

Evaluation of the Basket Dilation Force of the Expand 212[™] Basket and the Microvasive Gemini[™] Paired-Wire Stone Basket



Introduction and Objective

To evaluate the dilation force of a new patented EXPAND²¹² helical basket in comparison to Microvasive's Gemini paired-wire basket.

Methods

10 samples of the new EXPAND²¹² helical stone basket (Part Number 040415, Lot Number 9742) and 10 samples of the Microvasive Gemini paired-wire basket (Part Number 330-108, Lot Number 3377428) were tested to determine the average dilation force for each type of basket. A dilation force test fixture was used. This fixture consisted of a PTFE mold, which was fitted for 11mm baskets. The mold was then cut in half. One side was set up in a test fixture, which was stationary. The second half was mated to the first and attached to a floating fixture. The floating fixture was attached to an electronic scale to measure the force of outward movement. A basket was inserted into the mold and opened. The corresponding force against the floating fixture was then measured. The basket was closed, rotated 90, opened and another measurement was taken. A total of 4 measurements were taken and averaged. Good laboratory practices were used to calibrate the test fixture and electronic scale prior to testing. Results were recorded in laboratory notebook and data sheets for future analysis.

Results

Data was collected on 10 individual samples of the Expand 212 stone basket and 10 samples of the Gemini basket. The 10 readings for each basket were averaged. The average reading for the Expand 212 basket was 87.9 grams of force and for the Gemini basket 40.5 grams of force.

Conclusion

The testing revealed that the dilation force of the new EXPAND²¹² stone basket is more than twice the dilation force of the Gemini basket.