Single-use hand instruments

Making a case for their use in general dental practice

By Robert Jagger, UK

A wide range of single-use disposable dental and surgical instruments is now produced by a number of manufacturers. Instruments are available for purchase either singly or as procedure kits and are priced as a realistic alternative to decontaminating reusable instruments. Paradoxically, single-use instrumentation is rarely seen as a viable alternative by dental professionals, who typically associate single-use instruments with cheap unreliable plastic devices and a limited product range. In reality, there are mirrors, probes, restorative instruments, endodontic instruments, minor oral surgical instruments and extraction forceps for both adult and paediatric use.

Procedure packs too are available for specific procedures and contain all of the necessary instruments. Examples of packs include those for dental and periodontal examination, restorative procedures, maxillofacial biopsy, minor oral surgery, and periodontal microscopy. This article seeks to challenge current clinician perceptions of single-use instrumentation by examining the potential benefits of high-quality single-use instruments in daily practice.

Quality

Single-use instruments can be of extremely high quality and may be almost indistinguishable in use from reusable instruments. Clinicians often comment that they are impressed by their quality and functionality and that they appear far too good to throw away after just one use. These instruments are a significant step forwards from the poorer quality equipment that was previously available.

Before selecting a supplier of single-use instruments, however, it is critical to ensure that they comply fully with all relevant British and European medical device regulation standards and that they are manufactured from medical-grade surgical steel and undergo rigorous quality assurance checks and batch testing. Purchasing instruments from a supplier approved by the British Dental Industry Association will provide practitioners with assurance that they are dealing with an appropriately regulated manufacturer.

Sterilisation

One of the most significant changes to have affected the dental profession in recent years has been the change from rigorous sterilisation and cross-contamination procedures (HTM 01-05) to decontamination in Primary Care Dental Practices.1 Dangers posed by prion diseases, such as variant Creutzfeldt–Jakob Disease (vCJD), remain even with the most effective dental sterilisation processes. The prion associated with vCJD is able to survive steam autoclaving under standard exposure conditions,2 suggesting that some reusable surgical instruments are potentially being utilised in a contaminated state. Use of single-use disposable instruments ensures that instruments are not contaminated, protecting patients and clinical staff alike.

Costs

Most general dental practices are now equipped with HTM 01-05 compliant equipment. Re-processing dental instrument trays, however, inevitably leads to significant wear and tear and ultimately instrument damage. Regular sharpening and replacement of reusable instruments too is necessary for instruments such as locators, chisels and elevators. This can add substantial costs to the reprocessing of reusable instruments. Reprocessing protocols dictate that a dental practice must hold significant stock of expensive reusable instruments, much of which often lies redundant at any given point in time.

Single-use instruments can provide a cost-effective and time-saving solution to the reprocessing of used instruments. The procedure is simpler and quicker, and only a minimal investment is required.

In endodontics, clinicians can more effectively identify and control procedures and maximise their return on time-consuming and costly procedures with the use of single use rubber dams and root canal obturation packs. Safe-to-touch instruments can be used in a hygienic manner, reducing the risk of cross-contamination. Moreover, single-use instruments have a shorter lifespan than reusable instruments, providing a cost-effective solution for procedures that require precision and efficiency.

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Forrest et al.3 noted that true procedure costs are accurately assessed, the benefit of high-quality single-use instruments is now produced by a number of manufacturers. Instruments are available for purchase either singly or as procedure kits and are priced as a realistic alternative to decontaminating reusable instruments. Paradoxically, single-use instrumentation is rarely seen as a viable alternative by dental professionals, who typically associate single-use instruments with cheap unreliable plastic devices and a limited product range. In reality, there are mirrors, probes, restorative instruments, endodontic instruments, minor oral surgical instruments and extraction forceps for both adult and paediatric use.

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