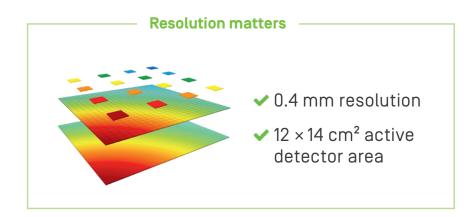


# myQA<sup>®</sup> SRS

## The power of SRS revealed!

Film-class digital resolution and efficiency for SRS / SBRT Patient QA





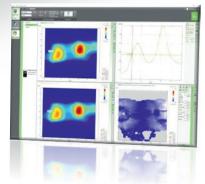
## myQA® SRS

## The power of SRS revealed!

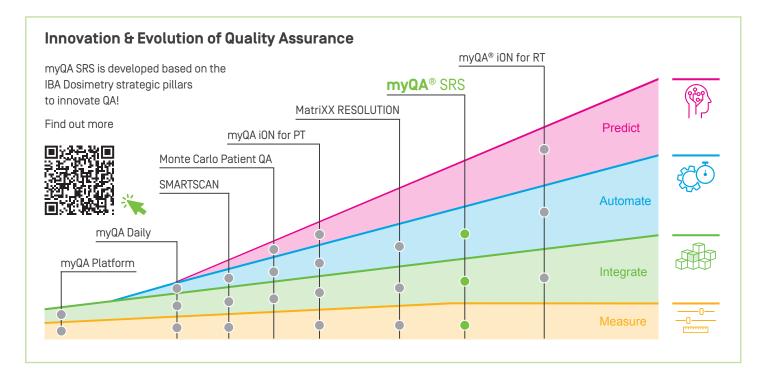
- ✓ 0.4 mm resolution
- ✓ 12 × 14 cm<sup>2</sup> active detector area

11



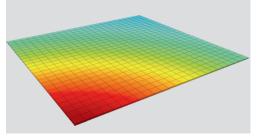


The new myQA SRS solution combines the best of both worlds: unrivaled accuracy and resolution of film QA, with the proven efficiency of digital detector array workflow. It's the new and unique solution for filmless patient plan verification.



## myQA® SRS Film-Class SRS/SBRT Patient QA without Film, for All Your Stereotactic Patient QA





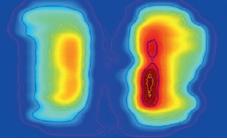
#### **Film-Class Accuracy**

The **unique digital solid-state pixel array** provides sub-millimeter high-definition measurement resolution for all stereotactic cases.

### **Workflow Efficiency**

Digital detector QA with advanced verification software ensures seamless and fast QA measurements and verification. Your SRS / SBRT QA workflow is as easy as your proven IMRT QA procedures.

Verification resultsAverage0.285Pass99.0%



#### **Confidence & Safety**

Peace of mind that all your SRS and SBRT patient treatment plans and treatment delivery are safe.

## Experience with myQA® SRS



#### 

Patient-specific SRS and SBRT QA results look great using the myQA SRS even for very tight parameters of 2mm/2%. The digital detector QA workflow with myQA SRS is 10<sup>6</sup> times faster and easier compared to using film. The film-equivalent resolution for our QA measurements is the basis for better and more meaningful SRS patient plan verification with a high sensitivity and specificity to detect real dosimetric issues.

Yun Yang, PhD, DABR

Department of Radiation Oncology, Rhode Island Hospital, USA



## When Accuracy matters, Resolution matters!

## **Dedicated for Stereotactic QA**

- High-resolution measurements even for steep dose gradients.
- Real measurements no dose interpolations required as with low-resolution detectors.
- Avoids false QA results.
- Provides reliable QA test results equivalent to film QA.
- Largest high-resolution SRS detector field size for QA of multiple PTVs at once.
- Measurement-based Patient QA is strongly encouraged:
   AAPM-RSS Medical Physics Practice Guideline 9.a. for SRS/SBRT.
- No resolution compromises even for QA of very small SRS targets.

#### Film-class detector array optimal for SRS/SBRT

- Unique CMOS solid-state sensor array.
  - \_ 0.4 mm resolution with 105,000 pixels.
  - 12 × 14 cm<sup>2</sup> active detector area.
  - Efficient QA of single-isocenter multiple targets in one measurement setup.

#### Light field check

- Field size markers 5 cm × 5 cm and 10 cm × 10 cm.
- Easy verification of the light field's conformity with the radiation field.

#### Designed for non-coplanar fields

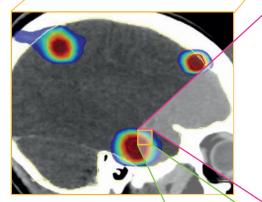
Compact design enables QA of flexible
 SRS beam rotation angles.

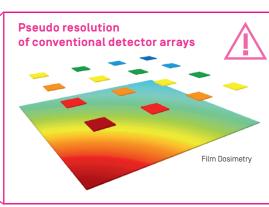
#### Gantry Sensor+

\_QA accuracy for rotational cases.

#### Laser setup marker

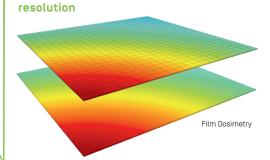
Precise and fast setup through laser alignment.





#### myQA<sup>®</sup> SRS film-class

11



#### Limitations of conventional "SRS detector arrays"

- Measurements of only a few discrete points.
- Need to fill the dose gaps through software interpolation.

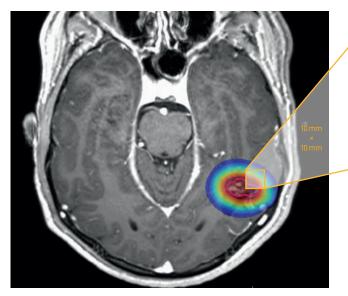
#### Your Solution for SRS & SBRT: myQA<sup>®</sup> SRS

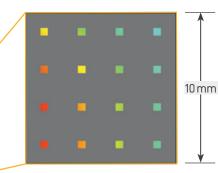
- Real measurement of the complete delivered dose.
- No dose gaps, no need to interpolate.



## **Clinical Examples – SRS cases with steep dose gradients**

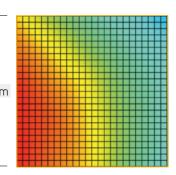
#### **SRS** brain lesion





#### **Conventional SRS detector**

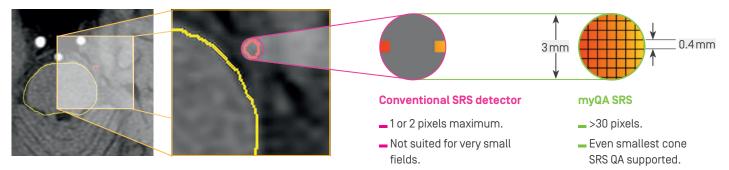
- 16 pixels.<sup>#]</sup>
- 2.5 mm resolution (or larger).<sup>#)</sup>
- Data-gaps between pixels.
- Requires "data-filling" through interpolation.



#### **myQA SRS**

- >600 pixels.
- 0.4 mm resolution.
- No gaps between pixels.
- No missing data, no interpolation needed.

#### Trigeminal Neuralgia 3 mm Cone SRS



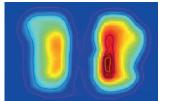
## The Significance of Resolution

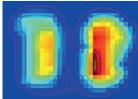
#### "... detector resolution is of main importance to avoid getting false positive [QA results]."

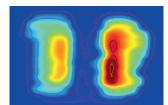
A. Bruschi et al.: Detector resolution affects the clinical significance of SBRT QA.



## Avoid false QA results, make better QA decisions.







TPS dose -1mm grid

2.5 mm array

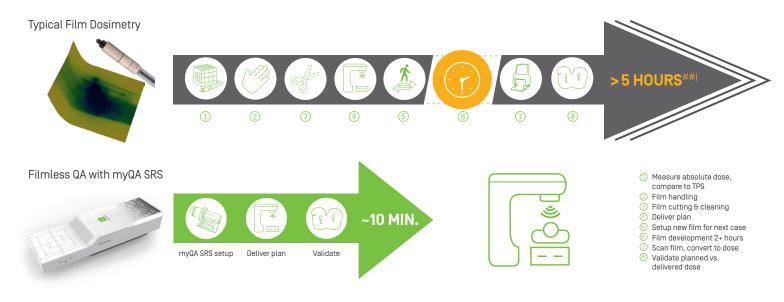
myQA SRS

#### Figure: Reconstructed Dose

- Avoid pixelized results of poor-resolution detectors.
- Avoid falsely failing QA results caused by low resolution.
- myQA SRS provides superior gradient and peak detection.
- High-quality gamma verification results for better QA decisions.



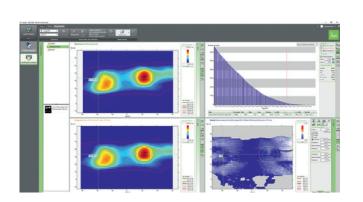
## myQA® SRS – save hours of QA physics time!





#### **Digital Detector Workflow Efficiency**

- Straightforward SRS / SBRT QA workflow as easy as your proven IMRT QA procedures.
- Avoid time-consuming film dosimetry.
- Fast and straightforward SRS QA implementation.
- Easy and accurate detector setup with dedicated SRS QA phantom.
- Multiple PTV and plan QA measurements with one single detector setup, no need to return to the Linac to change film etc.
- Avoid "false results" as reported with conventional detectors, and save time by avoiding remeasuring and searching for source of errors.



#### Software Workflow Efficiency - myQA Patients

Smart software reduces typical SRS validation times:

- -Automated beam triggered measurements.
- Automatic location of the isocenter.
- -Automated alignment.
- Field by Field measurement mode.
- Easy benchmarking to film QA in myQA Patients.



## Peace of Mind in SRS/SBRT

## The complete Radiosurgery Patient QA Solution



#### The myQA SRS Phantom

- For verification of single beams and for composite SRS plans using the myQA SRS detector.
- Cylindrical shape with cap for non-coplanar arc delivery.\*\*
- Easy setup on the couch through lightweight design and laser alignment markers.
- Including dedicated inserts for film and for small field dosimetry chambers.
- Film insert for benchmarking and for your seamless transition from film-based QA to myQA SRS QA.
- Advanced tissue-equivalent phantom material.

QA of rotational cases and multiple couch angles supported.
GANTRY SENSOR +

#### **The Gantry Sensor+**

- Accuracy for rotational cases.
- Precise measurements of your Linac rotation angles corresponding to your detector measurement.
- Easy setup without cables (wireless data exchange).

#### All Stereotactic Systems Supported<sup>1</sup>

- -All standard and stereotactic C-arm Linacs
- MLC and cone-based SRS systems
- Varian® Ethos™ / Halcyon ™\*\*
- CyberKnife<sup>®</sup> MLC, Iris or Cones\*\*
- TomoTherapy<sup>®</sup> / Radixact<sup>®</sup>\*\*
- BrainLAB Novalis®





myQA SRS supports QA of stereotactic cones. Image courtesy of Aktina Medical.<sup>1</sup>

# Treat more SRS/SBRT patients safely and with the confidence it's done right.

#### **Specifications**

myQA <sup>®</sup> SRS Detector Array	
Field Size/Active measurement area [cm]	12 × 14
Number of detectors	105,000
Resolution [center-center distance] [mm]	0.4
Detector/sensor type	CMOS
Detector size [mm]	0.4 × 0.4
Array dimensions [cm]	48 × 15.4 × 10.4
Array weight [kg]	~4.5
Supported energies	FF-FFF
Power	cable
Data transfer	Ethernet
mvQA <sup>®</sup> SRS Phantom	

inger oner huncern	
Outer dimensions [cm]	59 × 29.7 × 45.2
Weight [without inserts, kg]	14.7
Material	ABS

myQA <sup>®</sup> Software	
Supported operating systems:	Windows 10, 64-bit, US English
Supported SQL Servers®:	SQL Server <sup>®</sup> 2016 SP2 or higher
Minimum hardware requirements [or equivalent virtual runtime environments]:	<ul> <li>Processor: Intel Core i5 desktop or mobile processor or better.</li> </ul>
	<ul> <li>Graphics card: DirectX 9c compatible, 256 MB Video RAM, no shared memory.</li> </ul>
	<ul> <li>16GB RAM required.</li> </ul>
	<ul> <li>Ethernet minimum 10Mbit/s.</li> </ul>
	<ul> <li>Ethernet [RJ-45] plug to connect controllers and other measurement devices.</li> </ul>
Supported screen resolutions and optimal DPI settings:	<ul> <li>1920 x 1080 [FHD] with 100% or 125%</li> </ul>
	• 2560 x 1600 with 200%
	<ul> <li>3840 x 2160 [QHD = 4K] with 250%</li> </ul>
Supported virtual runtime environments:	<ul> <li>Full desktop virtualizations simulating the above require- ments, e.g.</li> </ul>
	• VMware ESXi
	• Oracle VirtualBox
	• Microsoft Hyper-V

• XenDesktop 7.15.2000.291 [Windows 10 64-bit, 1 user]

## More solutions that shape the future of your Patient QA

NEW: Need high resolution for your

#### **IMRT & VMAT Patient QA?**

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