Hayley Lawrence explains why spending a little TLC on your ultrasonic scaler can bring even better results for your patients.

Does your ultrasonic scaler feel a little lethargic? Even by increasing the power settings it still doesn’t feel as though it’s getting the job done as well as it used to? The answer is almost certainly the result of using worn or damaged inserts.

Not surprisingly, over time ultrasonic inserts wear from use, and worn inserts can cause particular problems by significantly reducing scaling efficiency through lack of power. Insert wear is subtle and not always visible to the naked eye, and even the gradual loss of power can go unnoticed, until it’s too late!

Ultrasonic inserts are designed to move from a fixed point, and as inserts wear the area covered by the end of the tip gets smaller, reducing efficacy. Using an insert that is worn, damaged or bent means it will take longer to complete the procedure and there will be a need to apply more pressure, resulting in reduced vibration and unnecessary discomfort for both the operator and the patient.

What causes wear and tear?

Inserts wear or become damaged for a number of reasons, including:

- Everyday wear and tear from routine abrasion
- Removal of hard calculus deposits wears inserts faster than general plaque debridement
- High power levels - ultrasonic vibration causes inserts to wear faster at high power levels than those used at low power
- The effects of cavitation - as the ultrasonic bubbles do their work on plaque and biofilm, they also attack and weaken the metal structure of the insert
- Using the wrong insert for a particular procedure, preventing the ultrasonic scaler and inserts working to their full potential
- Accidental damage when the insert is being handled, causing the insert to become bent out of shape.

Working with worn inserts is rather like wading through treacle, as the gradual loss of power results in increasing treatment times and more physical effort from the operator.

Even the smallest reductions in length and thickness of an insert can result in a significant loss of power - just 1mm of wear produces 25% lost scaling efficiency, whilst 2mm of wear can result in a 50% loss.

What can be done?

Unlike hand scalers that can be resharpened manually, ultrasonic scaler tips should never be resharpened, and once the tip reaches a certain degree of wear they need to be discarded and replaced. For Cavitron users it is especially important that inserts are never reshaped or sharpened, as this affects the way in which the nodal points along the length of the Cavitron insert, including the tip, ‘talks’ to the Cavitron unit.

It is important not to bend any part of the insert, including the metal stack, especially when removing the insert from its sterilisation bag. If an insert becomes out of shape in any way it must be replaced - it cannot be bent back again as this will make it inoperable.

As insert wear is subtle and occurs over a period of time, there are simple ways to keep it in check. A wear guide is a useful tool for checking how worn an insert has become. Simply place the insert over the corresponding image of the insert at its full potential on the indicator card to measure if the tip has worn away beyond effective use.

Cavitron users can also request a visit from their Dentsply representative who uses an innovative ‘wear app’ to accurately measure insert tips and advise on whether to replace or not. To obtain effective results from an ultrasonic scaler and prolong the life of your inserts, it is important to incorporate a range of inserts across different clinical procedures, as each is individually designed to handle different levels of deposits. The choice of inserts can seem rather daunting, and a few hygienists still mistakenly believe that one insert alone is enough to achieve successful treatment across all areas, but it is important that users change their inserts according to specific indications.

Ultrasonic units and inserts from reputable manufacturers are designed to work together for optimum performance. Whilst on the face of it most inserts look more or less the same, there are key differences in the way they operate. Inserts produced by different manufacturers vary in output and are not necessarily compatible with each other’s generator system, potentially compromising treatment outcomes. Using ultrasonic units and inserts from the same manufacturer is proven to guarantee effective scaling and plaque removal.

Which inserts to use?

There is a wide selection of inserts available from reputable manufacturers, with a range of different levels of deposits. The choice of inserts across different clinical procedures, as each is individually designed to handle specific indications. Whether you are looking for a tip for treating periodontal pockets, or a tip for treating smooth surfaces, there is an insert that will suit your needs.

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to suit all clinical needs. Right, left and straight inserts are available to tackle everything from light or moderate calculus removal, periodontal debridement, removal of subgingival deposits, through to the removal of heavy tar stains and calculus on lingual anterior areas. It is also worth considering an insert with an effective water delivery system with a focused spray that directs water down deep into the pockets to help flush away biofilm and debris, whilst improving the visibility of the working area.

Standard size inserts, such as the Dentsply Powerline range, are ideal for general maintenance and scaling, whilst the Slimline series is designed for subgingival biofilm disruption and root surface debridement (RSD) in deeper pockets. For areas that are harder to reach, or where a lot of inflammation is present, extra slim inserts such as the Thinsert allow for easier subgingival and interproximal access during scaling procedures.

And finally...
There is no set life expectancy of an insert, as this will depend not only on how much it is used, but more importantly, how it is used. Learning to understand and ‘feel’ the way your ultrasonic scaler is working ensures the very best treatment outcomes.

By choosing the right insert for a particular procedure, and constantly checking for any sign of wear and tear is the ideal way to achieve optimum results for you and your patients.

To find out more about the role of ultrasonic scalers in practice and the range of inserts available contact Dentsply on 0800 072 3313 or visit dentsply.co.uk. Benefit from Dentsply rewards by visiting dentsplyrewards.co.uk and access free CPD webinars and product demonstrations at dentsplyacademy.co.uk.