More power, shorter curing times—does that make sense?

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Currently in dentistry, there is an evident trend towards easier and faster applications, as well as shorter reaction and processing times. The curing time of high-power curing lights is evident of this trend. Does the trend make sense? Yes, depending on how users interpret this trend and how they benefit from it. For example, bluephase 20i offers a cordless, high-performance LED light that features an emission spectrum similar to halogen and a maximum light intensity of 2,000 mW/cm² (Fig. 1). The unique ‘poly-wave’ technology of the bluephase family allows consistent curing of all composites regardless of the curing time of the photoinitiator system used and offers, above all, a reliable restorative therapy owing to its high intensity. A positive side effect is that curing is achieved in a relatively short time (Fig. 2).

Fig. 1: Maximum intensity of 2,000 mW/cm² with the Turbo programme of the new bluephase 20i.

Bluephase 20i thus allows the use of blue and violet LEDs. Bluephase 20i emits a broad light spectrum of 380 to 515 nm similar to that of halogen lights. Bluephase 20i can therefore be used without clinical limitations and at any time, for all light initiators and materials. — Fig. 3: The amalgam restoration of tooth 25 needs to be replaced because of secondary caries. — Fig. 4: The cavity is filled with Tetric EvoCeram. As the metal matrix and contact point instrument prevent some of the light reaching the restoration, the power reserve of Bluephase 20i is very valuable. After removal of the contact point instrument, the occlusal aspect of the restoration is polymerised again for 5 seconds, in order to ensure complete curing in this situation.

Fig. 2: Owing to the use of blue and violet LEDs, Bluephase 20i emits a broad light spectrum of 380 to 515 nm similar to that of halogen lights. Bluephase 20i can therefore be used without clinical limitations and at any time, for all light initiators and materials. — Fig. 5: The completed Tetric EvoCeram restoration. — Fig. 6: Four easy-to-use programmes: Turbo for maximum curing, High Power for fast polymerisation, Low Power for curing areas near the pulp and Soft Start for stress-reduced polymerisation. — Fig. 7: The anterior restorations need to be replaced because of secondary caries.

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thickness may be saved compared with a halogen light.

Despite the impressive power of the Turbo programme, bluephase 20i is suitable for continuous operation, as the fan is virtually noiseless and does not require mains operation because of its powerful battery. Should the battery run low nonetheless, the battery-operated light can be transformed into a mains-operated unit immediately, by simply attaching the cable of the charging base to the bluephase 20i handpiece (Click & Cure option; Fig. 14).

Other, less obvious features complete the ergonomic and technically elaborate design of bluephase 20i. An example is the integrated movement sensor, which allows the unit to switch to the power-saving standby mode when not in use, switching automatically back into operation as soon as the user touches the unit.

The bluephase 20i sets the standard with its performance and handling; it can be compared to a car with a powerful engine and numerous, elaborate technical features that improve safety and comfort. Just as a powerful car needs to be handled responsibly, the high power of bluephase 20i should not be understood as an invitation to ‘speed’ permanently in the Turbo programme. Rather, it is intended as a means to ensure that the required resources are available if needed. The added performance therefore fulfils a purpose. It is up to the user to employ the versatility and the full potential of bluephase 20i according to specific needs, in order to improve efficiency in the practice routine.