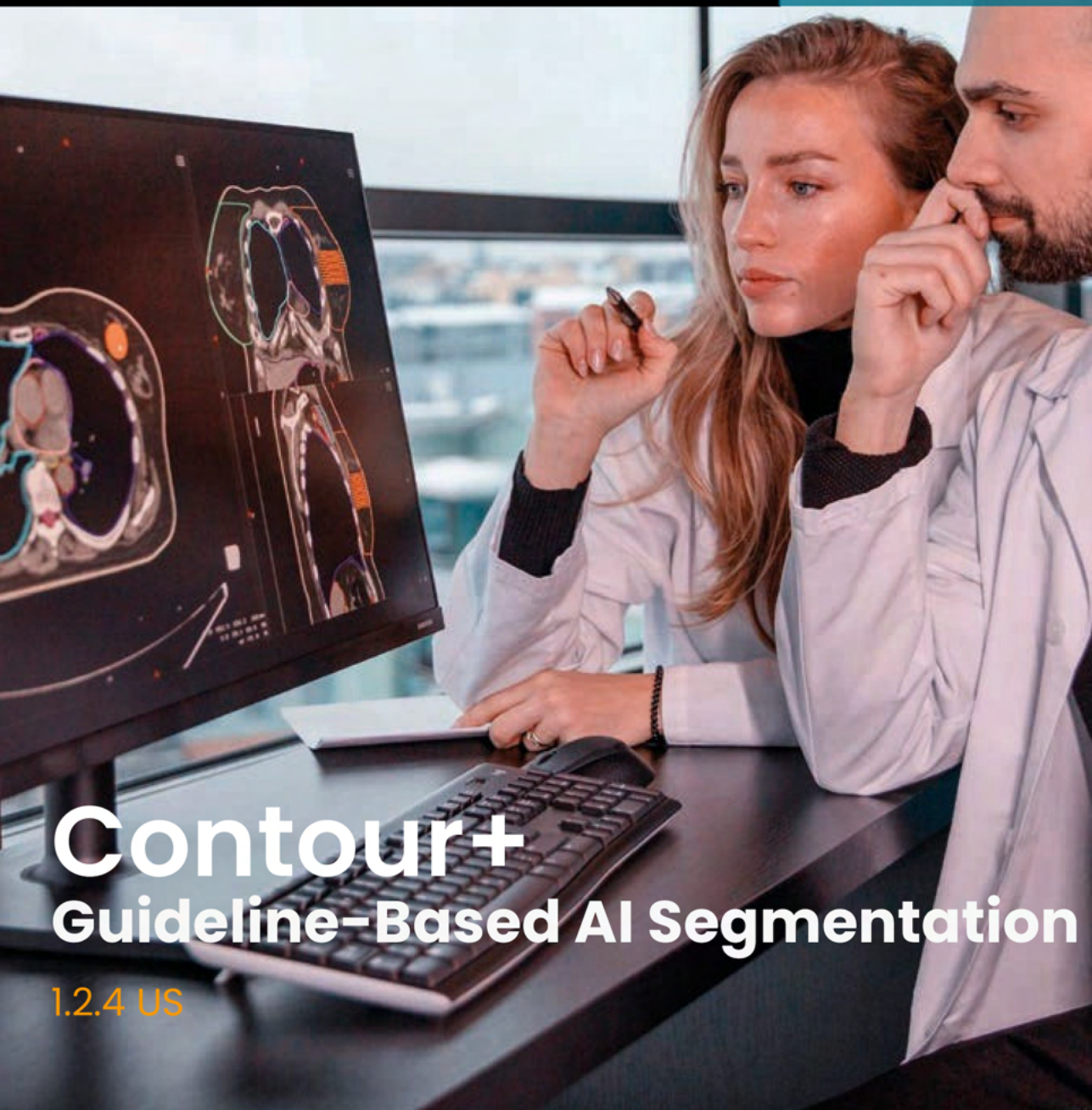


MVISION



Contour+ Guideline-Based AI Segmentation

1.2.4 US

I cannot overstate how much MVision has improved our physician workflow. We contour our own normal structures and previously that meant that 2/3 of our planning time was used up before we even thought about the tumor. Now my normals are there waiting for me, picture-perfect when I open the file, and I can use my time and mental energy to focus on what matters most – identifying and treating the cancer. The difference MVision AI has made for us is life changing.

Kathryn Hitchcock, MD PhD

Assistant Professor, Dept of Radiation
Oncology University of Florida

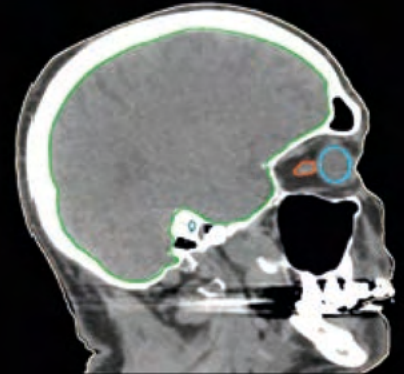
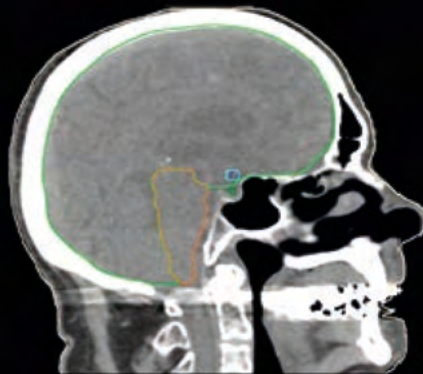
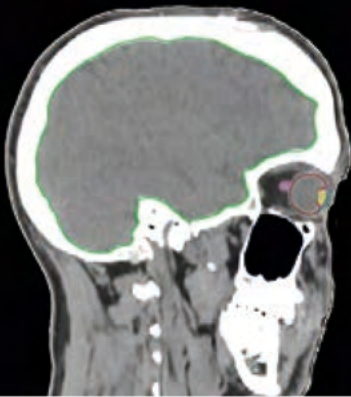
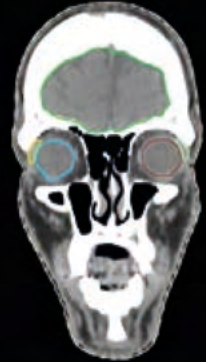
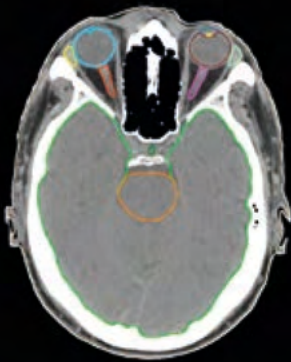
Contents

Brain CT Model	4
Head and Neck CT Model	6
Breast CT Model	9
Abdomen and Thorax CT Model	12
Female Pelvis CT Model	14
Male Pelvis CT Model	16
AVAILABLE SOON	
Brain MR Model	19
Male Pelvis MR T2 Model	21
Jaw CT, Bones CT	23
Updated Models	24

Brain CT Model

21 ROIs

The Brain CT model follows 2 contouring guidelines and covers 21 ROIs used in brain tumour radiotherapy treatment planning.



Brain CT Model

2015 Scoccianti et al.:

Brainstem, Eye_L, Eye_R, Lens_L, Lens_R, OpticChiasm_cnv, OpticNrv_cnv_L, OpticNrv_cnv_R

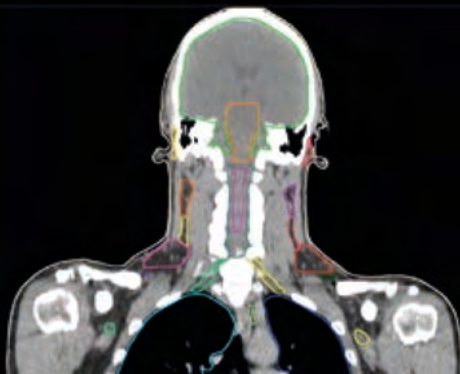
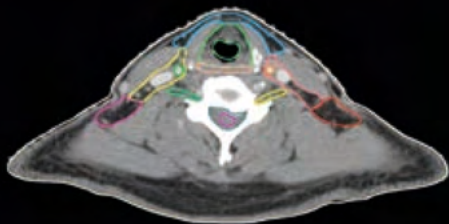
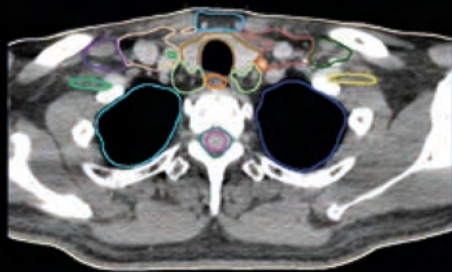
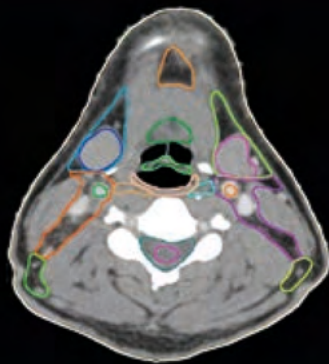
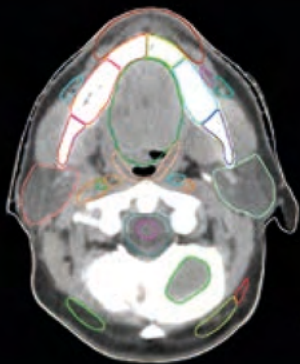
2015 Brouwer et al.:

Brain, Cochlea_L, Cochlea_R, Eye_Ant_L, Eye_Ant_R, Eye_Post_L, Eye_Post_R, GlnD_Lacrimal_L, GlnD_Lacrimal_R, OpticChiasm, OpticNrv_L, OpticNrv_R, Pituitary

Head and Neck CT Model

74 ROIs, including 27 lymph node levels

This complex and high-quality model contains both OARs and Lymph node regions, specific for Head and Neck cancer treatments. The model works well with both contrast and non-contrast enhanced scans and handles dental filling artefacts and irregular anatomies.



Head & Neck CT Model

2015 Scoccianti et al.: Brainstem, Eye_L, Eye_R, Lens_L,
Lens_R, OpticChiasm_cnv,
OpticNrv_cnv_L, OpticNrv_cnv_R

2015 Brouwer et al.: A_Carotid_L, A_Carotid_R,
Arytenoid_L, Arytenoid_R,
Bone_Mandible, Brain,
Buccal_Mucosa_L,
Buccal_Mucosa_R, BrachialPlex_L,
BrachialPlex_R, Cavity_Oral,
Cochlea_L, Cochlea_R,
Cricophar_inlet, Esophagus_S,
Eye_Ant_L, Eye_Ant_R, Eye_Post_L,
Eye_Post_R, GlnD_Lacrimal_L,
GlnD_Lacrimal_R, GlnD_Submand_L,
GlnD_Submand_R, GlnD_Thyroid,
Glottis, Larynx_SG, Lips,
Musc_Constrict, OpticChiasm,
OpticNrv_L, OpticNrv_R, Parotid_L,
Parotid_R, Pituitary, SpinalCord

RTOG 2011 Kong et al.: Lung_L, Lung_R, SpinalCanal

Head & Neck CT Model

Custom:

Trachea

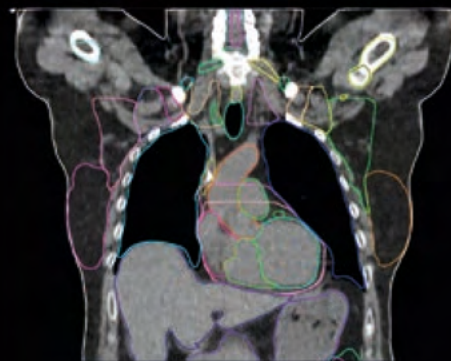
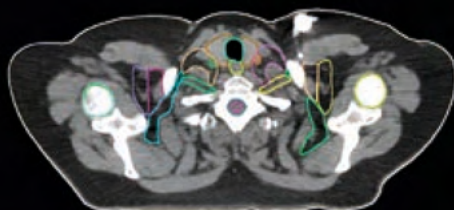
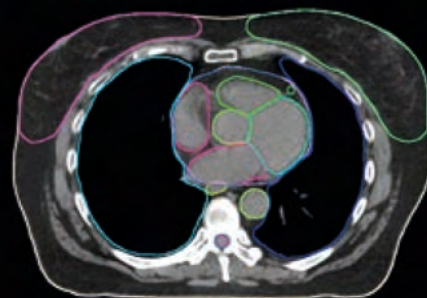
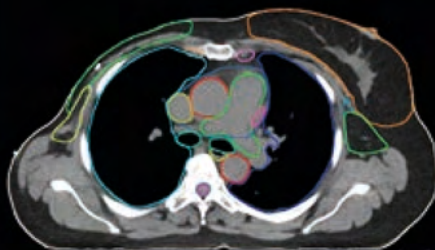
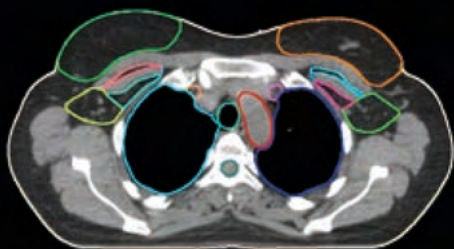
2013 Grégoire et al.:

LN_Neck_IA, LN_Neck_IB_L,
LN_Neck_IB_R, LN_Neck_II_L,
LN_Neck_II_R, LN_Neck_III_L,
LN_Neck_III_R, LN_Neck_IVA_L,
LN_Neck_IVA_R, LN_Neck_IVB_L,
LN_Neck_IVB_R, LN_Neck_V_L,
LN_Neck_V_R, LN_Neck_VC_L,
LN_Neck_VC_R, LN_Neck_VIA,
LN_Neck_VIB, LN_Neck_VIIA_L,
LN_Neck_VIIA_R, LN_Neck_VIIB_L,
LN_Neck_VIIB_R, LN_Neck_IX_L,
LN_Neck_IX_R, LN_Neck_XA_L,
LN_Neck_XA_R, LN_Neck_XB_L,
LN_Neck_XB_R

Breast CT Model

34 ROIs, including 16 lymph node levels

The breast radiotherapy specific structures are based on the ESTRO (2015 and the update from 2016).



Breast CT Model

RTOG 2011 Kong et al.: Heart, Lung_L, Lung_R, SpinalCanal

**ESTRO 2015 & 2016
Offersen et al.:** Breast_L, Breast_R

2015 Brouwer et al.: A_Carotid_L, A_Carotid_R,
GlnD_Thyroid, SpinalCord
BrachialPlex_L, BrachialPlex_R

Custom: Humerus_L, Humerus_R, Trachea

**ESTRO 2015
Offersen et al.:** LN_Breast_L1_L, LN_Breast_L1_R,
LN_Breast_L2_L, LN_Breast_L2_R,
LN_Breast_L3_L, LN_Breast_L3_R,
LN_Breast_L4_L, LN_Breast_L4_R,
LN_IMN_IC4_L, LN_IMN_IC4_R,
LN_IMN_L, LN_IMN_R, LN_Intpect_L,
LN_Intpect_R

Breast CT Model

**RTOG 2014 Jabbour
et al.:**

A_Aorta, V_Venacava_I

2017 Duane et al.:

A_LAD

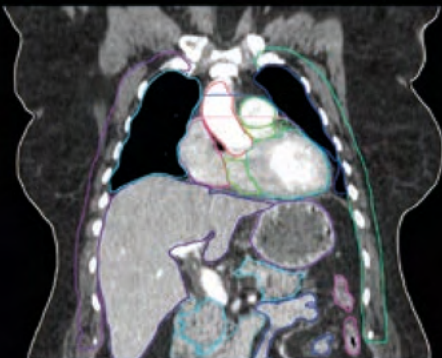
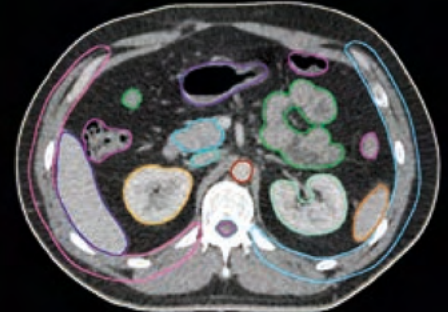
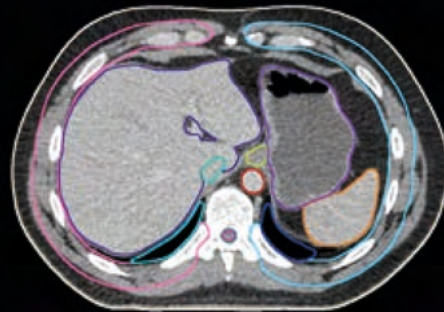
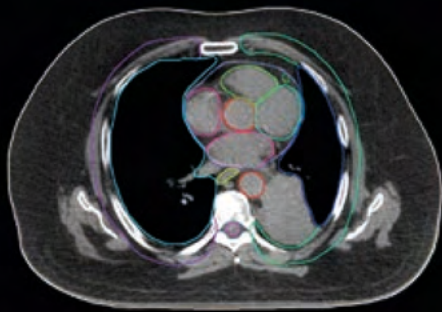
Custom:

LN_Axillary_L, LN_Axillary_R

Abdomen & Thorax CT Model

27 ROIs including SABR protocol structures

The Abdomen and Thorax CT model is designed to aid in standardised treatment planning for both conventional EBRT and SBRT.



Abdomen and Thorax CT Model

RTOG 2014 Jabbour et al.: Bowel_Large, Bowel_Small, Esophagus, Liver, Kidney_L, Kidney_R, Spleen, Stomach

RTOG 2012 Gay et al.: Bag_Bowel

RTOG 2011 Kong et al.: A_Aorta, Heart, Lung_L, Lung_R, SpinalCanal, V_Venacava_I, V_Venacava_S

2015 Brouwer et al.: SpinalCord
BrachialPlex_L, BrachialPlex_R

Custom: Trachea

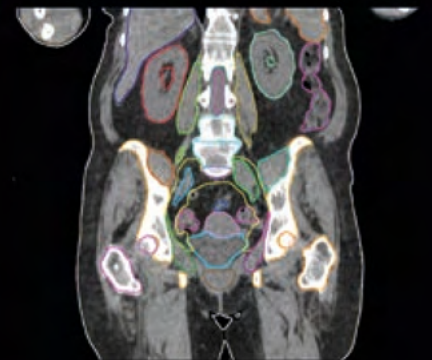
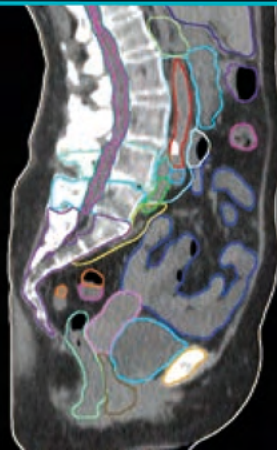
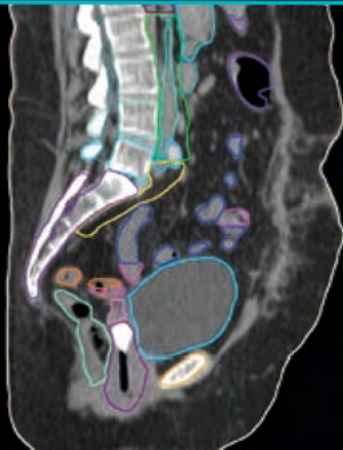
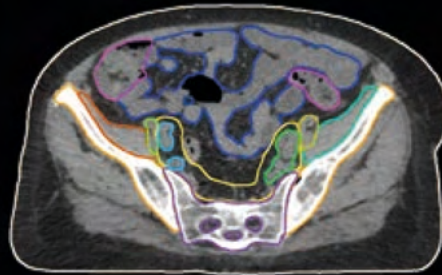
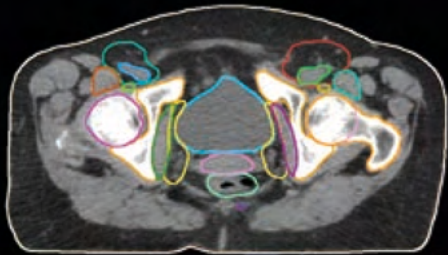
SABR UK Consortium 2019: Bronchus_Prox, Chestwall_L, Chestwall_R, Heart+A_Pulm, Trachea_Prox

2017 Duane et al.: A_LAD

Female Pelvis CT Model

15 ROIs

The Female Pelvis CT model comes with a collection of 16 structures for EBRT planning. The model structures follow the RTOG guidelines.



Female Pelvis CT Model

RTOG 2012 Gay et al.: Bag_Bowel, Bladder, Bowel_Large, Bowel_Small, Femur_L, Femur_R, RectoSigmoid, UteroCervix

RTOG 2014 Jabbour et al.: Kidney_L, Kidney_R

ESTRO ACROP 2018 Salembier et al.: Rectum

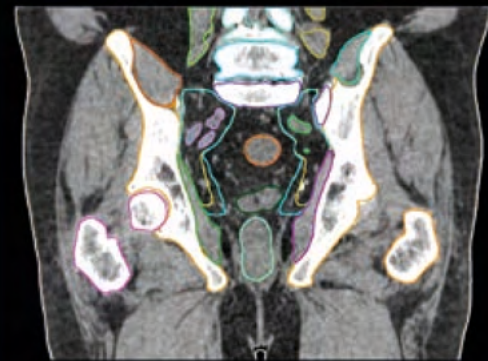
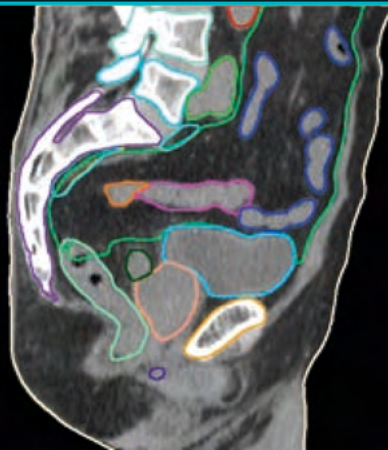
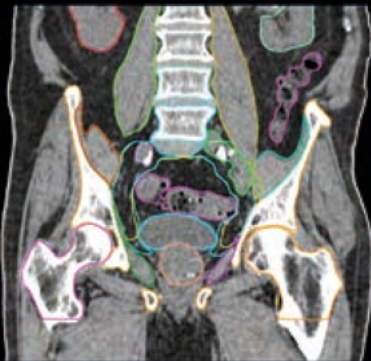
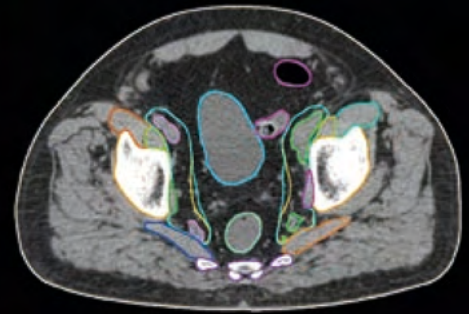
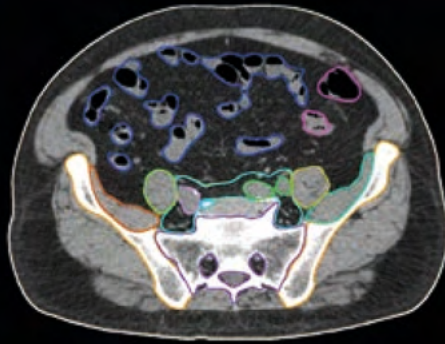
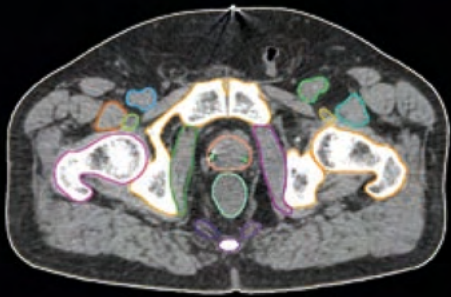
RTOG 2011 Kong et al.: SpinalCanal

Custom: Bone_Pelvic, L4_VB, L5_VB, Sacrum

Male Pelvis CT Model

35 ROIs including 15 anatomical landmarks and 2 different lymph node styles.

The CT model offers a vast collection of structures including 2 different lymph node volumes as recommended by the RTOG and PIVOTAL guidelines.



Male Pelvis CT Model

RTOG 2012 Gay et al.: Bag_Bowel, Bladder, Femur_L,
Femur_R, SeminalVes

**ESTRO ACROP 2018
Salembier et al.:** PenileBulb, Prostate, Rectum

**PIVOTAL 2015 Harris
et al.:** LN_Pivotal, Vessels_L, Vessels_R

**RTOG 2009 Lawton
et al.:** LN_RTOG

**RTOG 2014 Jabbour
et al.:** Kidney_L, Kidney_R

**RTOG 2011 Kong et
al.:** A_Aorta, V_Venacava_I

Male Pelvis CT Model

Custom:

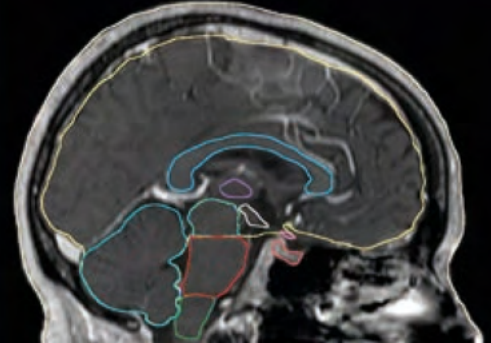
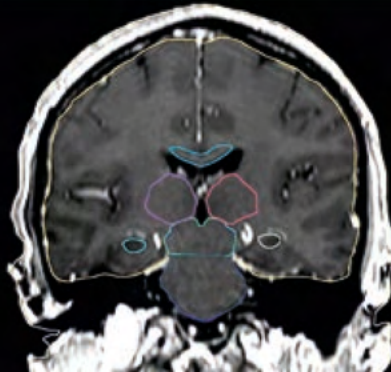
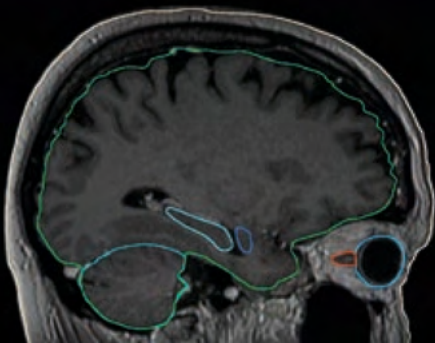
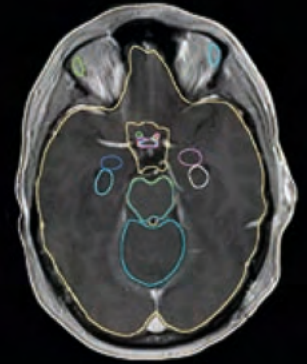
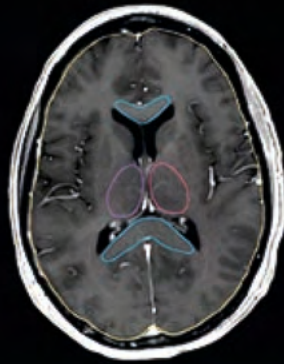
Bone_Pelvic, L4_VB, L5_VB, Markers,
Musc_Coccygeus_L, Musc_Coccygeus_R,
Musc_Iliacus_L, Musc_Iliacus_R,
Musc_Obt_Int_L, Musc_Obt_Int_R,
Musc_Pirifor_L, Musc_Pirifor_R,
Musc_Psoas_Maj_L, Musc_Psoas_Maj_R,
Sacrum, Vessels_Long_L, Vessels_Long_R

All the available models can be provided also as combinations where necessary

Brain MR Model*

29 ROIs

The Brain MR model includes 29 OAR structures. The majority of these are based on the EPTN guidelines published in 2018 and 2021. The model supports high resolution T1 sequences from multiple MRI vendors.



Brain MR Model*

**EPTN 2018 & 2021
Eekers et al.:**

Amygdala_L, Amygdala_R, Brain,
Brainstem, Cerebellum,
CorpusCallosum, GlnD_LacrimaL_L,
GlnD_LacrimaL_R, Hippocampus_L,
Hippocampus_R, Hypothalamus,
MedullaOblongata, Midbrain,
OpticChiasm_cnv, OpticNrv_cnv_L,
OpticNrv_cnv_R, OpticTract_cnv_L,
OpticTract_cnv_R, Pituitary, Pons,
Thalamus_L, Thalamus_R

2015 Brouwer et al.:

OpticChiasm, OpticNrv_L, OpticNrv_R

2015 Scoccianti et al.:

Eye_L, Eye_R

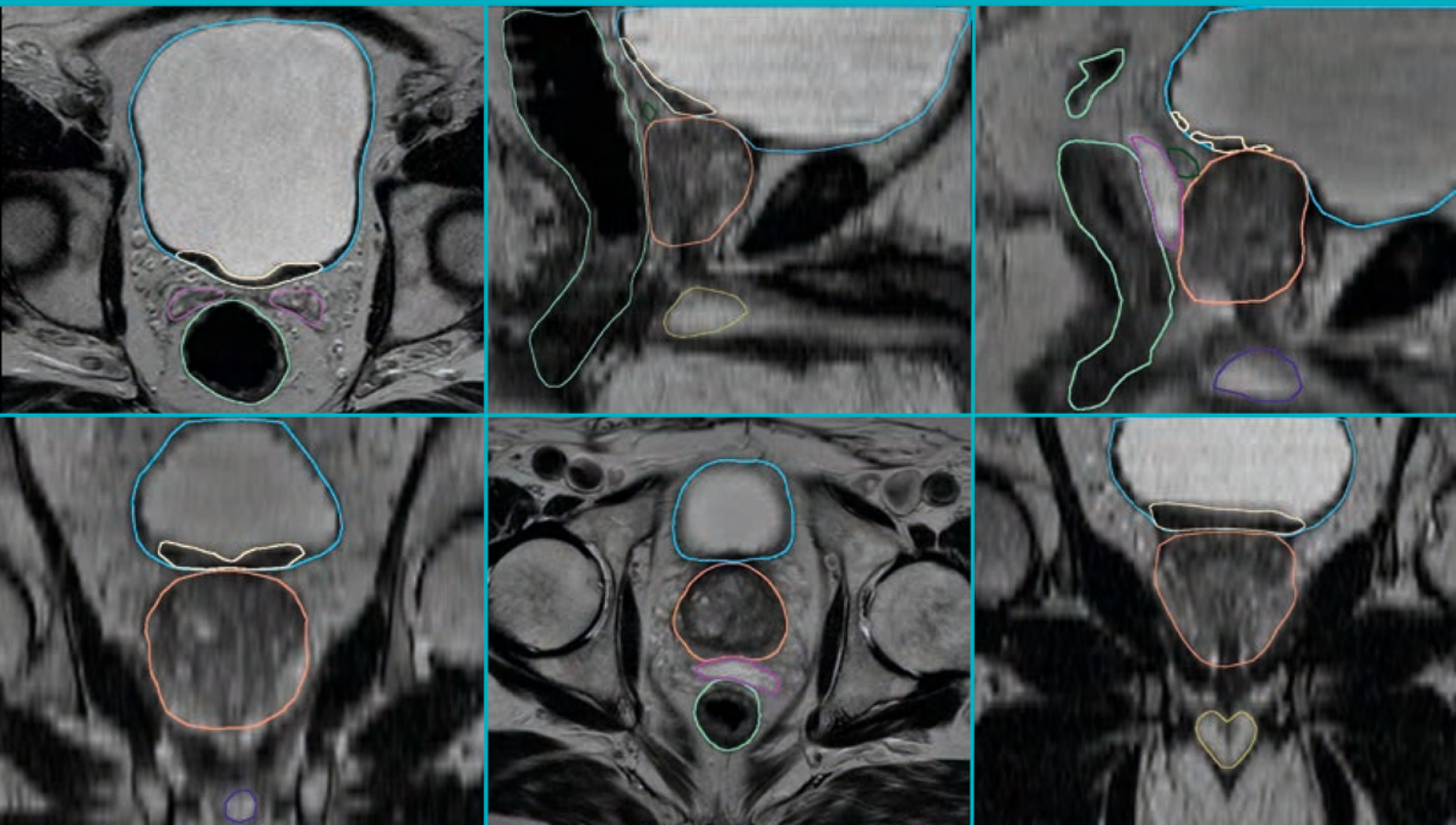
Custom:

OpticTract_L, OpticTract_R

*Subject to regulatory clearance

Male Pelvis MR T2 Model*

7 ROIs



Male Pelvis MR T2 Model*

RTOG 2012 Gay et al.: Bladder, SeminalVes

**ESTRO ACROP 2018
Salembier et al.:** PenileBulb, Prostate, Rectum

Custom: BladderTrigone, Spacer

*Subject to regulatory clearance

Jaws CT*

13 ROIs

Maxilla and mandible segments which can be combined with the Head & Neck model

Bones CT*

48 ROIs

All vertebrae from C1 to L5, and all ribs

Updated Models*

Abdomen & Lung CT

- Heart sub-structures for cardiac toxicity assessment
- Skeletal bones as a single structure
- Duodenum

Breast CT

- RTOG & RADCOMP guideline style for breasts, post-mastectomy thoracic walls and lymph nodes will be added
- Heart sub-structures

Female Pelvis CT

- RTOG pelvic lymph node volumes
- NRG para-aortic lymph nodes
- Inguinal nodes
- RTOG CTV central, parametrium and pelvis suggestions



MVision AI HQ

Paciuksenkatu 29, 6th floor
00270 Helsinki, Finland
info@mvision.ai

MVision AI Inc.

21750 Hardy Oak Blvd. Ste. 104
San Antonio, TX 78258-4946
800 960 0885
info@mvision.ai

www.mvision.ai