



When treating cancer patients, speed and quality of treatment is paramount. **PROLEGO™**, developed by Concept Tapestry, is the most advanced predictive analytics engine in radiation oncology today. PROLEGO minimizes or eliminates equipment downtime and operating costs while improving patients' treatment experience. *PROLEGO improves medical equipment performance, increases its reliability, and assists with technical staff training.*

PROLEGO™, meaning *to predict*, is a Machine Learning solution that analyzes complex medical equipment performance data and various log files. Working in concert with existing linac QA processes, Prolego's suite of applications run in the cloud to monitor performance, analyze trends and predict future events. Using past and present performance data, Prolego will automatically learn a linac's unique complex parameters and analyze them with the aggregated performance characteristics of all machines Prolego monitors.

PROLEGO™ makes predictions based on past and present data along with historic service activity based on trends. Physicists and service personnel will save time and money by preventing downtime, dramatically increasing first-time resolution, reducing unnecessary parts replacement, and improving the patient's experience.

Prolego's non-invasive and transparent components allow safe access to the Varian Clinac C-Series linear accelerator and MLC collimator system.



The current PROLEGO solution is comprised of: Prolego MLC Monitor, Prolego Remote View, Prolego Beam Monitor for the C-Series Clinac.

PROLEGO MLC Monitor: Tracks all MLC operating sensors using files that are uploaded during non-treatment times.

PROLEGO Beam Monitor: Tracks all Linac operating sensors using Linac morning checkout data that is uploaded during non-treatment times.

PROLEGO Remote View: Allows the user to view exactly what the linac workstation user is viewing.

PROLEGO has 3 levels of alerts to notify users of a possible failure.

PROLEGO is HIPAA compliant and has received FDA 513(g) clearance.

Detailed description of PROLEGO™ modules is as follows:

Base Platform:

1. Prolego base application running on secure AWS (amazon web services) platform providing:
 - user administration
 - linac sensor configuration
 - warning, anomalies and failure definition facility
 - consolidated summary health view of view of all linacs at facility
2. Summary view of all warnings, anomalies and failures for all linacs
3. Automated notification of facility anomalies via text or email
4. Automated linac log and sensor data upload facility
5. Prolego applications management

MLC Monitor:

1. Real time monitoring and tracking of all MLC parameters
2. Automated notifications of MLC warnings, anomalies and failures
3. Summary view of all MLC-related warnings, anomalies and failures
4. Troubleshooting capabilities for rapid diagnosis
5. Graphing and charting for all parameters over all intervals at any time
6. Automated documentation and collaborative aggregate historical database

Remote View:

1. Remote view of linac console and associated beam analog meters via any web browser
2. Ability to print or forward beam analog meters via email along with linac location and time stamp labels
3. Enable real-time troubleshooting of hardware interlocks via user assisted access of service mode
4. Real-time diagnosis by service personnel to support physicists and radiation therapists without interrupting workflow
5. Local user screen capture during events for subsequent troubleshooting and documentation

Beam Monitor:

1. Real-time monitoring and tracking of all linac analog meters
2. Automated notifications of beam-related troubles
3. Troubleshooting capabilities for rapid diagnosis
4. Historical database of all parameters
5. Automated documentation and sharing for collaboration among service team

PROLEGO:

- [improves medical equipment performance](#)
- [increases its reliability](#)
- [assists with technical staff training](#)