



**How the SOMATOM Definition AS met the needs of a bariatric patient population.**

**Tacoma General & Mary Bridge Children's Hospital**  
Case Study

[www.usa.siemens.com/healthcare](http://www.usa.siemens.com/healthcare)

**SIEMENS**



## Key Benefits



### Clinical:

Outstanding image quality including angiographic studies combined with dose-reduction features designed to help protect patients from unnecessary dose.



### Workflow:

Comfortable 78-cm gantry allows for faster patient positioning and comfortable imaging even for the most challenging patients.



### Financial:

Peace of mind that comes with an investment in a CT that will serve the whole population including obese patients.



### Partnership:

Confidence of system uptime with proactive service including remote monitoring.

With more than 200,000 residents in its geographic area, Tacoma General and Mary Bridge Children's Hospital serve a diverse population. Not only do adults from the greater Tacoma, WA, area pass through its busy emergency room, but the hospital also serves as a pediatric emergency center for much of the region. In addition, Tacoma General Hospital and Mary Bridge Children's Hospital are part of MultiCare, the area's largest provider of healthcare services, serving patients at 93 locations in Pierce, South King, Kitsap, and Thurston counties.

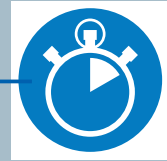


“The dose on the AS+ was nearly half of that on the other scanners; the real differentiator was the Adaptive Dose Shield.”

Joe Larson, Medical Imaging Manager, Tacoma General Hospital

“ That was one of my biggest surprises...how quickly referring physicians and bariatric patients found out we had this scanner. The referrals started coming in, and it snowballed. ”

Joe Larson, Medical Imaging Manager, Tacoma General Hospital



Since so much of its community relies on MultiCare and Tacoma General and Mary Bridge Children's Hospital, decision-makers at the hospital were concerned about providing adequate care to bariatric patients as well as reducing dose to its pediatric population.

MultiCare executives were in the process of upgrading a 16-slice CT scanner at one of its other hospitals when they heard about the capabilities of the SOMATOM® Definition™ AS+ 128-slice scanner. “We talked about moving the 64 we had at Tacoma General to the other facility that needed the upgrade and then bringing the 128 here to Tacoma General and Mary Bridge Children’s Hospital,” says Joe Larson, medical imaging manager at the hospital. “We wanted to provide superior vascular services to our patients, and we needed to be able to support our bariatric population. Unfortunately, our patients are getting larger and we had no place to send them for a lot of their procedures.”



## Challenges for Bariatric Patients

This was only too true for Chris Lausten. A 6-ft. 5-in. patient weighing 659 lbs., Chris was experiencing pain on the left side of his body; his doctor suspected a kidney stone, but without diagnostic imaging, he could not be certain. His doctor recommended a non-contrast CT scan, however, the nearest facility that could handle a patient of Chris' size was a 6-hour drive away. "I had had a urine test to determine if it was a kidney stone but the test was negative," says Chris. "I still had the pain, so my only option was to do the CT scan to find out what was wrong. We contacted several facilities in the Puget Sound area to see if they could scan me, but they all said no. The only place was six hours or more away, until we heard Tacoma General had a new system."

It's not uncommon for bariatric patients to have difficulty finding imaging services that can handle their large size. A 2004 study conducted at Massachusetts General Hospital and reported by RSNA found that the number of radiology reports that were categorized as limited by body habitus (meaning limited in quality due to the patient's size) nearly doubled from 1989 to 2003.\* This strongly correlates with the increase in obesity in Massachusetts. With nearly one-third of the U.S. population categorized as obese or morbidly obese, imaging these patients can prove extremely difficult. And sadly, these patients often face the most serious health challenges.

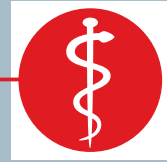
\* Uppot, R. N. Impact of obesity on radiology. *Radiol Clin North Am.* 2007; 45(2):231-46.



It is common for bariatric patients to have difficulty finding imaging services that can handle their large size.

“ Not only is it good for bariatric patients, but it is also particularly good for CTAs, which are really, really, very good on this scanner compared to other scanners that are available. ”

Mike Dowd, MD, President of TRA Medical Imaging



## Growing Demand, When Service Is Available

"I don't think people understand the significance of a whole population of people who are unable to get a diagnosis or even a procedure that could give them a diagnosis," says Diane McCoy, lead CT technologist at Tacoma General and Mary Bridge Children's Hospital. In fact, many facilities may not realize the demand for outpatient imaging of these patients. Many very large patients never contact these facilities because they already know they can't help them.

"That was one of my biggest surprises," says Larson. "Bariatric outpatient services didn't initially cross my mind. Our main focus was on inpatients, specifically our ICU patients that needed these services. These patients are already in the hospital and we may not be able to transfer them to other facilities for diagnostics. Without CT that can handle their weight, our ability to diagnose the patient decreases, possibly extending their hospital stay and negatively impacting patient outcomes. It was surprising how quickly referring physicians and obese patients found out we had this scanner. The referrals started coming in, and it snowballed. We started exploring weight scales and developing a whole program that could help this patient population."

## Serving the Needs of the Entire Community

The weight limit on the SOMATOM Definition AS impressed Mike Dowd, MD, president of TRA Medical Imaging, which serves Tacoma General and Mary Bridge Children's Hospital. "I had heard about Chris' case and called one of the CT techs at MultiCare, and indeed, the table weight limit and gantry size at Tacoma General were much higher than I had actually thought," says Dowd. "There are some bariatric centers of excellence in this region, and they are associated with some pretty large patients. Knowing that this scanner is available to them is a great thing for patients and for MultiCare."

Chris also feels it's important to get the word out to doctors and patients. "I was concerned that my weight would have a negative impact on being able to move the table, but there were no problems. And the scanner is open, so if there are patients that are worried about claustrophobia, it's certainly not a problem with this machine," he says. "I think some doctors may not realize how patients like me appreciate being able to get scanned and get answers. Some doctors probably don't refer patients of my size because they assume the equipment won't work."



## Impressive Vascular Images and Low Dose

The SOMATOM Definition AS can capture high-quality vascular images at half the dose of other CT scanners.\* Thus, patients are spared unnecessary dose, and the facility can more efficiently use the dose it has. "Not only is it good for bariatric patients," says Dr. Dowd, "but it is also particularly good for CTAs. The CTAs of the head and neck are really, really, very good on this scanner compared to some of the other scanners that are available."

"The vascular work is just unbelievable," agrees McCoy. "We did a trauma case that was a neck and head angiogram plus an arteriogram of the entire chest, abdomen, and pelvis with one injection and one scan. We would never have been able to perform that procedure without this scanner." The system is also expected to help Tacoma General address the needs of other service lines such as the GI lab (for CT colonography) as well as expand the available cardiology and neurology services.

"We were also faced with the challenge of removing venous flow on arterial CTA of the head and neck for our neurointerventional radiologists for stroke patients," says Larson, who notes this has since been achieved with the SOMATOM Definition AS.

To keep pace with the needs of referring physicians, Dr. Dowd and TRA Medical Imaging have also noticed that dose, particularly reducing dose, has become an increasing concern for referring physicians. "The dose reduction on the 128-slice system was one of our biggest surprises," says Larson. As part of a request from a pediatric radiologist, Larson and the staff compared abdomen, pelvis, and chest studies performed on its 16- and 64-slice CT scanners with the same studies performed on the SOMATOM Definition AS+. "The dose on the AS+ was nearly half of that on the other scanners; the real differentiator was the Adaptive Dose Shield," says Larson.

This ability to reduce dose and to serve an increasing volume of bariatric patients have made a significant impact on the hospitals' abilities to offer the best possible care to the entire patient community. "It's a pretty amazing system," says McCoy. And, patient Chris Lausten agrees, "It's like turn of the century medicine."

“Knowing that this scanner is available to these large patients is a great thing for patients and for MultiCare.”

Mike Dowd, MD, President of TRA Medical Imaging



\* Results may vary. Data on file.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products included in this brochure are available through the Siemens sales organization worldwide. Availability and packaging may vary by country and is subject to change without prior notice. Some/All of the features and products described herein may not be available in the United States.

The information in this document contains general technical descriptions of specifications and options as well as standard and optional features which do not always have to be present in individual cases.

Siemens reserves the right to modify the design, packaging, specifications and options described herein without prior notice. Please contact your local Siemens sales representative for the most current information.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

#### **Local Contact Information**

Siemens Medical Solutions USA, Inc.  
51 Valley Stream Parkway  
Malvern, PA 19355-1406  
USA  
Phone: +1-888-826-9702  
[www.usa.siemens.com/healthcare](http://www.usa.siemens.com/healthcare)

#### **Global Business Unit**

Siemens AG  
Medical Solutions  
Computed Tomography  
Siemensstr. 1  
DE-91301 Forchheim  
Germany  
Phone: +49 9191 18-0  
[www.siemens.com/healthcare](http://www.siemens.com/healthcare)

#### **Global Siemens Headquarters**

Siemens AG  
Wittelsbacherplatz 2  
80333 Muenchen  
Germany

#### **Global Siemens Healthcare Headquarters**

Siemens AG  
Healthcare Sector  
Henkestrasse 127  
91052 Erlangen  
Germany  
Phone: +49 9131 84-0  
[www.siemens.com/healthcare](http://www.siemens.com/healthcare)

#### **Legal Manufacturer**

Siemens AG  
Wittelsbacherplatz 2  
DE-80333 Muenchen  
Germany

[www.siemens.com/healthcare](http://www.siemens.com/healthcare)