VALLEYLAB™ FT10 ENERGY PLATFORM
TISSUEFECT™ TECHNOLOGY

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TISSUEFECT™ TECHNOLOGY

TissueFect™ tissue sensing was first introduced on the ForceTriad™ energy platform in 2006 which provided improved outcomes by utilizing closed-loop control of Bipolar, Monopolar and LigaSure™ device's energy modalities. The ForceTriad™ system continuously adjusts power outputs based on sensor data processed at 3,333 times per second.[1] Medtronic has drastically enhanced decision making power of its electrosurgical generator with improved TissueFect™ sensing technology provided on the Valleylab™ FT10 energy platform. The Valleylab™ FT10 energy platform has closed loop control at 434,000 data points per second (over a 100X more than the ForceTriad™ energy platform).[2] TissueFect™ sensing technology adjusts to various tissue types faster and allows for more advance algorithm applications.[2] Overall the Valleylab™ FT10 energy platform provides a more consistent and efficient tissue effect.

Enhanced closed loop Cut and Coagulation Monopolar modes enables the Valleylab™ FT10 energy platform to control power precisely while dissecting through various tissues types (i.e. skin to muscle to adipose tissues). Unlike other generators with slower data rates, TissueFect™ technology allows the Valleylab™ FT10 energy platform to quickly reach and maintain the selected power level (Figure 1). Additionally, return electrode includes total energy monitoring. The system will alarm and cease energy delivery if the total energy exceeds the performance thresholds of the return electrode.

As compared to the ForceTriad™ energy platform the Monopolar modes and Bipolar performance has been improved on the Valleylab™ FT10 energy platform. Significant improvements were achieved with the Autobipolar mode where energy is delivered to the tissue with minimal delay after grasping the tissue.[3] Due to the speed of Advance TissueFect™ sensing technology, the Autobipolar feature on the Valleylab™ FT10 energy platform is more responsive than on the ForceTriad™ energy platform (3-4 times faster[3]; 90 ms versus 328 ms at a 0 second delay setting). In addition, this technology allows rapid dynamic sensing of cable impedance thus adjusting cable compensation to allow for power delivery to tissue regardless of cable type that is used.

TissueFect™ sensing technology in the Valleylab™ FT10 energy platform has also lead to optimized vessel-sealing performance with LigaSure™ devices.[4] High-speed, closed-loop control continuously monitors the electrical properties of the tissue and utilizes an advance vessel- sealing algorithm to apply a proportionate amount of energy based on composition and size of the vessels being sealed (i.e. connective tissues to isolated arteries and veins to large tissue bundles). This multistage algorithm reduces the need for manual bar settings on the Valleylab™ FT10 energy platform making LigaSure™ technology truly a "plug and play" technology. Clinical improvements can be seen on the Valleylab™ FT10 energy platform in faster seal times on smaller and thinner tissues while maintaining the LigaSure™ device's vessel-sealing capabilities across all indicated tissue types.[4-9]

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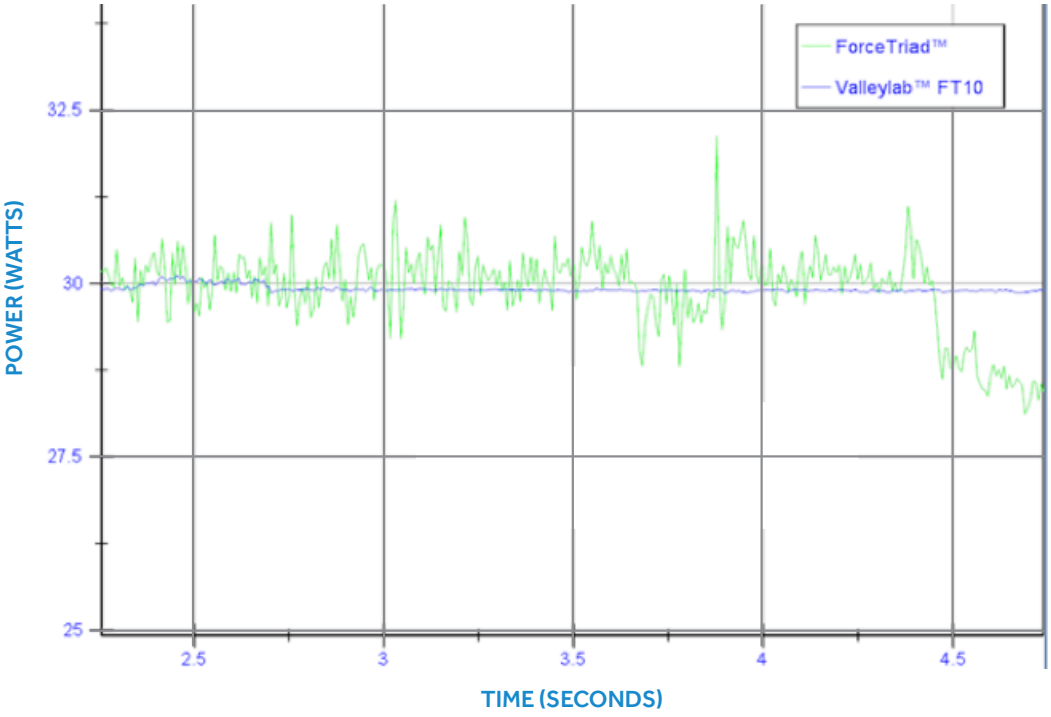
Further, Together

FIGURE 1: POWER CONTROL COMPARISON[6]

Valleylab™ FT10 vs. ForceTriad™
During Tissue Dissection Cut



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