CT Lung Volume Change for Advanced Disease (CTVAD) Profile

Consensus Profile Published

Reproducible measurement of tumors in the chest, abdomen, and pelvis is vital to assessing disease, treatment response. QIBA’s CT Volumetry for Advanced Disease Profile proposes standards and processes, based on evidence and expert consensus, for measurement of change in tumor volume in metastatic malignancy.

Following the Profile results in reproducible, confident measurement of change in tumor volume

| Tumor Volume Change for Advanced Disease (CTVAD) Profile | Reproducible measurement of tumors in the chest, abdomen, and pelvis is vital to assessing disease, treatment response. QIBA’s CT Volumetry for Advanced Disease Profile proposes standards and processes, based on evidence and expert consensus, for measurement of change in tumor volume in metastatic malignancy. |

Profile Claims (examples):

Claim 1: A true change in tumor volume has occurred with 95% confidence if the measured change is larger than 24%.

Claim 2: A true change in tumor volume has occurred with 95% confidence if the measured change is larger than 25%.

These additional claims and formulas accessible online (see QR below).

Partners with QIBA

CTVAD Profile Current Opportunities

CT Volumetry and Lung Nodule Analysis Software

Develop a framework to analyze scanner-based lung nodules rapidly

Use projection and image blending in virtual correction

Visually verify that nodule is solid, not attached to structures, has a diameter of 6 mm and diameter deviation is 0.36 mm.

1.96

Obtain Volumetric Nodule Measurement Guidance

CV2/I+/

To understand the impact of CT scanning conditions on measurement of change in tumor volume.


Obtained fundamental image quality protocols using techniques and algorithms.

- To create phantoms emulating clinical conditions in sizing and location.
- To evaluate the impact of CT imaging on the measurement of change in tumor volume.
- To understand the impact of CT scanning conditions on measurement of change in tumor volume.

Robins, B.; Benjamin Berman, PhD; Rick Avila, MS; Maria Athelogou, PhD; Andrew Buckler, MS; Kevin O’Donnell, MS; Nancy Obuchowski, PhD; James Mulshine, MD; Nicholas Petrick, PhD; David Gierada, MD; Berkan Samihiner, Ehsan Samei, PhD

QIBA 2016 CT Volumetry Biomarker Committee: Overview and Status Update

Jennifer Siegelman, MD, MPH; Gregory Goldmacher, MD, MBA; Marthony Robins, BS; Benjamin Berman, PhD; Rick Avila, MS; Maria Athelogou, PhD; Andrew Buckler, MS; Kevin O’Donnell, MS; Nancy Obuchowski, PhD; James Mulshine, MD; Nicholas Petrick, PhD; David Gierada, MD; Berkan Samihiner, Ehsan Samei, PhD

QIBA Small Nodule Profile: Lung Cancer Screening Profile Receiving Public Comment

This profile proposes evidence-based consensus standards and processes for measurement of nodule volume and size changes in patients with lung cancer.

Overview: The profile addresses accuracy/performance of CT volumetry for solid nodule 6-10 mm

Profile Claim 1: A measured nodule volume of 12 cm³ and a CV is 24%, with 95% confidence.

To quantify the amount of change, if Y=1 and Y’ = 2 the volume measurements are not significant.

Hounsfield Units

CV2/I+/

Obtain phantom data online and obtain a passing protocol report.

4.9

Observe if nodule is attached to structures and has a diameter of 6 mm and diameter deviation is 0.36 mm.

1.96

2.5

Obtain Volumetric Nodule Measurement Guidance

CV2/I+/

Obtain phantom data online and obtain a passing protocol report.

4.9

Observe if nodule is attached to structures and has a diameter of 6 mm and diameter deviation is 0.36 mm.

1.96

To understand the impact of CT scanning conditions on measurement of change in tumor volume.


Obtained fundamental image quality protocols using techniques and algorithms.

- To create phantoms emulating clinical conditions in sizing and location.
- To evaluate the impact of CT imaging on the measurement of change in tumor volume.
- To understand the impact of CT scanning conditions on measurement of change in tumor volume.

Robins, B.; Benjamin Berman, PhD; Rick Avila, MS; Maria Athelogou, PhD; Andrew Buckler, MS; Kevin O’Donnell, MS; Nancy Obuchowski, PhD; James Mulshine, MD; Nicholas Petrick, PhD; David Gierada, MD; Berkan Samihiner, Ehsan Samei, PhD

QIBA 2016 CT Volumetry Biomarker Committee: Overview and Status Update

Jennifer Siegelman, MD, MPH; Gregory Goldmacher, MD, MBA; Marthony Robins, BS; Benjamin Berman, PhD; Rick Avila, MS; Maria Athelogou, PhD; Andrew Buckler, MS; Kevin O’Donnell, MS; Nancy Obuchowski, PhD; James Mulshine, MD; Nicholas Petrick, PhD; David Gierada, MD; Berkan Samihiner, Ehsan Samei, PhD

QIBA Small Nodule Profile: Lung Cancer Screening Profile Receiving Public Comment

This profile proposes evidence-based consensus standards and processes for measurement of nodule volume and size changes in patients with lung cancer.

Overview: The profile addresses accuracy/performance of CT volumetry for solid nodule 6-10 mm

Profile Claim 1: A measured nodule volume of 12 cm³ and a CV is 24%, with 95% confidence.

To quantify the amount of change, if Y=1 and Y’ = 2 the volume measurements are not significant.

Hounsfield Units

CV2/I+/

Obtain phantom data online and obtain a passing protocol report.

4.9

Observe if nodule is attached to structures and has a diameter of 6 mm and diameter deviation is 0.36 mm.

1.96