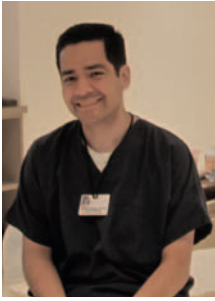


SmartExam Shoulder enables efficient, reproducible imaging

PAMF combines SmartExam with their high resolution, small FOV exams for high quality, consistent MR images



Gabriel Gonzalez, RT

Palo Alto Medical Foundation (PAMF, Palo Alto, California, USA) uses SmartExam with its Achieva 3.0T X-series scanner in about 60 shoulder exams per month. Initially, the techs hesitated to rely on SmartExam Shoulder for planning their demanding small FOV, high resolution scans, but after building a proper training database, SmartExam now performs consistently.

After having used SmartExam for brain, spine and knee, PAMF recently also implemented SmartExam Shoulder. “High reproducibility is the biggest advantage” says Gabriel Gonzalez, RT, at PAMF. “Even with variables due to technologist training, body habitus or surgeries, SmartExam Shoulder is very consistent in planning scans. For follow-up exams, we categorically see a much more detailed comparison to the previous study than before.”

PAMF’s preferences incorporated in database

When the ExamCard is started, SmartExam first performs a 3D SmartSurvey to locate the anatomical landmarks in the shoulder. Then it automatically plans the ExamCard’s scans according to the site’s preferences, including positioning a REST slab over the lungs and a volume shim box for optimized fat suppression.

In shoulder studies, PAMF routinely uses small FOV, high matrix scans to focus in on the region of interest, and achieve good visualization of the labrum and the rest of the rotator cuff. Gonzalez was initially concerned that SmartExam Shoulder would have difficulty in accurately positioning the small FOV, as this is quite critical.

During the SmartExam training phase the site’s techs perform manual planning, and SmartExam stores their preferences in its training database. “SmartExam Shoulder looks for a pattern in how techs plan the scans relative to the anatomical landmarks in the shoulder,” Gonzalez says. “In consecutive scans, it adds to the database.”

After about 10 patients, SmartExam Shoulder began to make useful planning suggestions. “We can either confirm the suggestions, or make slight adjustments, which are saved in the database,” explains Gonzalez.

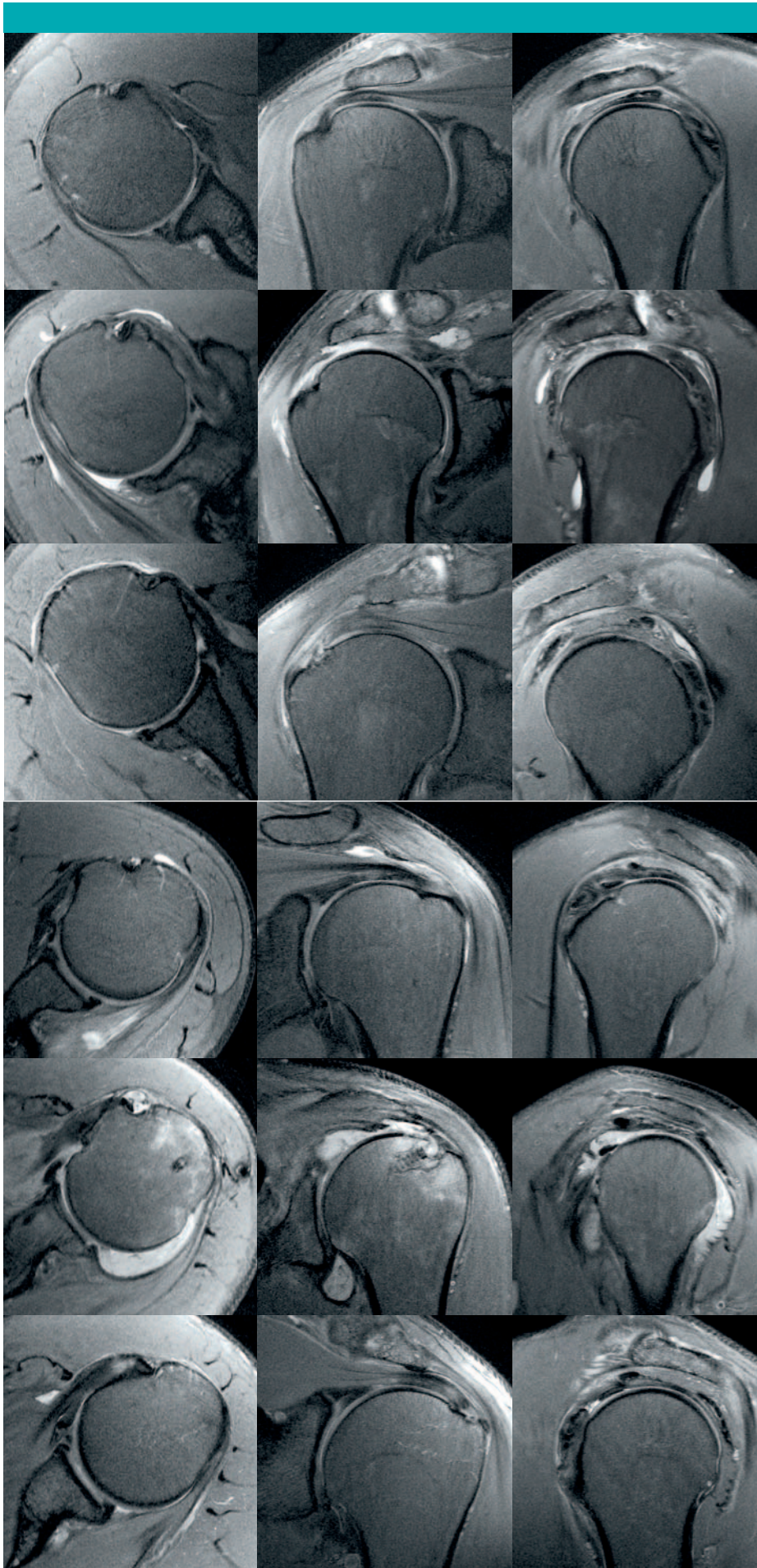
“SmartExam adjusts for the widely varying angles of the shoulder. It figures out exactly where the anatomical features are, then plans all scans accordingly and runs the ExamCard,” says Gonzalez. “We now use SmartExam Shoulder routinely and all of our shoulder studies are very accurate and very consistent. No matter what changes their body may have experienced or what position they’re in, patients are assured that they will have a study that is easily compared with their previous exam.”

Better patient care

SmartExam does make the technologists’ job easier, says Gonzalez, but more importantly it allows them to focus on the patient. “Shoulder studies, can sometimes make patients feel a little claustrophobic. With SmartExam, we can focus more on patient care rather than planning.”

“As with any new technology, there was a feeling among the techs that it was another step in machines taking over our job,” he adds. “But we have come to see that there is less room for error now, and we turn in consistently good studies. This is a tool that allows us to provide better patient care. It makes us more useful, more helpful to the patients and enables a high quality shoulder study.”

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Consistent planning in different patients

Despite differences in age, symptoms, patient position, anatomy and pathology, SmartExam Shoulder consistently plans images.

Right shoulder SmartExam planning

31-year-old male, possible partial tear and fraying of the bursal aspect of the distal supraspinatus tendon.

73-year-old male, full supraspinatus tendon tear with fluid filled gap and tendinous retraction as well as probable partial tears of infraspinatus and subscapularis tendons.

63-year-old male, prominent tendinosis throughout the supraspinatus and infraspinatus tendons, and high grade partial tear and possible full thickness perforation at the humeral attachment of the supraspinatus tendon.

Left shoulder SmartExam planning

26-year-old male, moderate tendinosis and edema at the infraspinatus musculotendinous junction and foot plate indicating inflammation and/or partial tearing.

59-year-old male, post rotator cuff repair with large partial thickness tear of the articular surface of the supraspinatus tendon.

48-year-old male, mild to moderate supraspinatus tendinosis, most pronounced at the greater tuberosity attachment. No rotator cuff tear.