Prion diseases or transmissible spongiform encephalopathies (TSEs) are a family of rare progressive neurodegenerative disorders that affect both humans and animals. They are distinguished by long incubation periods, characteristic spongiform changes associated with neuronal loss, and a failure to induce inflammatory response. The problem they impart to dentistry is that they cannot be effectively removed with standard sterilisation measures.

Control guidelines
In 1999, the World Health Organisation (WHO) set control guidelines on TSE and in section 3.2 stated that, ‘Although epidemiological investigation has not revealed any evidence that dental procedures lead to increased risk of iatrogenic transmission of TSEs among humans, experimental studies have demonstrated that animals infected by intrapertioneal inoculation develop a significant level of infectivity in gingival

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**A team effort**
All the practical team is responsible for infection control says Richard Musgrave  » pages 15-16

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Mhari Coxon looks at infection control issues from a solitary standpoint » pages 17-18

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**So, when is good enough, enough?**

Are current methods of keeping infection at bay broken and in need of fixing? Neel Kothari finds out

When British surgeon Joseph Lister first experimented with the use of carbolic acid (phenol) during surgery to prevent infections, he was able to quickly reduce infection rates; this process was to be known as antisepsis. Since then, the adoption of further measures such as thorough hand washing and the wearing of disposable gloves has further helped to cut infection rates.

Lawson Tait went from antisepsis to asepsis, introducing principles and practices that have remained valid to this day. Generally considered a precursor to minimising infection, asepsis is where procedures are carried out free from disease-causing contaminants, such as bacteria, viruses, fungi, and parasites. However, elimination of infection is the goal of asepsis, not sterility. So in today’s modern age, why does this not seem enough? The answer: Prions.

Prion diseases or transmissible spongiform encephalopathies (TSEs) are a family of rare progressive neurodegenerative disorders that affect both humans and animals. They are distinguished by long incubation periods, characteristic spongiform changes associated with neuronal loss, and a failure to induce inflammatory response. The problem they impart to dentistry
WHO consultants agreed that for procedures not involving neurovascular tissues, the standard cross infection policies were sufficient, but they did not come to a consensus on major dental treatments.

Now of course, as a minimum standard, patients should expect to be treated in a safe and clean environment, but are our current procedures broken and in need of fixing? If they are then of course measures to protect patients need to be introduced, but given the potential cost and burden of additional bureaucracy, are these policy measures based on sound evidence and is there any proof that patients are actually better off as a result?

The real question we must ask in relation to our cross infection policies is just exactly when is enough, enough? After all, there seems to be a real difference in cost and burden between getting instruments 'clean' and getting instruments 'sterile'. As yet, it remains to be seen whether it is truly realistic to work in a sterile field when an aseptic field is more easily achievable; after all, regardless of any measures designed to get instruments super, super clean, the most bacteria-ridden area in any dental operating field is likely to be in the patient's mouth.

Further red tape? Over the past few years, I think we have all seen the burden of bureaucracy imposed on us by the tsunami of policy change demanded by HTM 01-05. Barring manufacturers, in my opinion, it's not yet clear who else benefits from these changes. I would like to think that the overwhelming reasons to introduce these changes are evidence based, rather than merely to provide the Department of Health (DH) some form of legal cover, but I guess without objective external assessment the policies imposed will continue to remain questioned by GDPs like myself. Carrying the burden

While many recent policies have acted to standardise cross-infection guidance for many areas within the NHS, if this is merely a legal exercise rather than a practical one the issue of funding is also raised; unlike the hospital sector, GDPs are left to carry the financial burden themselves.

I feel the profession is quite right to question the science behind the guidance, given that other industries where cross infection may occur, such as tattooists, belly-button piercers and even restaurants, are subject to comparatively 'light touch' regulation.

In my opinion, dental practices across the UK can be proud to embrace cross-infection measures based on available evidence as science has progressed over the past few decades. We have developed Joseph Lister's early work, to a point where it is now considered 'best practice' not to have simple barrier protection measures such as disposable gloves and masks. The challenge introduced by Prions clearly needs special attention, given its potentially lethal consequences. Another hurdle? However, history has shown that dentists have a clear willingness to embrace change when that change has a sound evidence base. Clearly the DH has an important role in regulating practices that currently have less than satisfactory cross-infection policies. But will introducing cross-

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**About the author**

Neel Kothari qualified as a dentist from Bristol University Dental School in 2005, and currently works in Cambridge as an associate within the NHS. He has completed a year-long postgraduate certificate in implantology at UCL’s Eastman Dental Institute, and regularly attends postgraduate courses to keep up-to-date with current best practice. Immediately post graduation, he was able to work in the older NHS system and see the changes brought about through the introduction of the new NHS system. Like many other dentists, he has concerns for what the future holds within the NHS and as an NHS dentist, appreciates some of the difficulties in providing dental healthcare within this widely criticised system.

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**GDPs are facing the challenges of providing safe care and managing cost effectiveness**
A team effort

Protection from cross-infection depends on the commitment and co-operation of the entire practice team, says Richard Musgrave

Healthcare professionals at every level and in every discipline can never forget the ever-present risk of cross infection. The knowledge and application of preventive protocols is today more important than ever before, with more sophisticated and even international social intercourse likely to introduce a widening spectrum of pathogens into the clinical environment.

In the context of cross-infection, a pathogen is defined as a transmissible biological agent, which disrupts the wellbeing of its host. Usually in the form of a micro-organism, pathogens can infect a host body via the skin and mucous membranes, inhalation, ingestion, injection, implantation and through the placenta to an embryo in utero, and all of these routes are relevant in everyday dental practice.

Protecting yourself

Although advances in medical science have greatly improved the diagnosis and treatment prognosis of pathogen-inspired infections, the responsibility of practice staff to protect themselves, their colleagues and their patients from possible cross-infection remains undiminished. The aggressive nature of many pathogens dictates that all blood, saliva and gingival fluids should be regarded as potentially dangerous reservoirs of transmissible disease, with control procedures scrupulously observed in every case.

The most frequent occurrences of cross-infection are the result of a failure to observe correct procedures in three principal areas – hand hygiene, equipment sterilisation, and omitting to wear designated personal protective clothing.

Scrupulous attention to detail is vital during the cleaning, disinfection and sterilisation of instruments and equipment after each use.

To safeguard both the wearer and others within the practice from the dangers of pathogen transfer, personal protective equipment and clothing must be worn without exception whenever appropriate.

In 2009, the Department of Health (DH) published the HTM 01-05 Decontamination Protocols, a comprehensive, updated statement of the guidelines for clinical hygiene procedures designed to ensure the safety of both clinical staff and the public from fluid-borne infections, with particular reference to dental practices. These guidelines cover:

- The use of personal protection equipment
- Aerosols and splashes
- Surgery cleaning protocols
- The use of disposable instruments and sundries
- Instrument decontamination
- Sterilisation
- New instruments
- Aseptic storage
- Equipment repair
- Waste disposal
- The safe use and disposal of sharps
- Training in hygiene procedures
- Communication
- The monitoring of infection control techniques.

Rigid adherence to these guidelines should ensure the safety of staff, patients and practice visitors at all times throughout the practice.

Special treatment

Standard hygiene procedures must be applied to every patient, but there may be occasions when special measures are needed, for example if a patient presents themselves with a pre-existing transmissible medical condition.

A first appointment questionnaire should ascertain any specific risks, which should be monitored thereafter. Admissions staff should be aware that patients may not know they are carrying an infection, and some who do know may not be prepared to admit it in response to questioning. This lack of certainty emphasises the importance of rigorously enforcing all standard hygiene procedures for every patient at all times.

It is in the best interests of the practice, as well as the individual, to ensure that all staff

Cross infection control within the practice should be a team effort
are immunised against the more common illnesses, typically measles, mumps, rubella and tuberculosis, although today, this is not the threat it once was. Clinical staff who come into contact with soiled instruments or bodily fluids should also be immunised against hepatitis B, the only blood borne infection against which this protection is currently available. Staff should always be familiar with their immunisation status, which should offer peace of mind as well as a measure of security.

**Training staff**

Protection from cross-infection depends on the commitment and co-operation of the entire practice team. The chain is only as strong as its weakest link, and a single breach of procedure, however slight, introduces increased risk throughout the practice. All staff should be fully trained in hygiene procedures, with particular attention being paid to the competence of newcomers; they must understand their respective roles and be confident in their execution. In addition to adequate training, which should be confirmed by the issue of a signed copy of the Department of Health protocols to each individual, staff meetings should be held at regular intervals to review and discuss possible improvements to the practice’s infection control schedules.

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**About the author**

Richard Musgrave has been in the industry for 18 years, and brought his knowledge and experience to Schülke five years ago. Initially working to develop both the range of infection control products as well as the acclaimed infection control training division, Richard is now responsible for the UK marketing team. He attributes the success of Schülke to the quality of its product and its dedication to providing the best possible support to the dental profession, both in the UK and beyond. This commitment is demonstrated through Schülke’s association with leading companies such as Dental Protection, for example. More information on infection control training is available from Schülke on 0114 254 5500 or by visiting [www.s4dental.com](http://www.s4dental.com).
Cross infection: a hygienist’s point of view

Mhari Coxon insists we must all take responsibility for raising the standard of care in our profession

With HTM01-05 now giving a clear benchmark for us all, we have to think about what we do in practice. Keeping standards is our professional duty, regardless of the working environment.

At our practice, as a team we’ve had several meetings to iron out the small kinks in our protocol and plan our own conversion of a small area of the practice into our central sterilisation room. This is not easy in a listed building, I can tell you.

Meeting standards

But infection control is tricky for those of us in Locum positions and self-employed. How do you cope when you walk into a surgery that is not meeting the best practice guidelines? I know this should be a hypothetical question, but in reality, there will be practices out there which are not confirming.

Do we now include barriers and surface cleaners in our ever-expanding work cases, to ensure we meet standards? Do we need enough instrument kits to do a whole day, so we are not relying on the practice facilities? As it is unlikely we can transport a washer disinfector with us, how do we then transport our instruments prior to cleaning?

In reality, as a self-employed locum, we do need to think about this. Communication as always is key to ensuring you have all the things you need to facilitate quality control.

Time management and infection control

All of these things need to be addressed while working within the practice time frame. Unfortunately, many practices still offer 20-minute, unaided hygienist appointments. I think it is fairly obvious why these practices don’t use permanent staff in a lot of cases. So, how do you time manage effective infection control in between clients?

More often than not, hygienists are not supported by nursing staff in practice and are responsible for their own surgery cleaning. To ensure adequate environment control and to maintain the standards required, this can eat into appointment time, unless it is well thought out.

Perhaps locum companies should be asking for proof of certification when this comes into effect to ensure the safety of their locums? Perhaps we need to address this through our societies and groups to bring about a change to appointment schedules? Apart from some very well thought out hospital departments, who else has time allocated at the beginning and end of each day to allow for good practice? Most practices will expect you to arrive early and stay late, unpaid, to ensure the surgery is prepared and cleaned down.

Assessing your current practice

We do need to revisit our personal approach to infection control at regular intervals. Things change and we all know that corners can be cut when we are under pressure and it is important to recognise when standards are dropping and rectify this. We are human and errors do occur, which is why repeating knowledge is so useful to minimise this. It is why the core subjects came as compulsory and quite right too.

CPD and cross-infection

Please do not take the following information as anything other than comment from experience. The amount of CPD available, with regards to infection control,
is immense and its quality varying. You need to look at what you hope to get out of your CPD then choose the source that suits your needs most.

I can highly recommend Quintessence’s handbook on Infection Control for the Dental Team from its Quint Essentials range (Michael Martin, Martin Fulford, Tony Preston. ISBN: 978-1-85097-132-0 www.quint-pub.co.uk). Having the pleasure of meeting two of the three authors and enjoying their no-sense approach to infection control, I was looking forward to this book. It did not disappoint. Laid out in well-headed chapters, the book makes it easy to access information on the subject you are interested in. Each chapter has clear aims and objectives, and could be used for in-house development as a team, which would be very useful.

Each chapter also has a conclusion and further reading suggestions for those needing to understand each section in more depth. The practical advice on meeting best practice and templates provided at the back of the book make this a must-have book in practice, for ensuring best practice. Our practice manager, dental nurse and practice head have all referred to this book in our meetings and feel it meets our needs in terms of in-house training.

There are also several companies who cover all core subjects in one day, which can be a convenient way of obtaining these points. If you need in-house advice from a non-judgemental adviser, Carmel Maher from Optident is the right person. Her knowledge is fantastic and she can apply this into day-to-day practice effortlessly.

Don’t bury your head
even if you work in one practice, and are employed, you are still responsible for your own actions and as a registrant of the GDC, must follow a code of ethics making sure you put your patients best interests first. If you have concerns about standards where you work, your first port of call should be the practice principle, unless you have a designated line manager. Talking to your dental protection company is confidential and can help to give you find the right approach. It is not OK for us to shrug our shoulders and pass the buck. Imagine if a member of your family was entering a clinical environment you didn’t think was clean enough. Raising the standard of care in our profession is all of our responsibility.

About the author

Mhari Coxon is a dental hygienist practising in Central London. She is chairman of the London British Society of Dental Hygiene and Therapy, regional group and is on the publications committee of the journal, Dental Health. She is also clinical director of CPDforDCP, which provides CPD courses for all DCPs. To contact her, email mhari.coxon@cpdfordcp.co.uk.
As the new Department of Health guidelines for decontaminating dental instruments begin to take effect, uncertainty is rife across the industry. It’s vital that the person responsible for ensuring compliance fully understands the new requirements, and in most practices this is more likely to be the senior nurse or practice manager than the dentist.

What do the guidelines apply to?
Fortunately, the guidance is straightforward, with the ‘Essential Quality Requirements’ stipulating the use of only validated decontamination equipment followed by advice on how to achieve ‘Best Practice’ by using the ideal layout for the decontamination environment and the optimum methods of storing clean instruments.

‘Only the Essential Quality Requirements will apply immediately, but dentists need to think ahead as it is certain that Best Practice will eventually become the only acceptable standard.’

Only the Essential Quality Requirements will apply immediately, but dentists need to think ahead as it is certain that Best Practice will eventually become the only acceptable standard.

The new guidelines are not expected to advocate major changes in methodology (it’s unlikely that the concept of separate Local Decontamination Units (LDUs) will be abandoned), but their more stringent decontamination requirements will make investment in high-quality solutions advisable as soon as possible.

Who needs to seek guidance?
Even practices where procedures have been specifically designed to meet present requirements should seek advice from a reputable provider of hospital-standard decontamination solutions to ensure that their confidence is not misplaced. Several Primary Care Trusts have already noted that their practices are not meeting the Essential Quality Requirements – a clear indication of dangerous complacency.

With leading infection control specialists offering compliance surveys, there is no excuse for any dental practice not to meet the new minimum standards.

Volume is the principal factor, which determines a practice’s decontamination system. Backlogs can only be avoided with a sound policy, adequate and reliable equipment and trained staff.

How can YoYo help?
YoYo provides a comprehensive, turnkey service, which brings hospital standards of surgery hygiene and clinical decontamination to dental practices nationwide. The service comprises a survey of the existing regime, a policy review and ultimately installation of the latest technology, including full fitting of the LDU (extending to flooring and cabinetry). For smaller practices, a fully compliant LDU can be installed in an area only 1.6m x 2m.

No practice can afford to compromise on decontamination standards and an effective, extensive hygiene system is a major business advantage.
of both budgets and planning.

What does the service entail?
The initial survey should identify the actions needed to meet the new guidelines and enable progress towards Best Practice, and provide objective advice based on the practice's individual circumstances.

A company such as YoYo will then consult with the dentist to develop a planning strategy. The ideal LDU requires a separate room, with used instruments moving from the inspection area housing the washer disinfectors to the clean area containing the steriliser and packing surface. Bespoke solutions are available for difficult or confined locations. Sporicidal disinfectants for surfaces and decontamination systems for water lines are also available.

How will I benefit?
The latest generation of UK-manufactured autoclaves and washer disinfectors is not only reliable, in correct use these units will automatically meet or exceed the standards demanded by the new memorandum. Many feature touch-screen controls and other advanced attributes, which constrain the possibility of human error and include cycle validation and test programmes that reduce the frequency of engineer maintenance visits. Validation data is wirelessly received and stored on the practice computer and can be recalled whenever confirmation of a cycle is required.

YoYo has itself designed an autoclave, drawing on the expertise of specialist decontamination engineers, which has its own, easy-to-clean, detachable used water reservoir to eliminate the risks and inconvenience associated with separate water containers.

Is YoYo accredited?
Dentists investing in an upgraded decontamination system need to be confident they are dealing with a reputable company which will not only service, but guarantee its equipment satisfies mandatory standards both now and into the future. YoYo undertakes to support its client practices and ensure compliance with HTM_01-05 for up to five years post installation and offers a wide range of service and call-out packages.

About the author
Ken Turley is the founding director of the YoYo Dental Group. Following a 17-year military career, Ken worked globally in the mobile telecomms industry until 2005 when he became the managing director of Salpharma, a 35-year-old hospital autoclave company providing decontamination equipment which he later acquired and re-branded as YoYo in 2006. For more information, call YoYo on 0845 241 5776, email info@yoyodental.com or visit www.yoyodental.com.