

The Cooper Health System  
Robert Wood Johnson Medical School at Camden  
One Cooper Plaza  
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**Re: Perfexion Gamma Knife Sector Test**

Dr. Gabriel,

Attached is the Elekta procedure for verifying that each sector moves correctly to each position within appropriate tolerance limits. Elekta has stated those tolerance limits as 0.2 mm for the linear scale reading and 0.5 mm for the manual measurement.

If you have any further questions regarding this please e-mail me at [Goldschmidt-ed@cooperhealth.edu](mailto:Goldschmidt-ed@cooperhealth.edu) or call me at 856-342-2723.

Sincerely,



Edward Goldschmidt, M.S., D.A.B.M.P.  
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## Sector position verification test

Measure the distance from the loading position ring to the inside of the sector emergency pull handle using a tape ruler, caliper or similar.  
The encoder data are collected using the Service tool and Free PPS movement.

<b>Position 8 mm</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Measured at installation</b>	140	139	139	139	139	139	140	139
<b>Measured during test</b>	140	139	139	139	139	139	140	139
<b>Encoder</b>								
<b>Values in configuration</b>	11.220	11.274	11.197	11.244	11.249	11.295	11.271	11.278
<b>Actual values</b>	11.209	11.264	11.187	11.235	11.241	11.291	11.265	11.275
<b>Result</b>								
<b>Measured difference</b>	0	0	0	0	0	0	0	0
<b>Encoder difference</b>	0.011	0.010	0.010	0.009	0.008	0.004	0.006	0.003
<b>Average difference</b>	0.008							
<b>Position OFF</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Measured at installation</b>	125	124	124	124	125	125	125	125
<b>Measured during test</b>	125	124	124	124	125	125	125	125
<b>Encoder</b>								
<b>Values in configuration</b>	25.907	25.970	25.900	25.950	25.950	26.000	25.970	25.970
<b>Actual values</b>	25.907	25.966	25.894	25.942	25.945	25.994	25.968	25.973
<b>Result</b>								
<b>Measured difference</b>	0	0	0	0	0	0	0	0
<b>Encoder difference</b>	0.000	0.004	0.006	0.008	0.005	0.006	0.002	-0.003
<b>Average difference</b>	0.006							

<b>Position 4 mm</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Measured at installation</b>	111	110	110	110	110	110	110	110
<b>Measured during test</b>	111	110	110	110	110	110	110	110
<b>Encoder</b>								
<b>Values in configuration</b>	40.520	40.574	40.497	40.544	40.549	40.595	40.571	40.578
<b>Actual values</b>	40.507	40.571	40.490	40.535	40.545	40.590	40.570	40.585
<b>Result</b>								
<b>Measured difference</b>	0	0	0	0	0	0	0	0
<b>Encoder difference</b>	0.013	0.003	0.007	0.009	0.004	0.005	0.001	-0.007
<b>Average difference</b>	0.004							
<b>Position 16 mm</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Measured at installation</b>	81	81	81	81	81	81	81	81
<b>Measured during test</b>	81	81	81	81	81	81	81	81
<b>Encoder</b>								
<b>Values in configuration</b>	69.920	69.974	69.897	69.944	69.949	69.995	69.971	69.978
<b>Actual values</b>	69.909	69.969	69.890	69.934	69.946	69.990	69.968	69.990
<b>Result</b>								
<b>Measured difference</b>	0	0	0	0	0	0	0	0
<b>Encoder difference</b>	0.011	0.005	0.007	0.010	0.003	0.005	0.003	-0.012
<b>Average difference</b>	0.004							