

**LSUHSC-Shreveport  
Radiation Oncology/Gamma Knife  
Proc. 19.13.26.4**

**Monthly Gamma Knife  
Quality Assurance Guidelines**

**Policy:**

Gamma Knife Services will operate under Louisiana written guidelines regarding Physics calibration and Quality Assurance. The Medical Physicist will perform on-going QA and calibrations on the Gamma Knife Unit with supporting documentation of results. Physics QA requirements are performed daily QA when equipment is in use, monthly calibrations, bi-annual leak test, annual full calibration, and five year full service check by OEM.

**Procedure:**

This monthly /spot check procedure will be conducted by a licensed medical physicist.

Monthly calibration for Elekta Leksell Gamma Knife Model C S# 4828 consists of:

Proper operation of;

1. Posted Safety and Emergency Instructions
2. NRC postings
3. Survey meter
4. Door Lock operation
5. Audio Systems
6. Emergency tools
7. Trunnion tests
8. Microswitch tests
9. Helmet Cap sensor test
10. Helmet ID test
11. APS QA test
12. Door interlocks
13. PrimAlert and UPS battery check
14. Viewing and intercom systems
15. Action required at Console to resume after interlock
16. Radiation beam status indicators
17. Emergency Flasher Initiation vs. couch travel time
18. Degree of agreement between source output and computer calculation
19. Time accuracy & reproducibility
20. Timer Linearity
21. % of output compared to physical decay
22. On/Off Effect Value (from linearity curves)  
Time Termination of Exposure
23. Treatment Stop button (in room)
24. Degree of agreement between source output and computer calculation

Written: 2007

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