoscopes

## Now it can be stopped

### The most widely used device in the world

Medical practice has changed significantly over the years towards single-use and disposable products. In order to combat infection many old-style, re-usable types of medical equipment have been replaced with single-use alternatives.

The drive to re-design for infection control has begun with devices in contact blood and fluids, where infections are more dangerous. However it is the non blood-borne diseases that now present a major challenge to the health service. The risk of cross contamination, from all sources, costs UK economy GBP 1 billion per year.

Simple procedures like hand washing have been shown to reduce the rate of cross contamination<sup>1</sup>. The Stethoscope is the most widely used item of medical equipment in the world, yet up to recently very little attention has been paid to it as a vector for harbouring infection.

### Up to 87% of stethoscopes contaminated

Studies show that stethoscope heads can harbour pathogenic bacteria<sup>2</sup>. Some of these show between 66 per cent<sup>3</sup> and 80 per cent<sup>4</sup> of clinicians' stethoscope heads as contaminated.

An analysis of 300 hospital stethoscopes in Texas showed **87%** to be contaminated with gram-positive cocci, yeasts, fungi as well as gram-positive and negative bacilli<sup>5</sup>. Other researchers have shown an MRSA presence on 17%<sup>6</sup>- 69%<sup>7</sup> of stethoscope heads. One study showed blood contamination of labour ward and neonatal stethoscopes at levels of 76% and 46% respectively<sup>8</sup>.

### Time consuming to clean

Increasingly stressful working environments make time-consuming hygiene procedures onerous to enforce. A study at Waterford Regional Hospital revealed that around 2% of doctors could find the time to clean their stethoscopes after every use, and approximately 8% on a daily basis.<sup>9</sup>

## **Alcohol cleaning can be ineffective**

Even when health care professionals find the time to clean their stethoscope, studies show the procedure to have varied success. One such study conducted in ICU showed 71% of stethoscopes to be contaminated. This was reduced to only 30% after cleaning procedures. In another study, a number of hours wait were required after cleaning to ensure that it was bacteria free.<sup>10</sup>

## **Solution**

A single use, silicone membrane conveniently dispensed onto the stethoscope head creates a prophylactic barrier. Stetpro is ultra-fast in applying protection, more reliable than alcohol wipes and cost effective. The Handipak provides ten membranes in a unique portable container.

## **About Shiraz Medical & Stetpro**

The two innovators behind StetPro™ are from a medical and bioengineering background respectively.

Taking hard learnt lessons from working in the NHS they have designed a device that is convenient to use. The inventors felt that, as stethoscopes are used so often, practicality was vital. Using the StetPro™ dispenser, clinicians can save valuable time. The reliable simplicity can benefit doctors, nurses, ambulance crew, as well as other specialties such as physiotherapists.



The goal of Shiraz Medical Limited is to work with the NHS and distributors to develop a suite of products that help the NHS in its drive to manage cross contamination.

## **Large volume dispensers & future products**

The Stetpro Handipak™ is the first in a range of related stethoscope protection products. It is designed for use in mobile or fast paced environments. The next product will be large volume dispenser for the Stetpro™ membrane designed for use where mobility is not required, such as hospital wards.

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<sup>1</sup> J Can Dent Assoc 2000; 66:546-7

<sup>2</sup> Infection Control Hosp Epidemiol, Paris, France; Sep 1999

<sup>3</sup> Infection Control Hosp Epidemiol, Paris, France; Sep 1999

<sup>4</sup> Arch Intern Medicine, Texas, USA; Jan 1996

<sup>5</sup> Sao Paulo Med Jour, Pedroso, SA; Jan 2002

<sup>6</sup> Arch Intern Medicine, Texas, USA; Jan 1996

<sup>7</sup> Indian Jour of Paediatrics, Manipal, India; Mar 2000

<sup>8</sup> Jour Obst Gynae Neonatal Nurs, CA, USA; Mar 1999

<sup>9</sup> Sunday Times article, Waterford, Ireland; Mar 2004

<sup>10</sup> Infection Control Hosp Epid, Paris, France; Sep 1999