

That was then this is now

Christine has been practicing dentistry now for 30 years. How things have changed!

In 1981, As a newly qualified dentist you could easily expect to leave the protection of your dental school, armed with only the knowledge and skills you have acquired in your undergraduate programme and never undertake any further training or education for the rest of your practising days. Any new innovations and equipment was demonstrated by the representatives of the small number of dental wholesalers who arrived in the practice with a suitcase of new wares and special “offers of the month”, each knowing the best time to arrive for coffee or lunch. It was cosy, predictable and unthreatening to the dentist. It took little account of the best way to treat the patients.

The dental support team were largely trained on the job, few undertook any formal training and they were generally expected to “know their place”. The dental nurse was there to clean up and mix a few materials. If the dentist did actually attend a course and wanted to make changes it was not usually due to costs or lack of knowledge that the changes failed to happen but because the dental team allowed a quiet, gentle slide back to their old ways. Cosy, predictable and unthreatening.

Dentists and dental team members did not wear gloves, masks or eye protection, the patients were still often treated sitting upright and covered with a nasty blue plastic bib which still bore the evidence of the previous patient’s treatment.

Many practices offered general anaesthesia, often using very old, unserviced equipment. The anaesthesia relied more on a short burst of lack of oxygen than to the effect of the anaesthetic gases. Hence, many peoples’ horrible post-aneasthetic recovery experiences, and occasionally death of the patient.

The x-ray machines produced a high radiation dose, and the scatter of the x-rays was wide- hence the need for covering the patient with a heavy, lead apron.

Just like the cars of the time, the dental equipment was unreliable, but fortunately very unsophisticated, so dentists all soon learnt how to undertake basic repairs. The equipment was noisy and the design usually made working close support with a dental nurse nigh on impossible.

Preventative dentistry was all about making the patients brush and floss better and fluoride was only provided in the form of nasty tasting gels which had to be held against the teeth for several minutes (the memory of which still haunts patients today). It was always the patients fault if they kept getting decay or if they developed the more advanced form of gum disease called periodontal disease.

“Extension for prevention” was the mantra taught at dental school nearly until the 90’s. If a patient presented with a small cavity in the surface of a back tooth contacting the adjacent tooth, dentists were expected to remove all the decay, break down the tooth structure remaining between this tooth and the tooth next door and cut into all the pits and fissures on the top surface of the tooth. This was then filled with silver amalgam, a strong, enduring but unaesthetic material. This is the start of the long story of the fracturing back teeth which so many of you now experience.

Front teeth were filled with composite. This is comprised of glass particles in a resin matrix. The material was aesthetically much better than anything we had before but some had expansion and contraction problems, the bond to tooth only worked if we managed to keep the tooth completely dry. The glass particles were quite large so tended to stain. We were still encouraged to make a big cavity with deep undercuts which today results in the corner of the tooth fracturing.

The only way to make teeth whiter was to prepare them for a porcelain crown- very destructive and often lead to nerve death and root treatment and another crown.

Our root canal instruments were only steel and often too rigid for curved nerve canals. Some filler materials were quite toxic and no one ever used rubber dam to protect the patient from inhaling instruments or the irrigating liquids.

If a patient lost a tooth or teeth the only option for filling the gap was a denture or a bridge. A denture could be a good option but many people feel uncomfortable having such a foreign body in their mouth and the association with the “teeth in the glass” very upsetting. Bridges 30 years ago always involved crowns on the teeth on either side of the space, requiring preparation often of a completely unscathed tooth.

Eighteen months after graduating Christine signed up to a series of three afternoon courses back at her old alma mater, Guys. Having started to see many patients in general practice, she wanted to review what she knew about gum disease as it seemed to be at odds with some of the “older dentists” she was working with. Her old professor was mortified that one of his recent graduates felt the need to come back and learn more. As it happened, the “older dentists” should have been on the course, not Christine.

So in here we are in 2011, what has changed?

It is no longer possible to sail through 40 years of practising dentistry with little or no further training and education.

All newly qualified dentists undergo an initial year of Vocational (now called Foundation) training. They work in specially selected practices with lead dentists who are trained to support the new dentist. They have 30 training days in that year to add to the skills and knowledge acquired in dental school. Christine undertook this in 1981 in one of the pilot schemes which was held in Guildford. She was one of the lucky ones.

The General Dental Council now ask for evidence of training as part of the annual registration process. In 2013, dentists will not only have to show evidence of training but also of personal and external audit and performance review. This will be called Revalidation.

Dental nurses, hygienists, therapists and technicians all have to be either in training or be registered with the General Dental Council. Their initial training has a formal programme as well as on-the-job training. They also have to undertake a certain amount of annual training and education for registration. Dental nurses especially have to take responsibility for their role in patient care and are expected to know about and be compliant with all the necessary guidelines and legislation relating to the dental care of the patient.

No dental team member would ever dream of treating a patient without wearing gloves, mask and protective glasses and patients are also all protected with disposable bibs and glasses. No one ever does general anaesthesia in a dental practice (it MUST be carried out in a hospital), sedation can only be provided by specially trained dentists or doctors with access to the full range of resuscitation equipment.

Our x-ray equipment delivers a high kilo-voltage which provided a lower radiation dose and the machines are designed to only irradiate a narrow field –just the area we need to view. The rest of the equipment is more efficient, reliable and designed so that dentist and nurse can work effectively together both able to see directly into the patient's mouth providing safer and more efficient patient care.

Prevention forms the backbone to modern dentistry. The use of fluoride in toothpastes, gels and even filling materials has led to stronger more decay resistant teeth. We know that controlling frequency of intake of sugars is also important in prevention of decay but we also understand the role of saliva and how lack of this can also lead to decay. This is particularly important in the older patient who often takes various medicine

which can cause dry mouth. The percentage of the population in England who have no teeth has fallen from 28% in 1978 to 6% in 2009.

We now understand that there are two forms of gum disease. Gingivitis presents as bleeding gums and is caused by not effectively cleaning the bacteria (plaque) from around the teeth. Most adults in the world have some bleeding gums somewhere and apart from it being unpleasant there are no long term consequences. Periodontitis is a more advanced form of gum disease where the body's response to the plaque (in the genetically susceptible 8-15% of the population) causes the bone to start to disappear leading (if untreated) to loosening and eventually loss of the tooth. This is made worse by smoking and diabetes.

When treating tooth decay we are now much more likely to monitor, use fluoride varnish, try to implement diet changes and if we do need to remove the decay then make the cavity only big enough remove the soft active decay and make sure that the edges of the filling are bonded to the tooth to prevent further decay spread. We still some times use amalgam but in our practice we prefer the use of glass-ionomers as they leach out fluoride into the surrounding tooth.

Composite filling materials now mimic the differing structures of the tooth and as such can match a tooth colour much more accurately. We prefer to use these with or without tooth whitening if we need to change a tooth shape or colour.

Dental implants have been a major advance for restoring the space once a tooth is lost. In 1982 Professor Per-Ingvar Branemark presented work at an international conference which he had started 15 years earlier on placement of titanium dental implants. Their use in dentistry is now common place but still must be done following careful planning and procedures and only undertaken by dentists which have been fully trained.

That, as they say, is my dental history!

Christine Osborne BDS, FFGDP MGDS LDS RCS