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 to be 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 very 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 microsurgery. 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 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 regulatory standards and that they are manufactured from medical-grade surgical steel and undergo rigorous in-process 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 adoption of rigorous sterilisation and cross-contamination procedures (HTM 01-05). 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 found in surgical instruments and extraction forceps for both adult and paediatric use. Use of single-use disposable instruments ensures that instruments are not contaminated, protecting patients and clinical staff alike.

forecast true procedure costs accurately, as there are no hidden costs associated with the decontamination, sterilisation and packaging of reusable instrumentation.

Convenience
Among other applications, single-use packs allow rapid and efficient management of dental extractions that become complicated by, for example, crown fracture. Contingency stock of single-use surgical packs (comprising integral single-use scalpels) handles all of the necessary instrumentation required for procedures that are designated as a specialist clinical waste stream and as such must be disposed of in accordance with UK and European clinical waste management regulations. Historically, this has meant that they were disposed of alongside clinical sharps waste and ultimately consigned to incineration and landfill. This has previously raised concerns over their adverse environmental impact.

However, a recent innovative partnership between Robinson Healthcare and one of the country’s largest specialist health care waste management companies, Healthcare Environmental Group (HEG), has led to the development of a unique UK-wide recycling programme for single-use surgical and periodontal instruments. Under this initiative, HEG is now able to provide dental practices with a unique recycling service. The company has a fleet of dedicated, regulation-compliant, purpose-designed vehicles and the capacity to service individual dental practices and clinics with scheduled waste container collections and deliveries. Containers are collected and returned to a recycling station using GPS track and trace technology. Depending on the annual volume of steel recycled, HEG is potentially able to offer a payback to dental practices that use the Healthcare Sharps Recycling Service. One of the major benefits of this programme is that it is designed to facilitate complex periodontal surgical procedures in a cost-effective way ensuring that the cost in use is typically significantly less than the reusable instrument option. Furthermore, recent advances in the way that these instruments may be recycled have effectively addressed environmental concerns.

Conclusion
The use of high-quality single-use instruments can provide significant advantages to dentists in general dental practice, particularly in terms of sterility, convenience, efficiencies and reduced operating costs. Packs, such as surgical, restorative, periodontal and implant packs, can be particularly valuable. Dermatologists, however, have identified a need for the single-use instrument option are less significant when the substantial hidden costs of reusable instruments are considered, and their cost in use is typically significantly less than the reusable instrument option. Furthermore, recent advances in the way that these instruments may be recycled have effectively addressed environmental concerns.

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References
1. Health and Safety Executive.

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TRENDS & APPLICATIONS

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