

Elekta Unity Comprehensive Motion Management

Changing clinical practice at ARO, Negrar,
Verona, Italy

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LPTMRL240304



Intraprostatic recurrence following previous RT for Prostate Adenocarcinoma

Clinical
case



SBRT recurrence re-treat with 1 mm margins

Rationale: Certainty to deliver SBRT with 1 mm margins to treat complex high-risk case with ease and efficiency

History

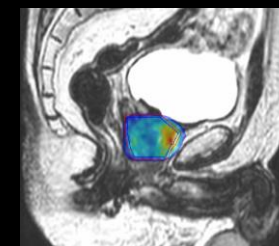
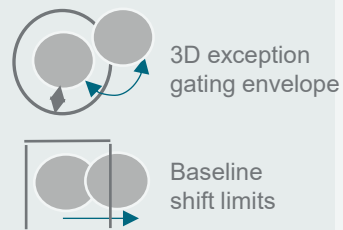
- Previous RT for Prostatic Adenocarcinoma
- PET revealed recurrence of intraprostatic disease

Tx on Elekta Unity

- 30 Gy in 5 fractions
- 1 mm isotropic PTV margins
- Median on-table time: 27 mins

CMM strategy

- Treated with **Exception Gating and Intrafraction Drift Correction (IDC)**
- Daily 3D MR:T2 3D MR



True Tracking structure = CTV Gating Envelope = PTV Gating Tolerance = 97%

Elekta Unity Comprehensive Motion Management (CMM)

SBRT Prostate

Clinical
case



Treat SBRT Prostate with certainty and efficiency

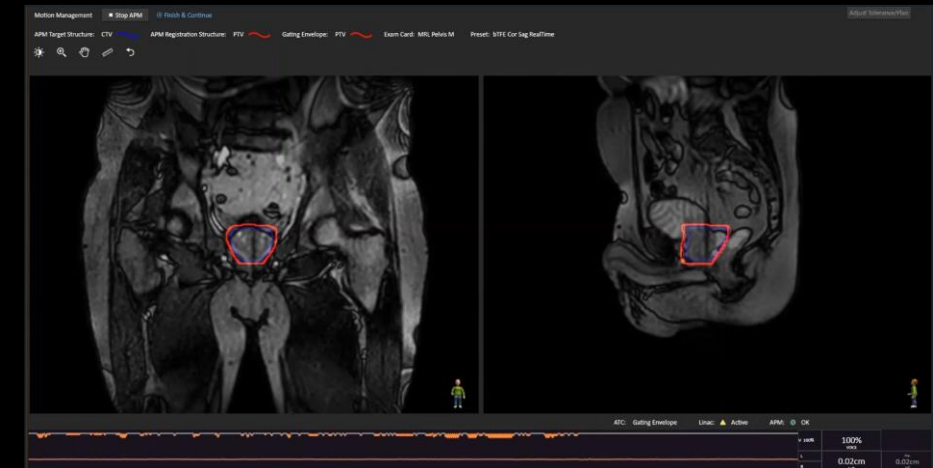
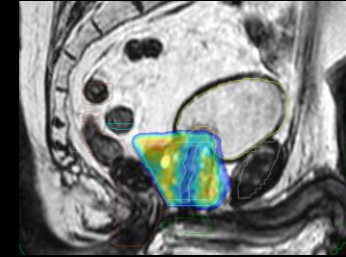
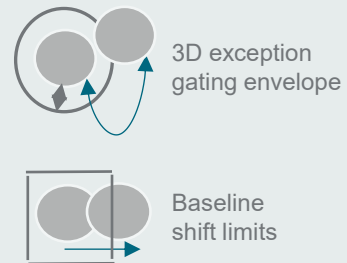
Rationale: Superior visualization of prostate and certainty of accurate dose delivery via automatic gating

Tx on Elekta Unity

- 36.25 Gy in 5 fractions
- 5 mm isotropic PTV margins plus 3 mm post
- Median on-table time: 34 mins

CMM strategy

- Treated with **Exception Gating and Intrafraction Drift Correction (IDC)**
- Daily 3D MR:T2 3D MR



True Tracking structure = PTV Gating Envelope = CTV Gating Tolerance = 100%

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Courtesy of (Advanced Radiation Oncology Department (ARO), IRCCS Ospedale "Sacro Cuore – don Calabria", Via Don A. Sempereboni 5, 37024 Negrar (VR), Italy).

Perigastric lymph-node after Thymus Carcinoma

Clinical
case



Treat small mobile lesions with Certainty

Rationale: Easily manage inter/intrafraction motion and confidently treat small targets close to the stomach

History

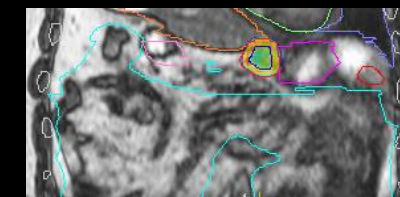
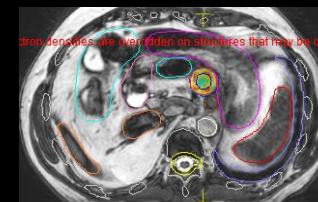
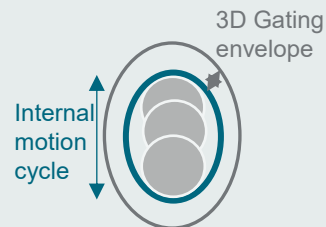
- Surgical resection of Thymus plus adjuvant RT
- Positive FDG-PET/CT revealed a rapidly growing lymph node

Tx on Elekta Unity

- 36 Gy in 6 fractions
- 6 mm isotropic PTV margins
- Median on-table time: 37 mins

CMM strategy

- Treated **free-breathing** planned with the **target in an average position**
- Daily 3D MR: **b3DVaneXD**



True Tracking structure = **Target** Gating Envelope = **PTV** Gating Tolerance = **100%**

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Lung Squamous Cell Carcinoma (SCC)

Clinical
case



Treat complex Lung cases with ease

Rationale: Certainty to deliver high dose to the tumor using small margins to spare remaining lung tissue

History

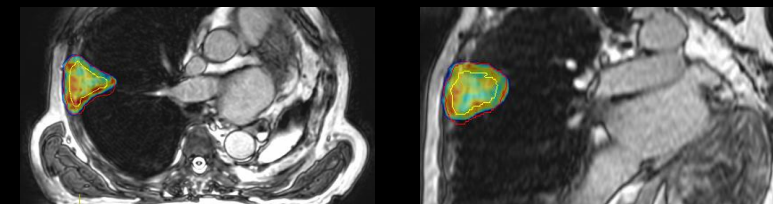
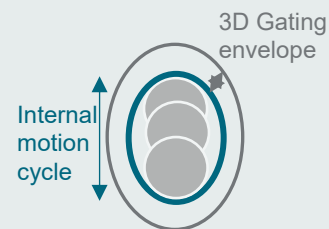
- Surgical removal of left lung due to epidermoid tumour
- PET and biopsy revealed the SCC in right lung.
- Removal of left lung ruled out further surgery

Tx on Elekta Unity

- 60 Gy in 8 fractions
- 5 mm isotropic PTV margins
- Median on-table time: 29 mins

CMM strategy

- Treated **free-breathing** planned with the **target in an average position**
- Daily 3D MR: **b3DVaneXD**



True Tracking structure = CTV Gating Envelope = PTV Gating Tolerance = 95%

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Courtesy of Advanced Radiation Oncology Department (ARO), IRCCS Ospedale "Sacro Cuore – don Calabria", Via Don A. Sempereboni 5, 37024 Negrar (VR), Italy.

Lung Metastases from Prostate adenocarcinoma

Clinical
case



Treat multiple targets with certainty and efficiency

Rationale: Certainty to deliver high dose to the tumor using small margins to spare remaining lung tissue

History

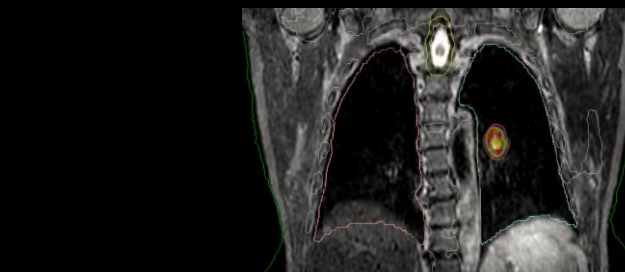
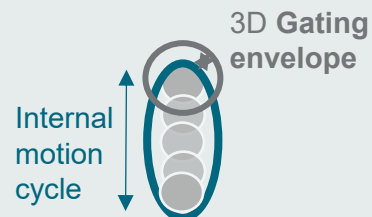
- Surgery / RT and hormones for prostate primary
- SBRT on CT Linac for lymph node progression
- PET PSMA detected lesion in lung and right iliac bone

Tx on Elekta Unity

- Lung – 60 Gy in 8 fractions
- 5mm + 7 mm int/sup PTV margins
- Rt Iliac bone 30 Gy in 5 fractions
- Cumulative median on-table time: 39 mins

CMM strategy

- Treated **free-breathing** planned with the **target in Exhale position**
- Daily 3D MR: **3D T2 Nav**



True Tracking structure = CTV Gating Envelope = PTV Gating Tolerance = 95%

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Liver metastases from Ovary carcinoma

Clinical
case



Treat SBRT Liver metastases easily and efficiently

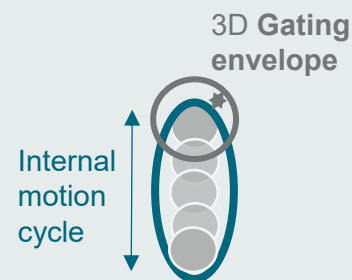
Rationale: Certainty to visualize liver lesion with daily MR imaging for accurate delivery of high-dose SBRT

Tx on Elekta Unity

- 50 Gy in 5 fractions
- 5 mm isotropic PTV margins plus 10 mm inf
- Median on-table time: 36 mins

CMM strategy

- Treated **free-breathing** planned with the **target in Exhale position**
- Daily 3D MR: **3D T2 Nav**



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Liver Metastases from desmoplastic abdominal neoplasm

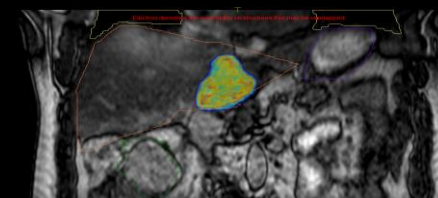
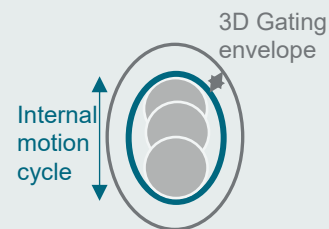


Certainty to treat SBRT liver mets with 5 mm margin

History

- ## Tx on Elekta Unity

CMM strategy



True Tracking structure = CTV Gating Envelope = PTV Gating Tolerance = 95%

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Courtesy of (Advanced Radiation Oncology Department (ARO), IRCCS Ospedale "Sacro Cuore – don Calabria", Via Don A. Sempreboni 5, 37024 Negrar (VR), Italy.

Spine metastasis from prostate adenocarcinoma

Clinical
case



Treat small spine mets with ease and efficiency

Rationale: Increased confidence to treat small lesion in C-spine in close proximity to OARs.

History

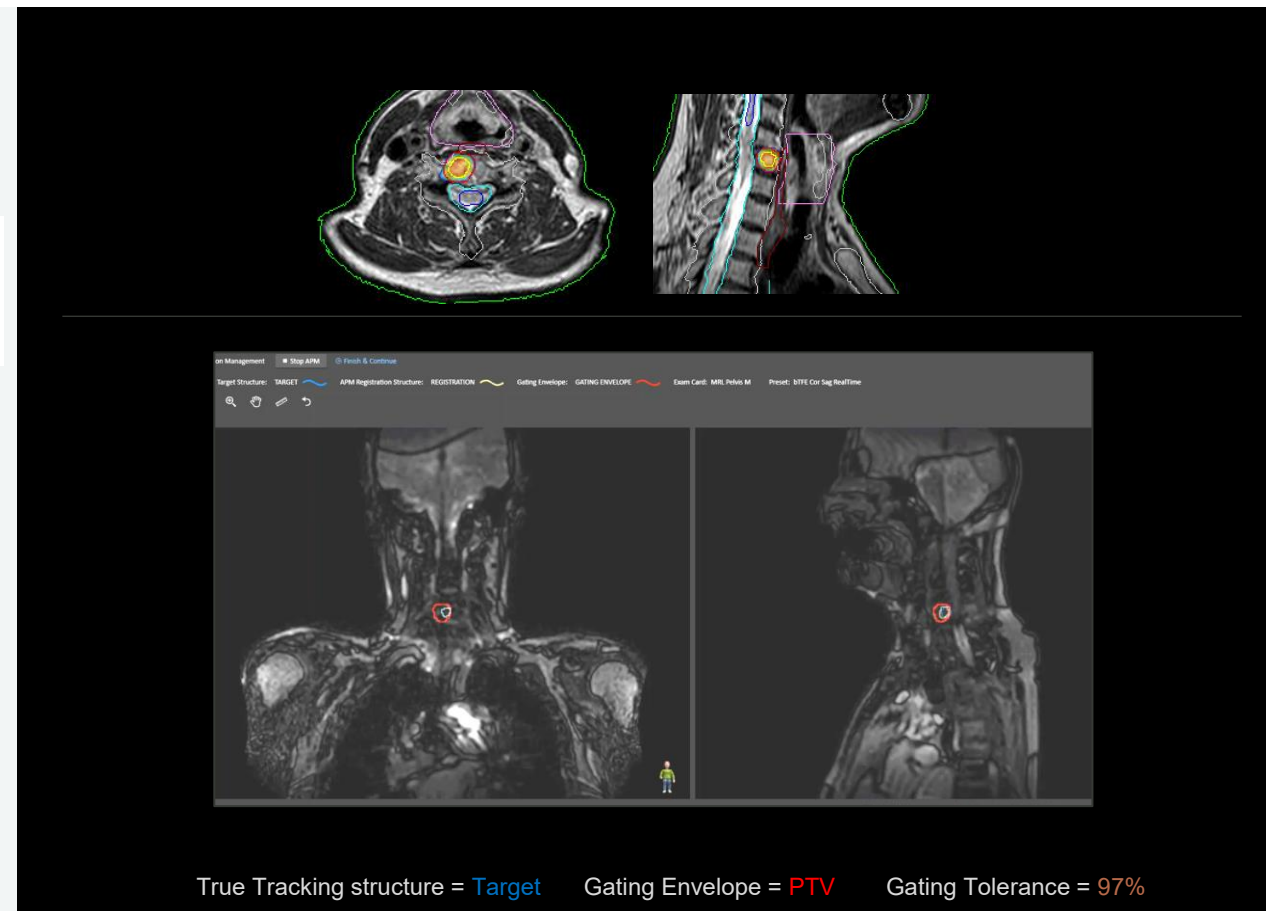
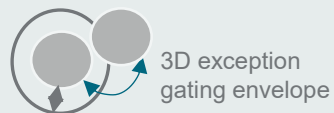
- Radical Prostatectomy
- Salvage RT for recurrence
- Lesions at L2 treated on CT-Linac
- PET-PSMA detected another lesion at C6.

Tx on Elekta Unity

- 21 Gy in 3 fractions
- 3 mm isotropic PTV margins
- Median on-table time: **20 mins**

CMM strategy

- Treated with **Exception Gating**
- Daily 3D MR: **T2 3D MR**



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