



THE PRECISE ANSWER TO STEREOTACTIC RADIATION THERAPY



SIMULATION

PLAN

TREATMENT

Innovative 4D SIGRT Solution





Continued technical evolution has expanded stereotactic treatment to both intracranial and extra-cranial sites. It is developing rapidly, particularly in developed radiation therapy markets such as North America and Europe. Stereotactic Radiation Therapy (SRT) has the potential to reduce fractions and improve survivorship. Stereotactic Body Radiation Therapy (SBRT) for lung cancer is an example of an alternative to surgery.

Catalyst HD offers a complete **Surface Image Guided Radiation Therapy (SIGRT)** solution on SRT for online patient tracking before and during treatment delivery, thus ensuring the best possible treatment outcome without non-prescribed doses. The Catalyst HD can also be used for VMAT, IMRT and 3D CRT delivery.

CATALYST HD SUPPORTS THE CLINICAL WORKFLOW



PATIENT SETUP AND POSITIONING

Posture errors projected directly on to the patient's skin ensure a correct patient setup and a higher accuracy in the patient's position. With the posture error correction, time and effort for verification imaging can also be reduced.



INTRA-FRACTION MOTION DETECTION

With 3D intra-fraction motion detection the initial accurate position of the patient is maintained throughout the treatment and permits maximum dose delivery within the target.



RESPIRATORY GATING

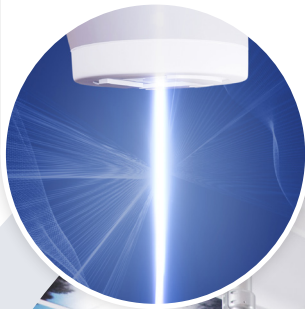
Using the gating solution for both free breathing and deep inspiration breath hold (DIBH) with Audio Visual Coaching and the interface to Major radiotherapy suppliers enables the delivery of precisely-targeted radiation to moving tumors. This assures the most reproducible outcome and guarantees maximum patient safety.



IN THE TREATMENT ROOM, THE SYSTEM PROVIDES THE FOLLOWING BENEFITS COMPARED TO OTHER SIGRT SOLUTIONS:

- Large patient surface coverage (1300x800x700mm) with optimal 360-degree coverage
- Interactive visual guidance via color map projected on patient body during setup.
- Optional audio-visual coaching through in-room speakers and video solution, assisting the patient to follow the optimal breathing pattern.
- Multi-vendor interfaces have been developed to ensure a seamless clinical workflow, i.e. Varian TrueBeam, C-series; Elekta VersaHD, Infinity, Synergy.
- Unique QA workflow to have Catalyst HD isocenter coordinate with treatment/CBCT isocenter.

STEREOTACTIC TREATMENT



COLOR BACK-PROJECTION



ROOM SETUP



INTEGRATION



QA



VISUAL COACHING

CLINICAL BENEFITS

Clinically driven workflow

The clinically oriented workflow maximizes clinical results and minimizes impact on the existing daily workflow.



High precision

- Submillimeter accuracy for coplanar and non-coplanar treatment
- Long-term stability with <0.3 mm shift per month
- Supports frameless treatment, i.e. open mask
- Optimized camera mounting position provides better coverage for patient monitoring



High Efficiency

- No extra QA for stereotactic treatment
- Non-rigid algorithm avoids extra steps for ROI design
- Prompt posture correction with patented color map back projection
- Visual coaching to ensure a smooth gating delivery



Patient Safety

- Doseless and markerless
- Both posture and position correction
- 6 dimension of freedom monitoring
- Auto patient data retrieval
- Auto couch shift for position correction
- Auto beam control
- Double monitoring on intra-fraction motion and gating window

For more information please visit:

WWW.C-RAD.COM



REDEFINING PRECISION IN ADVANCED RADIATION THERAPY



SYSTEM DATA

Physical dimensions (master & side camera)

- Size (W x D x H): 620 mm x 280 mm x 400 mm
- Weight: 16 kg (35 lbs)

Power

- Input voltage: 100 – 240 VAC
- Frequency: 47 – 63 Hz
- Power consumption: 1.8 A

Environment

- Operating temperature:
+10 °C to +35 °C (50 °F to 95 °F)

Light projection

- Measuring light: 405 nm (near-invisible violet)
- Projection light: 528 nm (green), 624 nm (red)

Performance

- Scan volume (X * Y * Z):
800 mm x 1300 mm x 700 mm.
- Measurement reproducibility: 0.2 mm
- Long-term stability: 0.3 mm
- Warm-up time: 30 minutes
- Frame rate: 200 frames/s
- Registration method: Real-time, non-rigid
with deformable models for computing 6 DOF
isocentric shifts
- Positioning accuracy: Within 0.5 mm for rigid body
- Motion detection accuracy: Within 0.5 mm

* Full System Data upon request

C-RAD AB (publ)

C-RAD Positioning AB

Bredgränd 18, SE-753 20 Uppsala, Sweden
Telephone +46 18-66 69 30
www.c-rad.com

C-RAD Inc.

70 SE 4th Ave, Delray Beach, FL 33483, USA
Telephone: +1 561 742 9260
www.c-rad.com

C-RAD GmbH

Wittestr. 30 K, 13509 Berlin, Germany
Telephone: +49 30 609847560
www.c-rad.com

C-RAD

Suite 1308, Bao Hua Tower, 13/F,
No 1211 Changde Road (Changshou Rd.),
Putuo District, Shanghai,
P.R. China, 200060