ORAL CANCER

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Hello and welcome to this edition of Riskwise. As ever, we have a range of articles covering dentolegal topics and issues affecting the dental profession.

PERIODONTAL DISEASE

A recent paper published in the *Journal of Clinical Periodontology*, noted that the global burden of periodontal disease had increased by 57.3% between 1990-2010, attributing this to the growing ageing population and increased tooth retention. Severe periodontitis has an overall prevalence of 11.2% and is estimated to affect 743 million people making it the sixth most prevalent disease worldwide.

We are seeing a substantial number of claims relating to the diagnosis and treatment of periodontal disease. The chronic nature of periodontal disease means that the cost of these claims can be substantially higher than the average dental claim. This increase is to cover the ongoing cost of long-term treatment, together with a suitable compensatory payment for patients that have been impacted.

Many of the claims now being reported to us relate to treatment carried out years ago — with some claims dating back decades. The cost of historic periodontal disease claims can stretch into the tens of thousands of pounds, with these types of claims being almost double the average for more recent periodontal claims.

As I’m sure many of you are aware, good clinical notes are essential in mounting a defence against any complaint or claim of negligence. The potential for complaints and claims can increase when a patient sees a new dentist for the first time, which is why a high standard of record keeping is imperative for all aspects of dentistry.

Success in controlling periodontal disease needs the active participation of both the clinician and the patient. It can also help if the patient understands that periodontal disease is their problem, which the dental team can only successfully control with their active participation (carrying out home care and attending appointments for any necessary treatment and monitoring).

As ever, we try and support members as much as possible through publications, events and online learning tools. Many members have found one of our online clinical audit tools extremely useful. You can read it here: dentalprotection.org/perio-tool

IN THIS ISSUE

We’re always looking for new ways to support members and we are looking to include more case studies to help bring our articles to life and we have started to include these in this edition. Look out for more in future editions.

There’s a comprehensive overview of oral cancer and the signs that we should all be looking for in our daily interactions. Diane Baylis takes a look at “never events” and the concept that we can adapt from the commercial world to support our work in dentistry and try to avoid them, or at least be prepared should they happen.

Sarah Bradbury, from Dentists’ Provident, talks about the damaging effects of repetitive strain injuries and gives top tips on how to avoid these and the lengthy absence from practice which can result from injury.

You’ll also be interested in an article looking at EU restrictions on the use of mercury which will impact the future use of dental amalgam. We take a look at the consent issues around treatment using dental amalgam and there’s some background to the worldwide withdrawal of mercury in an effort to restrict its environmental impact.

Thank you for taking the time to read Riskwise. I hope there’s something useful for every aspect of our profession but if there’s something you’d like to see change or other topics you’d like us to cover, we’re always keen to hear your feedback.

Best wishes,

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REFERENCES

very valued human interaction is based on trust. That trusting relationship is one of the most important components in the dentist-patient relationship. As a consequence, the professional relationships that we form last longer and are usually more stable. Trust in a relationship reduces the incidence of conflict, promotes satisfaction, reduces complaints, and builds loyalty. It is therefore one of the key drivers of success in general dental practice. If patients are confident that they can trust the dental team to act in their best interests, the business will be rewarding both professionally and financially.

WHAT IS TRUST?
There are many definitions of trust and they feature credibility, benevolence, confidence in honesty and reliability as component parts of the construct. We make promises to our patients and our patients expect us to keep them. They expect us to be knowledgeable, skilful and competent. As Joseph Graskempner noted in his article in JADA (June 2002), “dentists should gain the patients’ trust in them as reasonably knowledgeable, reasonably talented, caring dental health providers.”

CAN TRUST BE QUANTIFIED?
As I mentioned in a previous issue of Riskwise, there is a simple formula that allows us to do this.

Degree of trust created= (R x C x I) / SO
R= reliability, C= credibility and I = intimacy are multipliers and self-orientation (SO) is the divisor.

Significantly, the greater the divisor, the lower the quantity of trust generated.

CREDENCE MARKETS
In economic terms, dental services fall into the category of credence goods. Patients don’t always know whether they need the suggested treatment and in some cases even after they receive the treatment they cannot be sure of its value. This is because the “buyer” does not have the knowledge of the “seller”– a feature of the dentist-patient relationship referred to as information asymmetry. It is this asymmetry that makes the credence goods market particularly challenging because it may give rise to aberrant behaviours.

It is interesting to note the comments made in 2012 by Brown and Minor in their paper Misconduct in Credence Good Markets.¹

“Providers of technical advice are common in the automotive, medical, engineering, and financial services industries. Experts benefit from customers trusting and buying their advice; however, experts may also face incentives that lead them to provide less than perfect recommendations. For example, a mechanic can provide a more extensive fix than warranted and a dentist can replace a filling that has not failed.”

The need for regulation to protect the consumer in the credence space is implicit.

Another challenge is that perceptions of clinical success and failure in this market are largely subjective for patients because there is no external verification. It is only because of trust that patients do not routinely seek to independently verify every transaction and clinical outcome.

The consumer mantra has long been “caveat emptor” (buyer beware). It is not appropriate for the business of dentistry. It should be replaced with “credat emptor” – let the buyer trust.

BUILDING TRUST
Building trust should underpin a practice’s risk management strategy. Without this, any business risks loss of market share and loss of reputation. This can be achieved by making a commitment to:

1. Meeting patient needs and preferences when it comes to service delivery.
2. Ensure patients feel cared for. We use the phrase care and treatment in our everyday language and tend to focus on the technical elements of treatment. Remember to show them you care.
3. Get it right when patients most need you – when they are in distress.
4. Manage the expectation and create experiences built on continuity of care with individual clinicians. This builds relations and fosters trust.
5. Improve communications – both clinical and non-clinical.
6. Ensure there is transparency in pricing.
7. Empower your front-line staff – the first contact with the team will form lasting impressions.

REFERENCES
¹ https://www.aaweb.org/conference/2013/retrieve.php?pdfid=111
NEVER EVENTS
IN GENERAL DENTAL PRACTICE

Diane Baylis explains the significance of never events for patient safety

The need for a high level of safety remains an essential step in improving quality of care. There is growing international evidence that, by adopting similar strategies to other high risk industries, healthcare organisations can reduce variation and therefore improve patient safety. In particular, this relates to ‘never events’ in general practice.

WHAT IS A NEVER EVENTS LIST?
A Never Events List is a list of significant healthcare errors which are deemed to be preventable and therefore should never occur. They are used worldwide in healthcare to increase understanding and knowledge of potentially serious patient safety incidents, and apply measures to improve patient safety.

Some never events established by two surveys are listed below as a guide for identifying potential serious adverse events in your own practice:

1. A planned referral of a patient, prompted by a clinical suspicion of cancer, is not sent.
2. Failure to update medical history caused adverse reaction to materials (including latex) and drugs.
3. Extracting the wrong tooth in spite of having a record of the correct tooth.
4. Prescribing a drug that is known to interact with another medication being taken by the patient.
5. Prescribing a drug to a patient that has previously caused them a severe reaction.
6. Local anaesthetic injections causing nerve damage.
7. Damaging intra-oral soft tissues with an overheated handpiece.
8. Unintentional inhalation or ingestion of drugs, burs, crowns and materials.
9. A practice does not have an up-to-date and secure backup of their data.
10. Medical waste and hazardous substances are discarded in an inappropriate manner.
11. Emergency medical equipment is not available, maintained or checked regularly.
12. A needle-stick injury due to failure to dispose of sharps in compliance with guidance and regulations.

RESEARCH APPROACH
Recent research amongst general medical practitioners was unanimous in identifying the most significant never event as ‘the failure to send a referral of a patient, prompted by a clinical suspicion of cancer’. Depending on where you work and your scope of practice, some never events will be more significant than others. Although, there can be no doubt about the significance to any patient who finds themselves exposed to such an event. Robust systems and processes should be in place to make the incident entirely preventable in the first place.

LOCAL SAFETY STANDARD FOR INVASIVE PROCEDURE (LocSIPP)
A new toolkit has been produced by the British Association of Oral Surgeons for clinical teams involved in dental extractions. It gathers together recommendations regarding the development of safety standards to minimise the risk of wrong site surgery in all dental settings, focusing on the issue of wrong tooth extraction.

This document could inform the future creation of other guidelines to reduce the risk associated with other never events.

Dental Protection members are advised to contact our help line if they encounter a never event or would like help when considering modified ways of working with their dental team.

REFERENCES
Oral cancer is something we should all be aware of when treating patients. This comprehensive overview will help you spot the warning signs and offers tips on involving patients in decision making.

In most developed countries, oral malignancy is a rare finding in primary care dental practice; indeed, the presence of malignancy is reported to be as low as 1-1.5 cases per 100,000/year, and on this basis it is unlikely that most dentists will see more than one or two cases in a lifetime. However, oral cancer is still on the increase in most developed countries and therefore a vigilant approach should be adopted for every patient if malignancies are not to be overlooked. Most importantly, they must be identified early as prognosis is largely dependent on early intervention.

All oral and facial lesions, swellings, discharge and ulcerations require detailed investigation with careful consideration of the history and presenting features. The establishment of a differential diagnosis will then allow the practitioner to reflect on the possibility that the lesion is serious and/or sinister.

It should be remembered that most common oral lesions will have a logical aetiology and be readily treatable. However, practitioners should be alert to unusual presentation, for example, the loosening of one or two teeth in a mouth where there is no active periodontal disease.
**ASSESSMENT**

Whatever the evidence for and against a regular examination with respect to periodontal disease and caries, these visits, as they occur, present an ideal opportunity for assessment of the oral mucosa.

Adopting a systematic approach to history taking and dental examinations will enable the dentist to become alerted to the possibility of a benign or malignant lesion requiring investigation, and will certainly assist in the inclusion of such a problem in a differential diagnosis. For example, an awareness of any particular ethnic propensity for malignancies of various kinds, and the relevance of factors such as age and sex are important for all clinicians.

Careful history taking can often reveal a recognised risk factor for oral cancer which may or may not be relevant to lesions seen in the mouth. For this reason, any such screening should include a lifestyle enquiry (use of tobacco, alcohol, betel nut etc) and a regular review of the patient’s medical history. Smokers should be encouraged to seek professional help with smoking cessation with signposting to appropriate local cessation services.

The most effective oral assessment is one that follows a consistent, structured and reproducible format, for each and every adult patient. Ideally this should involve a visual inspection of all areas of the mouth, including the floor of mouth, gingivae, sulci, palate, tongue and oropharynx. The face should also be reviewed and the neck examined by palpation, with a note being made of the location and consistency of palpated lymph nodes, and whether any node is attached to surrounding tissues as opposed to mobile.

**GOOD ILLUMINATION**

An adequate source of light is a fundamental requirement for the clinician performing the examination along with a means of recording the findings in the patient’s notes. Any unusual lesions should be palpated and examined by touch. A note should be made of the site, size, colour and consistency of any lesion, with the help of diagrams in the clinical notes, but ideally in the form of intra-oral camera images, against which any future comparisons can more easily be made.

Ulceration in the mouth can often be caused by trauma, and dentists will be familiar with aphthous ulceration, denture trauma, cheek biting etc. Occasionally, dentists themselves cause ulceration through the overzealous use of prophylaxis brushes or cups, or the accidental trauma which results from a rotating instrument abrading soft tissue.

An extra-oral examination should be performed, routinely checking the salivary glands, lymph nodes and bones of the mid and lower face. A careful view of the face can reveal a variety of skin lesions, such as melanoma, basal cell carcinoma and squamous cell carcinoma. In particular, concerns about facial asymmetry, persistent swelling or bleeding, or continuous pain should give reason to instigate fuller investigation. Masses in the salivary glands and nodes can be detected, and an early referral made. It is entirely appropriate for a dentist to make a referral to a specialist for further investigation even when they are unsure as to the diagnosis. However, local guidelines for referral should be followed.

It is important to assess and document nerve function when dealing with any patient who complains of unusual or persistent facial pain. Areas of motor or sensory loss, particularly when associated with pain, should be investigated by oral medicine, maxillofacial or neurology colleagues without delay. Dental practitioners should be mindful that they may be the only healthcare provider who has the opportunity to see the patient and identify these conditions in time to make a difference to the prognosis.

**PATIENT INVOLVEMENT**

Patient concerns should be listened to carefully, investigated and acted upon. Further, the clinician must be prepared to have difficult conversations with patients about lifestyle and health choices, whilst at the same time explaining the clinical findings and concerns without either alarming the patient or glossing over the seriousness of the condition. These important conversations need to be documented clearly in the records, at the time they take place.

It is best practice for the dentist to ask the patient to monitor the identified lesions and ask them to return for review within a defined period of time – usually two to three weeks depending on local or national guidelines. Making a formal review appointment provides an opportunity for the patient to be reassured that the lesion has indeed healed, and, if not, arrangements for referral can then be discussed, ensuring the patient understands and consents for this.
SECOND OPINIONS

If there is any doubt about an individual case, it is good practice to ask a colleague to have a look at the patient with you. Any referral to a secondary care colleague should be made with the patient’s consent including an explanation of why a second opinion is being sought. If this is done firmly but sensitively, it need not alarm the patient – but try to avoid trivialising the matter, or the patient may not appreciate the need to act upon the referral.

A referral letter should be a proper summary of the case, including a provisional diagnosis or, at least, a clear statement of your concerns about the patient. It should include all the necessary data that the specialist will require in order to determine the urgency of the referral and the contact details for the patient. It should contain a statement about the patient’s relevant medical history and relevant risk factors.

A digital clinical photograph is often helpful to demonstrate the area of concern and the appearance of the lesion, thereby allowing the specialist to prioritise the referral more appropriately. It is important for practitioners to be aware of the local protocols for referring patients with suspected malignant lesions thereby avoiding unnecessary delays in the referral. Urgent referrals may be discussed with secondary care colleagues by telephone prior to having the referral letter sent to them. Letters of referral should not be handed over to the patient (unless a copy is also being sent) as the letter may be lost or simply forgotten about – or destroyed if the patient changes their mind. An audit trail for follow-up of any non-attendance is essential.

FOLLOW-UP

Establish a system that can follow-up and monitor every referral relating to oral lesions and suspected pathology. If the lesion is serious enough to merit a second opinion, it is serious enough to follow up. To suggest a referral and then to take no further interest in the outcome has in the past been criticised as a breach of the dentist’s duty of care. Where that delay results in a delay in diagnosis and a delay in treatment and resultant negligence demonstrated, the size of the financial damages paid out may be significant. See also the “never events” article on page 5.

RECORD KEEPING

The purpose of record keeping is to be able to demonstrate that over a period of time, whether it is long or short, the clinician has set down, logically, the findings of one or more clinical events, in sufficient detail that the event can be recalled with accuracy, without relying upon memory alone. These records will show positive and negative findings, perhaps with the aid of diagrams, photographs or charts.

In the situation where a patient alleges negligence concerning an undiagnosed malignancy, or a significant delay in referral, the content of the records becomes particularly important. If the records contain no reference to the mucosa having been examined, it is difficult to disprove the allegation that the patient “first reported an ulcer to the dentist over six months ago”. Equally, if the records can show that an ulcer was found, described clearly, and the patient was advised to return for review ten days later, the situation is greatly improved.
THE PERSISTENT PROBLEM

Any persistent problem, which has not responded to conventional treatment, should raise a red flag of concern. Such difficulties can be highlighted in the patient who constantly takes analgesics but doesn’t feel the pain is getting better, the apical cystic area which does not respond to root canal treatment, and an ulcer which does not heal within a couple of weeks.

Dentists may inadvertently delay the early identification of suspicious lesions by using antibiotics as a first (and incorrect) line of treatment. If, what appeared to be, an acute infection has not responded to a single course of antibiotics, then a formal review of the differential diagnosis should be considered and the clinical findings and discussions with the patient carefully documented.

Failure to respond to simple treatment is sometimes an indicator of more sinister problems. An ulcer adjacent to the flange of a denture or which is still present two to three weeks after the denture has been eased or removed, or after a rough tooth has been smoothed, requires further investigation.

A swelling that is still discharging or a radiolucent area, which does not improve following conventional root canal therapy (with or without antibiotics), might be something other than a simple infection. In a patient who has co-operated with treatment and attended regularly, a “two-week response, or lack of response” to treatment can be an indicator of the need to refer quickly for a specialist opinion.

Close contact with the local hospital department should be fostered in order that acute cases can be seen in days rather than weeks, whenever possible. If a referral is felt to be in the patient’s interest, then the patient should be followed up to ensure that the visit has taken place.

Indeed, if there is any lengthening of a treatment process because of poor patient co-operation or a failure to attend, where a response to simple treatment is as negative as suggested above, then the patient should be informed of the urgent need to attend for an appointment with the consultant. Copies of referral letters and the replies, along with correspondence to patients regarding referral, should be safely retained.
INVESTIGATIONS

A variety of tests and investigations are now available for primary care practitioners to investigate suspicious intra-oral lesions. The use of these products requires a short formal training in their use and a clear understanding of the limitations. The danger of a false negative, creating a false sense of security, could lead to inappropriate reassurance and an inevitable delay in referral. The fault cannot be attributed to any particular product since clinicians must still rely on their own observations, suspicions and judgment.

This highlights the need to balance the natural desire to properly investigate a clinical condition, with the difficulty that might arise if the patient becomes concerned, distressed or frightened that he/she may have a malignant lesion. Patients should be handled sensitively and carefully, and a proper explanation given of the concerns and the need for referral. A false alarm will always be preferable to a missed diagnosis.

CO-OPERATION

Cases have been reported where, because of the ongoing acute symptoms associated with a malignant lesion, patients have returned regularly to a practice but have seen different dentists on each occasion. In some cases, the urgent/emergency opinion is given by a general medical practitioner and it is possible for patients to see a combination of dentists, doctors and hospital consultants, complaining of persistent symptoms which are not being resolved by the succession of attendances - perhaps because no-one has the “complete picture”. It follows that at each emergency, “casual”, or urgent attendance, care should be taken to establish a patient’s precise history, both in relation to the current complaints and in relation to any symptoms which might be associated or related, and which might be receiving treatment elsewhere.

With the patient’s permission, progress can sometimes be expedited if the examining dentist consults others who have been involved in the patient’s treatment. If the patient would have benefited from a specialist referral, then all those doctors and dentists who examined the patient recently, could be involved in an investigation.

DELAYS

It is worth remembering that a late referral for a suspected malignant lesion will almost inevitably cause the patient and their family avoidable distress, pain and suffering through the delay in obtaining a diagnosis and then treatment. This may also worsen the overall prognosis for a patient.

There are many cases when some delay in referral is inevitable because of the need to eliminate the more common problems, but any delay must be justified within the records, showing a proper consideration through the histories, investigations and appropriateness of treatment plans and monitoring decisions. In order to ensure that any lumps, bumps, patches, swellings, discharges or ulcerations that might turn into something unusual are properly assessed, it is important that dentists stay abreast of current developments in the diagnosis of these types of lesions.

SUMMARY

The management of the patient depends on the specific diagnosis and the stage of the tumour (Tumour, Node and Metastasis (TNM) classification). It is therefore crucial to refer patients with any suspicious lesions to a specialist at the earliest opportunity. A delay in referral can have devastating consequences for the patient, leading to allegations of negligence. Good patient management in these cases is a balance between effective communication, best clinical practice (informed by regular continuing professional development) and underpinned by accurate and appropriate record keeping.

Dental Protection acknowledges the assistance of Professor John Gibson in preparing this text.
This letter documents one patient’s journey from the initial detection of the lesion through to surgery.

**DENTAL PROTECTION’S APPROACH**

This sort of case is always heartbreaking for the patient and their family. It also has the potential to create enormous sadness and stress for the practitioner(s) concerned when they reflect upon the impact of a single clinical incident which was subsequently consigned to the memory banks as entirely unremarkable.

Unless there was a significant event associated with the clinical decision at that time, it can be difficult for the practitioner to picture the event. They must rely entirely on the contemporaneous clinical records, which may be limited, given the lack of significance attached to the event at the time.

When analysing such a case in retrospect, it is relatively straightforward to identify a number of breaches of duty (failure to investigate the cause of the sudden tooth mobility, failure to adequately document the history and failure to consider/take a radiograph of the tooth prior to extraction).

The major failing in the case was the lack of curiosity about why the tooth had loosened in somewhat unusual circumstances. This lack of curiosity and care for the patient was at the heart of the treatment provided by the clinician during an appointment that didn’t last more than 15 minutes. It is always hard to balance the risks of using ionising radiation against the potential benefits to the patient, although in this case it would have been justified to expose a single intra-oral film.

When responding to a letter of complaint or even a negligence claim, it is important to remember the human stories involved. But Dental Protection will also work to ensure that the member’s journey through this traumatic process is as stress-free as it can be.

This particular case involved input from the whole Dental Protection team to ensure that the dental practitioner’s experience of a harrowing clinical negligence claim was optimised. The dentolegal adviser assisted the practitioner to respond to the initial complaint and subsequently provided empathetic support throughout the case.

To run the case smoothly, both internal and external legal teams are involved as soon as a claim starts or a regulatory investigation is initiated. Usually one or more independent experts will be involved, examining the patient, their records and advising on the current condition and the prognosis for the patient. Most importantly experts advise on the relationship between the breaches of duty and causation and what resulted from the breach of duty. In a case like this, establishing causation would be the key to the final outcome.

In this case, the experts were asked to predict whether the tumour had in fact been present/detectable when the tooth came out, and indeed, did the tumour cause the loosening of the original tooth that was extracted?

If the answer to such questions is “no”, there may just be a way to defend the case in court even though the records are poor. If the answer is “yes”, it may be necessary to settle the case on behalf of the member. Every case is considered on its merits. But it should be remembered that any decision to go to court is not without risk to the clinician concerned, even with the full support of Dental Protection and its extended team. Journeys through a legal system are rarely quick, and no party involved can achieve any kind of ‘closure’ until the process is complete.

**DENTAL PROTECTION’S APPEAL**

This appeal is an example of a common scenario that might occur in practice.

**Dear Practice Owner**

I am really scared about the future. I am very confused about what has happened to me in the past two months. I have been thinking about the last couple of years and wondering whether my current situation could have been avoided.

You sent me to hospital six weeks ago because my bottom jaw had been swollen and my teeth had become loose. Since then, there has been a whirlwind of appointments and scans and investigations. I now know that I have a tumour in my jaw and I am worried that it was not noticed two years ago when I came to you about a loose tooth. You told me that there was nothing that could be done and it had to come out. You didn’t take an x-ray – you just took out the tooth. How I wish I had gone somewhere else.

I have had x-rays of my teeth, jaws and chest. I have had CT and MRI scans, biopsies under general anaesthetic and given numerous blood samples. The specialist says I have a cancer that is not very common. Samples have to be sent away to be examined and this creates further delay. I am worried because all the while this cancer is growing. I don’t know if it will spread further and I am now having sleepless nights.

The cancer has already spread to the front of my jaw. I am surprised that you didn’t notice the swelling. I certainly noticed my other front teeth loosening and now I am told that they will all have to come out when I have an operation and my lip may go numb. What are you going to do to make this right? How will you make sure that this does not happen to anyone else?

I await your reply.
A SAFE PAIR OF HANDS

There are many things that are vital to a fully functioning dentist of every age; good eyesight, a flexible back, and of course hands and wrists for the most intricate of tasks. Sarah Bradbury, from Dentists’ Provident, looks at common conditions and how to avoid them.

WORK-RELATED MUSCULOSKELETAL DISORDERS (MSDS)

MSDs can affect the muscles, joints and tendons in any part of your body and many work-related MSDs develop over time through a lack of prevention or awareness of their causes. Once they do occur, they can progress from mild to chronic cases and can affect you in the short or long term.¹

There are many studies that look at MSDs in dentists, from early on in their career as well as in a hospital and practice settings. Many aim to get to the root cause of them and how they can be prevented, as there is a significantly higher occurrence of them in dentists compared to other graduates. From these studies, there appears to be a lot of similarity in terms of what contributes to them, such as unnatural static positions that are maintained for long periods of time, as well as repetitive movements and intricate or forceful exertions.²,³,⁴

HANDS AND WRISTS

While many dental professionals are aware of the dangers that bad posture can cause to their backs, necks and shoulders, many don’t consider the large number of conditions that can affect their hands and wrists. While injuries happen in the workplace, during sport or at home (like the dentist who lacerated their finger while chopping vegetables) there are also repetitive, age and genetic related conditions that can seriously affect the quality of your life and ability to practise.

In 2015, Dentists’ Provident paid over £15,000 to cover dentists for simple accidents and injuries to their hands and wrists that meant they couldn’t work.

Hand pain can be caused by anything from a trapped nerve to an underlying disease such as arthritis. Typical examples include repetitive strain trauma, hand-wrist tendon syndrome, carpal tunnel syndrome and epicondylitis.²,³

A study undertaken in 2013 also noted that postgraduate prosthodontic students had the highest rate of wrist symptoms compared to other specialities, perhaps due to the use of vibrating instruments, even though they had fewer other MSDs, possibly because they have less time chairside while they were making crowns, bridges, dentures and other prosthetics.⁴

In 2015, Dentists’ Provident paid dentists over £40,000 for conditions of their hands and wrists, which ranged from swelling and tendinitis to surgery and even an amputated finger that forced them to take time off work.

Types of injuries to your hands and wrists include:

CARPAL TUNNEL SYNDROME (CTS)

Dentists’ Provident paid dentists nearly £60,000 in claims for CTS alone in 2015, as it is the most commonly diagnosed disorder of the hand and wrist among dental professionals. It is caused by compression of the median nerve in the wrist that then disrupts the nerve signals. Certain activities such as strenuous repetitive work and vibration or injuries can contribute to this compression.³,⁵

A Dentists’ Provident member in her late twenties experienced pain and numbness while in practice; she couldn’t work because of it for three months and was diagnosed with CTS. She has managed the condition using a wrist brace and physiotherapy exercises rather than going down a surgical route and believes reducing workload and an automatic car have helped. She said “as a young dentist you don’t anticipate anything like this will happen to you. I’ve got over the worst now but I occasionally feel the symptoms still, I just know how to manage it.”

REPETITIVE STRAIN INJURY (RSI)

A RSI is a pain in your muscles, nerves and tendons caused by a repetitive movement, such as the highly intensive activity of dental care for long periods without a break. It is also common in people with poor posture working in awkward positions.⁶
ARTHRITIS

Arthritis is a common condition that causes pain and inflammation in a joint due to a lack of cartilage and, in 2015, Dentists’ Provident paid dentists just under £60,000 in claims for those unable to work because of it. Its cause can be down to your family history or because you have injured a certain joint at some point. There isn’t actually any cure, but there are many treatments that can help to slow down the condition and relieve your symptoms.7

TENOSYNOVITIS

Tenosynovitis is a condition that affects the synovium around the tendons. It is usually diagnosed as a RSI because it is caused by overuse or repetitive physical activity however, occasionally it occurs when a cut gets infected and bacteria cause inflammation.6

There are variations such as De Quervain’s disease, which is a painful inflammation in the thumb, and stenosing tenosynovitis or ‘Trigger Finger’ basically when the finger or thumb bends towards the palm and the tendon gets stuck and locks. There are a number of approaches to treatment, but if you restrict the activity that caused the pain, it will usually recover in time.3,8

A GANGLION

A ganglion cyst is a fluid-filled swelling that usually develops near a joint or tendon. It’s not clear why they form, but they seem to appear when the synovial fluid around a joint or tendon leaks and collects in a sac.9

PREVENTION

Prevention is certainly the key rather than cure, of many of these finger, hand and wrist disorders, so it’s worth taking some time to review your posture and equipment, as well as fitting in exercises and stretches to try to prevent any of these symptoms before a problem can occur.10

Here are a few tips that may help to prevent finger, hand, and wrist injuries10:  
- Try to do exercises and stretches that strengthen your hand and arm muscles every day (see box of exercises).
- Think about how to safely move your hands and wrists in practice to avoid injury.
- Try to reduce the speed and force of your repetitive movements where you can.
- Remember to move and change the position of your hands where possible when you are holding handpieces or other equipment for any length of time.
- Minimise your grip with just your thumb and index finger which doesn’t stress your wrist.
- Monitor your posture and body mechanics when you work and check it regularly.
- Maintain good posture; try to position yourself so that you are not rotating excessively to reach equipment or your patient.
- Wear protective supportive gear, such as wrist guards in sports and activities like snowboarding or racket sports.
- Try to keep your shoulders relaxed when your arms are resting by your sides.
- When using a keyboard, try to keep your forearms parallel to the floor or bend your wrists so that your fingers are lower than your wrists.

Here are a few stretches:11  
1. FINGER STRETCH: Stretch your hand out and slowly make a fist, then unravel it, repeat a few times on each hand.
2. WRIST STRETCH: Move your flat hand facing down slowly from side to side from the wrist, hold then repeat a few times, holding your hands up now rotate your wrists holding and repeating again, then hold your fingers and pull your hands back flexing your wrists a few times.
3. FOREARM STRETCH: Put your hands in a prayer position held tightly together in front of your chest, hold and repeat.

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MERCURY
NO LONGER RISING

There’s a worldwide movement to reduce mercury usage which will impact use of dental amalgam. We outline the changes and the practical implications on the profession.

Mercury pollution is having a negative impact on human health and the environment, with mercury compounds being found in fish stocks and other food sources as a result of this pollution. With that in mind, the European Parliament introduced a strategy to reduce the use of mercury and its detrimental effect on the planet’s ecosystems.

While much of this strategy focuses on the environmental impact of activities such as mercury mining, small-scale gold mining, coal combustion, products that have previously contained mercury such as batteries and the general management of mercury waste, any reduction in the use of mercury clearly affects the dental profession and future availability and use of dental amalgam.

On 25 April 2017, following the Minamata Convention, the European Council adopted the new regulation aimed at providing: “a high level of protection and to limit the pollution generated by activities and processes related to mercury”.

EFFECT ON THE DENTAL PROFESSION

In light of this, as responsible practitioners we should be reviewing our current use of mercury and considering its future use based on our professional experience and clinical expertise. It’s worth bearing in mind that the EU recognises dental amalgam as a safe and cost-effective material, but it is still seeking a reduction in its use on environmental grounds.

The regulation creates a requirement for the dental profession to restrict our use of amalgam in certain cohorts of the population, unless there is an absolute clinical necessity. The legislation, however, also implies faith in our judgment as clinicians to select the most appropriate dental material in individual cases subject, of course, to a valid consent process. The overarching agenda indicates that the profession’s active attention to phasing down the use of dental amalgam will nonetheless place us in a strong position when discussing later stages of the restriction.

Countries in the EU will have to apply the legislation to control and restrict:

- the use, storage of and trade in mercury, mercury compounds and mixtures of mercury,
- the manufacture, use of and trade in mercury-added products,
- the use of mercury in dental amalgam,
- and to ensure the appropriate management of mercury waste.

READ THIS ARTICLE TO

- See how mercury usage is being reduced and its effect on the profession
- Learn how informed consent is crucial in the use of amalgam and compliance with regulation

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1. For the purposes of this discussion, amalgam refers to a type of dental filling material that contains mercury.
In relation to dental amalgam, the EU regulation stipulates the following:

- Dental amalgam only to be used in pre-dosed capsules; use of bulk mercury by the practitioner prohibited (from 1 January 2019).
- Mandatory use of amalgam separators (from 1 January 2019).
- Service standards: mandatory retention of at least 95% of amalgam particles for separators installed from the date of coming into force of this regulation, and for all separators by 1 January 2021.
- Dentists to ensure that their amalgam waste is handled and collected by an authorised waste management establishment.
- Member States to set out a national plan (by 1 July 2019) on the measures they intend to implement to phase down the use of dental amalgam.
- No use of amalgam in the treatment of deciduous teeth, children under 15 years and pregnant or breastfeeding women, except when strictly deemed necessary by the practitioner on the ground of specific medical needs of the patient (from 1 July 2018).
- The Commission to report (by 30 June 2020) on the outcome of its assessment regarding:
  - the need for the Union to regulate mercury emissions from crematoria;
  - the feasibility of a phase out of dental amalgam use in the long term, and preferably by 2030, taking into account national plans for measures to phase down amalgam use, and respecting Member States’ competence for the organisation and delivery of health services and medical care.²

The key point to take from these steps is the plan to phase out amalgam in the future, and the emphasis on the clinician to make any decisions, about using amalgam for a particular patient, based on their clinical experience.

IN PRACTICAL TERMS

Whatever material is chosen to restore a particular tooth, the clinician needs to understand the properties of the material and its indications. The dental team as a whole needs to be familiar with its proper storage, handling and use. The restriction of the future use of mercury in the dental setting is now a factor that needs to be considered when discussing that choice with the patient in order to obtain their valid consent.

There is also a communications challenge to manage for those patients who have had amalgam restorations in the past when they learn that use of mercury has now been restricted. The important thing to tell patients is the change in approach is part of an environmental agenda, rather than a patient safety issue.

DUTY OF CARE

There needs to be a scientific basis for the provision of any treatment which is accepted by a responsible body of other clinicians in the field. To comply with the Minamata agreement, there are a number of considerations that the clinician will weigh up:

- compliance with the EU Mercury Regulation,
- the appropriateness of the choice of material for the clinical situation,
- the evidence for and against the use of each restorative material,
- the implications for the environment associated with the material of choice.

The safety of patients when using dental amalgam can be optimised by pre-dosed encapsulated delivery of the material, and the precautionary avoidance of removing or placing amalgam fillings for patients who are pregnant or breastfeeding.

A new consideration must now be made, on behalf of the patient, to ensure that they will not be disadvantaged by choosing a material other than dental amalgam. Although firmly advocating a concerted effort to phase down the use of dental amalgam, the Minamata Convention accepts that there may still be situations where patient co-operation and moisture control would make this the material of choice.

It is best practice to note the treatment options offered as part of the consent process in the patient’s record. An additional note recording the justification for choice of the options can also be included.

PATIENT INFORMATION AND CONSENT

It is a prerequisite of the consent process that the clinician should make the patient aware of the treatment options and how they compare in terms of what the treatment involves, the advantages and benefits, risks and limitations of each option, as well as the cost.

Unless all these options are explained to the patient, the validity of any consent obtained will be severely compromised. This information can be provided in printed form and shared on the practice website. Although it is important to discuss with the patient how each option relates specifically to him/her, the patient information material used by a practice can be pivotal in demonstrating the messages that were (and were not) being conveyed to the patient before the treatment was carried out.

Dental Protection provides more detailed information about consent in an advice booklet that can be downloaded dentalprotection.org/docs/librariesprovider4/dental-advice-booklets/dental-advice-booklet-consent-uk-excl-scot.pdf

TREATMENT ALTERNATIVES

The EU Mercury Regulation raises the question of which materials can be used instead of dental amalgam. One of the problems encountered by members who have stopped providing amalgam restorations arises from the potential for restorative failure associated with the use of alternative materials, particularly the failure of large posterior composite resin restorations when placed directly.

Dental amalgam is considered to be a durable, easily-placed and cost effective material. In contrast, composite resin restorations have different properties and may be sensitive to the clinician’s technique and their control of the moist environment in which the material is being used.

Clinicians who are changing the balance of their restorative material use may find it helpful to seek out a hands-on training course to update their knowledge and experience.

Patients will normally need assistance to appreciate the possible consequences of different treatment choices, and in this respect they will rely upon the clinician to explain the significant differences to them. Patients are unlikely to appreciate the technical advantages and limitations for themselves.

Unmet expectations are the richest source of complaints, claims and other dentolegal difficulties, and a common complaint is that the patient was given an assurance that didn’t materialise.

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2 bda.org/amalgam
INFECTION RISKS OF RECORD KEEPING

How does the dental team balance the need for contemporaneous records and, at the same time, maintain an effective standard of infection prevention and control?

READ THIS ARTICLE TO

• Learn about the infection risks of record keeping
• Understand the need for infection control in computers and other equipment
Few clinicians have the luxury of dedicated secretarial support at the chairside while they are working on patients. Whatever your approach to record keeping, maintaining an effective standard of infection control should be paramount.

**MAINTAINING THE CHAIN OF STERILITY**

Have you ever stopped to think what happens when contaminated fingers touch the paper record card or hit the keys of the computer keyboard? There will certainly be a greater risk of disease transmission if the writing instrument or the writer’s fingers had been contaminated when the entry was made.

Operator-to-patient contact is one of the main methods of spreading bacteria but patient records handled by the dental team can also be the cause of cross contamination. Hand hygiene is essential if effective zoning is to be achieved. Periodic review by the dental team of adherence to this protocol is one method to ensure compliance.

**PAPER RECORDS**

In order to create effective zoning within a clinical area, paper records need to be kept beyond the area of clinical activity. Since barrier protection is applied to the hands whilst treating patients, it means that additions to the record can only be made before gloving up or after they have been removed and the hands washed. If the need arises to add information to the record during the course of the treatment, there are three ways to deal with this:

- remove and change the gloves after adding to the notes,
- create a second barrier (such as a loose fitting bag or disposable ‘mitt’) placing it over your gloved hand before writing,
- another member of the team who is not gloved up could make the entry.

**SILVER PAPER**

Superbugs, including MRSA and clostridium difficile pose a growing challenge. Items such as patient records and case note folders can now be impregnated with an additive containing silver ions, which instantly kills microbes on contact. This provides a permanent hygienic solution that is active 24 hours a day throughout the lifetime of the product. Clinical research conducted by one manufacturer showed that 99.9% of bacteria are killed within 24 hours. This approach will possibly become a required standard for the manufacture of record cards in the future, if we do not manage to go paperless.

**COMPUTER RECORDS**

In many dental surgeries there has been an attempt to eliminate paper records and to replace them with a computer-based equivalent. From an infection control perspective, the use of a computer in the surgery reduces the number of items touched by the clinical team and, with suitable safeguards, it can be utilised within the zone of clinical activity.

The risks arise primarily from direct contact (for example, a contaminated gloved hand/ finger) or via aerosols and splatters. The former can be managed by ensuring that there are strict hand hygiene protocols in place, while the latter can be reduced by appropriate surgery design and computer positioning.

Aerosols are inevitably created in the dental surgery when working in the patient’s mouth. Aerosols and droplets generated by high-speed dental drills, ultrasonic scalers and air/water syringes are contaminated with blood and bacteria and represent a potential route for transmitting disease. Pathogens can settle onto surfaces anywhere in the clinical environment. Keeping a computer in the surgery means the keyboard, the mouse and the monitor are vulnerable.

**KEY PLAYERS**

The average unprotected keyboard is a blackspot for bacteria, each square inch harbouring a staggering 3,295 organisms. One study found potential pathogens cultured from computers included coagulase-negative staphylococci (100% of keyboards), diphtheroids (80%), Micrococcus species (72%), and Bacillus species (64%). Other pathogens cultured included ORSA (4% of keyboards), OSSA (4%), vancomycin-susceptible Entercoccus species (12%), and nonfermentative gram-negative rods (36%). Particular bacteria hotspots are the space bar and vowel keys because they are most often used.

Therefore, computer equipment should be covered with a plastic barrier when contamination is likely. This would apply primarily to the mouse and keyboard. Like any barrier used during patient care, it should be changed between patients. If a reusable form-fitted barrier is used, it should be cleaned and disinfected between patients. The use of disinfectant wipes has also been advocated, but the potential to damage the plastic keyboard needs to be considered. Infection control keyboards that are capable of being washed are also available.

Strict hand hygiene is also important. Before touching any office equipment wear powder-free gloves or ensure your hands are clean. Computer equipment is an example of a clinical contact surface and the basic principles of cleaning and disinfection used routinely in the dental environment should also apply.

**SCREEN ATTRACTION**

The risk posed by the computer screen is slightly different. Bacterial cells possess a negative electrical charge, while the technology used in flat screens generate positively charged static electric fields. Consequently, bacteria dispersed within the aerosols will be attracted to the computer screen. Avoiding contamination of the unit housing the screen is important because it cannot be properly cleaned and disinfected or sterilised. Avoid touching the screen whilst treating patients, be aware of the potential bio-load on the screen and perform hand hygiene if you need to adjust the monitor with ungloved hands.

In addition to ensuring that your dental records are accurate, complete and contemporaneous, the infection control protocol within the clinical setting is also worthy of further consideration.

The resources listed below are just a few of those used in this article.

**RESOURCES**

3. Bacterial Contamination of Computer Keyboards in a Teaching Hospital, [https://doi.org/10.1086/502200](https://doi.org/10.1086/502200) Published online: 01 January 2015.
Joe Ingham looks at some of the lesser known facts associated with dental prescribing.

Dentists are the only members of the dental team to have full prescribing rights. This privilege is acquired on completion of the dental degree and should never be abused or taken for granted. Keeping abreast of developments in relation to the legal and therapeutic aspects of prescribing promotes patient care and safety, in addition to reducing the risk of an untoward incident.

Broadly speaking, medicines in the UK are categorised into one of three domains:

- **General sales list (GSL)**
  GSL products (sometimes referred to as ‘over the counter’ medicines) can be purchased at a variety of outlets including supermarkets. There is a stipulation that they must not be sold from non-lockable premises such as a market stall. There may be a limit imposed on certain items (paracetamol, for example) regarding the quantity that may be purchased in one transaction. The logic is to reduce the chances of an overdose, be that intentional or inadvertent.

- **Pharmacy medicines (P)**
  P medicines, as the name suggests, may only be purchased from a regulated pharmacy establishment. Certain antihistamine products fall into this category.

- **Prescription only medicines (POM)**
  POMs are the most stringently regulated medicines and legislation lists which practitioners are empowered to prescribe these drugs. This normally, but not exclusively, entails the patient being examined by an appropriately trained practitioner before the prescription can be issued.
DIRECT ACCESS
The requirement for dental care professionals to carry out certain treatments under prescription from a dentist was removed on 1 May 2013. This is known within the profession as “direct access”. The Office of Fair Trading (OFT) deemed that certain patients were being disadvantaged by being denied access to DCPs without first being examined by a dentist. Obviously some treatments which are carried out by hygienists and therapists need to be performed under a local anaesthetic which is designated as a POM. Whilst administration of a local anaesthetic may form part of a hygienist/therapist’s training, they are not able to prescribe it as they do not have prescribing rights under current legislation.

All local anaesthetic drugs are categorised as prescription only medicines. The same applies to high concentration fluoride toothpastes and varnish. A DCP may only administer a POM under prescription from a dentist. This may be done in one of two ways:

1. A patient’s specific direction (PSD)
   This is a one-off individual prescription for a named patient.

2. A patient group direction (PGD)
   This is a written instruction that allows the DCP to administer certain drugs in specific situations without the need for a written patient-specific prescription. It needs input from, amongst others, a registered pharmacist. As PGDs were originally designed for use in a hospital setting, where a pharmacist is usually on-site, many dental practices have found that they are not readily transferrable to the primary dental care setting.

Drugs that are administered by use of an injection are automatically designated as prescription only medicines.

GDC STANDARDS FOR THE DENTAL TEAM
Medical emergencies can happen at any time in a dental practice. You must make sure that:

- there are arrangements for at least two people to be available within the working environment to deal with medical emergencies when treatment is planned to take place,
- all members of staff, including those not registered with the GDC, know their role if there is a medical emergency,
- all members of staff who might be involved in dealing with a medical emergency are trained and prepared to do so at any time, and practise together regularly in a simulated emergency so they know exactly what to do.

EMERGENCY DRUGS
The Resuscitation Council recommends that certain medical emergency drugs should be available in a dental practice in order to facilitate patient safety. Adrenaline, Salbutamol inhalers, Glucagon and Midazolam are all POMs and as such cannot be procured by anyone who does not have prescribing rights. To further complicate matters, Midazolam is a Benzodiazepine and is a Class C controlled drug. Standalone DCP direct access practices would find these issues a major obstacle when attempting to comply with medicine regulations and the GDC’s Standards. This is likely to remain the case unless there is a change in the relevant prescribing legislation.

NHS PRESCRIPTIONS
Dentists providing treatment on the NHS must use form FP10. These are yellow in colour and supplied in pads of 50 with a unique reference number on each sheet. The unique number is intended to inhibit theft and fraudulent use. Only items listed in the Dental Formulary can be prescribed on the FP10.

NHS Protect offers security advice that a clinician would need to have a good reason to ignore. The document describes a business process that does not form part of the patient’s treatment.

The practice is asked to create a simple document that records the receipt of this NHS stationery and the number of individual prescriptions used during the year. This information is for administration purposes only and forms part of the routine quality assurance documentation within the business. As such, it might be subject to audit as part of a practice inspection.

The details of the serial numbers on individual prescriptions do not need to be recorded in the patient’s record card.

Performers and providers are responsible for the security of prescription forms once issued to them, and should ensure they are securely locked away when not in use. Where smaller amounts of prescription form stock is being centrally managed, for example by a manager for a small team of prescribers, managers should ensure a process is in place to record relevant details in a stock control system, preferably using a computer system to aid reconciliation and audit trailing.

Practice owners need to account for all the FP10 forms supplied to the practice and are asked to note the first and last number (first 10 in the 11-digit sequence of each 50-sheet pad issued to them – keep for 3 years) and the name of the prescribing dentist who has been given that pad. It is useful to know the last digit of the 11-digit sequence is randomised and can be ignored for this particular purpose.

- All pads should be kept securely and not left lying around in the day. They must be locked away at night.
- A report should be sent to NHS Protect if any go missing.
- A record should be kept for 18 months of any that are spoilt or are destroyed.

If you would like to know more about dental prescribing, Dental Protection has an interactive programme on its educational platform: dentalprotection.org/prism

BIOGRAPHY
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Joe qualified in 1983 from The London. In addition to being a dentolegal adviser for Dental Protection, he works one day a week as a tutor at the School of Hygiene and Therapy at The Eastman.

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CONTACTS

You can contact Dental Protection for assistance dentalprotection.org

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