Ultrasound Business Plan

Sports ultrasound has greatly expanded the clinical reach of sports medicine physicians by bringing accurate and rapidly-accessible diagnostic and interventional technology into an office setting. Technology that was once limited to large medical groups or hospitals is now financially feasible for physicians in solo practice. As the modern healthcare economy evolves, physicians need to be aware of the financial implications of bringing any new piece of technology into a practice. While not every investment in practice improvement needs to pay for itself directly, physicians should at least be aware of the financial implications of the investment. This template, developed by the Sports Ultrasound Committee of the American Medical Society for Sports Medicine (AMSSM), is designed to help physicians who are considering adding sports ultrasound to their practices to do so in an organized, comprehensive fashion.

In what ways can ultrasound add value to a medical practice?

Ultrasound can add both direct and indirect value to a sports medicine practice. Direct value comes from:

- Reimbursement for diagnostic testing.
- Enhanced reimbursement for injection therapy.
- Potential expansion into service offerings that are not feasible without ultrasound, such as tenotomy and regenerative medicine.

Indirect value comes from a strengthened practice brand, taking into account such factors as:

- Ability to perform in-office diagnostic testing that was not previously possible.
- Lower resource utilization rates as the need for other diagnostic tests such as MRI decreases, minimizing patient costs and reducing unnecessary patient wait times.
- The potential for enhanced clinical outcomes related to guidance of injections in precise locations.
- Enhanced clinical expertise as a user’s knowledge of regional anatomy increases.
- Increased patient satisfaction (e.g., patients prefer diagnostic ultrasound to MRI; ultrasound-guided procedures are less painful than palpation-guided procedures).

What are the costs associated with bringing ultrasound into my practice?

Costs associated with the adoption of ultrasound into a medical practice can be categorized as follows:

1. **Proficiency training costs**
   a. Physicians often have to be the judge of their own proficiency in the use of new technologies. New fellowship graduates usually have the advantage of fellowship-based proficiency training in the use of ultrasound prior to graduation. Otherwise, doctors interested in getting started in ultrasound will either need to have mentor-based on-the-job training in their respective institutions, or pay to attend instructional courses that focus on diagnostic and interventional use of ultrasound. Cost and quality of these courses vary widely, but a reasonable estimate based on current (2016) rates is about $2000-2500 for a 16 hour (two day) CME course, plus incidentals, including travel, lodging and meals.
b. In most cases, there will be a period of time where a physician new to ultrasound is gaining competence in diagnostic and interventional skills. Although physicians must to some extent evaluate their own level of competency, initially, it may not be appropriate to bill for ultrasound-related services rendered to a patient. See below for minimum certification thresholds, which involve an average of fifty (50) exams per year. This unbilled service provision should be considered as an indirect cost of achieving ultrasound proficiency.

c. Textbooks, DVD’s or other manuals to be used for reference add additional upfront cost.

2. Certification/Accreditation costs

a. Currently, certification is not required to obtain reimbursement for use of sports ultrasound, though there have been sporadic incidents in the past where individual payers have attempted to limit reimbursement for ultrasound to certain defined provider groups. Obtaining certification is thought to be one method of insulating a practice against the effects of otherwise adverse coverage decisions. Currently, certification/accreditation in musculoskeletal ultrasound can occur through either the American Institute of Ultrasound in Medicine (www.AIUM.org) or the American Registry for Diagnostic Medical Sonography (www.ARDMS.org).

i. ARDMS certification (RMSK, or “Registered in Musculoskeletal Sonography”) requires
   1. Passing a certification examination. Currently the fee is $600.
   2. Performing a minimum of 150 musculoskeletal ultrasound studies in the preceding 36 months of application, no more than 5% of which can be therapeutic (i.e., ultrasound-guided procedures). These must be actual patients treated in a clinical setting.
   3. Although there is no CME pre-requisite to take the RMSK examination, 30 hours of ARDMS approved ultrasound-specific CME hours per 3 year period are required for maintenance of certification.

ii. AIUM accreditation, unlike RMSK certification, involves accreditation of a practice location, not individual physicians. Practices must reapply every three years in order to remain accredited. The AIUM fee schedule is based on the number of machines in a given location. For a musculoskeletal-dedicated practice, the current fees for accreditation are $1080 for a one machine practice and $1140 for a two machine practice. There is a $50 fee per practicing physician, and an additional fee of $400 per mobile ultrasound machine. The AIUM accreditation process warrants that physicians at the location being accredited meet certain minimal standards of care in ultrasound-based medicine. To ensure this, physicians at a location undergoing accreditation must be able to show:
   1. Graduation from a structured residency or fellowship training program that includes training in musculoskeletal ultrasound, and reporting of 100 diagnostic musculoskeletal ultrasound exams, or
   2. Documentation of at least 50 diagnostic musculoskeletal ultrasound exams per year and 10 hours of Category 1 Ultrasound CME/36 months, or
3. 30 hours of Category 1 ultrasound-related CME, with a minimum of 50 diagnostic exams per year as the threshold for maintenance of competence, and at least 10 hours of CME every subsequent three years.

3. Equipment costs
   a. The costs of ultrasound machines vary widely according to the quality of the machine and the type of components purchased along with that machine. Upper end machines easily run over $100,000. For our purposes, we are assuming the costs of a standard portable machine, suitable for an entry-level clinician just getting started in ultrasound, and assuming the need for one machine only. Entry-level machines with two transducers average between $30,000 and $40,000. Mid-range portable machines can run as high as $60,000.
   b. Estimated monthly leasing costs for $40,000 and $60,000 of equipment respectively, assuming a five year lease-to-own model, at 3.4% interest would be $724 or $1086 per month. A representative online lease calculator can be found at the following link: http://tcalc.timevalue.com/all-financial-calculators/lease-calculators/equipment-lease-payment-calculator.aspx
   c. There will be an annual service cost for purchased equipment that usually begins between two and five years from the time of purchase. Annual costs average $1000 annually.

4. Supply costs
   a. The following items will need to be part of your office inventory, related to the use of ultrasound. For purposes of economic assessment, their average cost per unit, when feasible, is what we should pay attention to. On average, the ultrasound-specific supplies listed below will cost about $1.50 to $3.00 per interventional procedure.
      i. Nonsterile ultrasound gel, used for diagnostic surveys and for assistance with placement of surface landmarks prior to any procedure.
      ii. Sterile ultrasound gel packs
      iii. Procedure needles
         1. There are a wide array of needles available for use in ultrasound. Some are notched in a way to increase the echogenicity of the needle for use with ultrasound. Generally, these are probably unnecessary. You will need a range of needle lengths, running from 1” up to 5”, depending on the types of problems you might be treating.
         iv. Sterile transducer sheaths
      v. The costs of sterile gauze, bandages, etc. are not unique to the use of ultrasound and are not considered here.

5. Efficiency costs
   a. If a practice that is incorporating ultrasound is busy enough that the schedule is regularly filled with patient slots, evaluating the impact of ultrasound on the bottom line is not purely a matter of the additional charges that accrue to the use of the machine. This is because the use of ultrasound, whether being used for diagnostic purposes or for guidance, draws on time available during the clinic day. Moreover, the time that the use of ultrasound requires is generally greater at the beginning, when a physician is getting started in the use of the technology. Thus, what might add five minutes to total procedure time for an injection may
take ten minutes when a physician is getting started. Diagnostic times may be fifteen minutes instead of five. This is obviously hard to quantify, though a survey of AMSSM members who use sports ultrasound in their practices found that total procedure time for the group increased between 17-19 minutes when using ultrasound for guidance. A rough estimate might be that ultrasound adds about 5-20 minutes of room time with a patient when it is used, with much of the variability related to the degree of prior clinical experience. Over the course of the day, depending on the percentage of time that it is being utilized, this may translate to 1-3 fewer patients seen per day. Knowing your average reimbursement per patient visit will help you weigh the cost of this “opportunity loss” against the revenue expected from the use of ultrasound. If your practice is not yet fully busy, so that patients are not being displaced from your clinic day by extending patient visit times with ultrasound, this calculation does not apply.

**How does ultrasound bill in the office?**

Ultrasound can be used for diagnostic testing or for guidance during certain procedures. Centers for Medicare and Medicaid Services (CMS) has assigned CPT codes that together cover the range of possible services used with ultrasound. These codes are as follows:

- **76882**: Limited extremity diagnostic survey. The extremity codes are considered to include any area scanned between shoulders and fingers, or hips and toes. This code (along with its partner code, 76881) should only be billed when scanning a patient with suspected pathology, and the patient record should reflect this. Contralateral exams done to establish a “control” are not considered valid exams for billing purposes. Generally, different regions can be scanned on the same day, but payment for more than two units/day will likely be denied as they trigger the Center for Medicare and Medicaid Service’s threshold for medically unlikely edits (MUE).


- **76881**: Comprehensive extremity diagnostic survey (CPT guidelines state that this survey must include an examination of relevant muscles, tendons, joints, other soft tissue structures and any relevant identifiable abnormalities). According to AIUM, for any joint other than the shoulder, a complete examination of a joint region (e.g., anterior knee) qualifies for this code (See the *AIUM Practice Guidelines for the Performance of the Musculoskeletal Ultrasound Examination* for a complete list of structure required for comprehensive examinations of each joint/region [www.aium.org]). Generally, different regions can be scanned on the same day, but payment for more than two units/day will likely be denied as they trigger the Center for Medicare and Medicaid Service’s threshold for MUE.

- **76856**: Pelvis/lumbar diagnostic survey. This code may be billed once per encounter.

- **76942**: Ultrasonic guidance for needle placement (e.g. biopsy, aspiration, injection, localization device), imaging supervision and interpretation. This code may not be reported with any joint injection codes (20600, 20604, 20605, 20606, 20610 or 20611) as these codes are now considered “bundled.” This
code can only be used once per day per patient regardless of the number of procedures performed, because the code is related to date of service, not region. However, as always, due to inter-insurance agency variability, clinicians should be familiar with the billing policies of carriers who they contract with.

76970: Follow-up diagnostic ultrasound study after a previous ultrasound study has been completed. Per AMA guidelines, this is not considered an unlisted code and providers should be aware not to use it as such. A description for the follow-up procedure should be included with the billing. This code may only be used once per encounter.

All of these codes contain both a professional and technical component to them. If you are in private practice and you or your group own or lease your own machine, these codes can be billed without a modifier. If a physician is using an ultrasound owned by an employer, he will need to attach a -26 modifier to these codes, indicating that the professional component is what is being billed. In most cases, the technical component would be considered reimbursed within the facility charges of the employing organization. In this case, the code would be billed through the facility with a -TC modifier as well. If a physician happens to do ultrasound procedures on hospital inpatients, because of bundling rules, the technical component cannot (in most circumstances) be billed, even if the physician is using a privately-owned machine.

Beginning in 2016, new CPT codes were released which bundle the joint injection codes (20600, 20605 and 20610) to the ultrasound guidance code (76942). Thus, for all joint injections done with ultrasound guidance, the following codes should be utilized:

20604: Arthrocentesis, aspiration and/or injection; small joint or bursa with ultrasound guidance, with permanent recording and reporting. The MUE threshold for this code is 4 units per date of service.

20606: Arthrocentesis, aspiration and/or injection; intermediate joint or bursa with ultrasound guidance, with permanent recording and reporting. The MUE threshold for this code is 4 units per date of service.

20611: Arthrocentesis, aspiration and/or injection; large joint or bursa with ultrasound guidance, with permanent recording and reporting. The MUE threshold for this code is 4 units per date of service.

0232T: PRP injection. This is a bundled code. No other procedure codes (including ultrasound guidance (76942) can be used simultaneously with this code. The MUE threshold for this code is 4 units per date of service.

2016 RVU valuations for the bundled codes are as follows:

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Work RVUs</th>
<th>Non-Facility RVUs</th>
<th>Facility RVUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>20600</td>
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<td>1.35</td>
<td>1.02</td>
</tr>
<tr>
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</tr>
<tr>
<td>20605</td>
<td>0.68</td>
<td>1.41</td>
<td>1.06</td>
</tr>
<tr>
<td>20606</td>
<td>1.00</td>
<td>2.22</td>
<td>1.46</td>
</tr>
</tbody>
</table>
Currently there are other injection codes which have not yet been bundled and which can still be billed along with code 76942. These codes include:

20526: Injection, therapeutic (e.g. local anesthetic, corticosteroid), carpal tunnel. The MUE threshold for this code is 1.

20550: Injection(s); single tendon sheath, or ligament, aponeurosis (e.g. plantar "fascia"). Injections that are periarticular (e.g. a psoas sheath injection) would qualify for use with this code, or in some instances code 20551. The MUE threshold for this code is 5.

20551: Injection(s); single tendon origin/insertion. The MUE threshold for this code is 5.

20552: Injection(s); single or multiple trigger point(s), one or two muscle(s). The MUE threshold for this code is 1.

20553: Injection(s); single or multiple trigger point(s), three or more muscle(s). The MUE threshold for this code is 1.

20612: Aspiration and/or injection of ganglion cyst(s) any location. The MUE threshold for this code is 2.

64405: Injection, anesthetic agent; greater occipital nerve. The MUE threshold for this code is 2.

64418: Injection, anesthetic agent; suprascapular nerve. The MUE threshold for this code is 1.

64445: Injection, anesthetic agent; sciatic nerve, single. The MUE threshold for this code is 1.

64450: Injection, anesthetic agent; other peripheral nerve or branch. The MUE threshold for this code is 10.

64455: Injection(s), anesthetic agent and/or steroid, plantar common digital nerve(s) (e.g. Morton’s neuroma). The MUE threshold for this code is 1.

Percutaneous Tenotomy:

24357: Epicondyle. The MUE threshold for this code is 2.

**What does ultrasound reimburse?**

One way to estimate the average expected revenue from ultrasound is to first examine the payer mix that you already see in the office. For simplicity, in most practices, this can be broken down into three components: Medicare, Medicaid and commercial payers. Medicare and Medicaid both publish their fee schedules, so it is easy to look up the payment for ultrasound-related services in your particular region and see the current reimbursement per code. You will have to come up with an average reimbursement per code for your commercial payers. If you are in a monopolized insurance market, you can simply use the fee schedule figures for the largest contracted payer in your area, or you can come up with a more exact estimate by incorporating data from multiple carriers. For example, in a practice that sees 25% Medicare, 15% Medicaid and 60%
commercial, with a further breakdown of commercial payers “A”, “B” and “C” of 50%, 25% and 25% [of total commercial volume] respectively, the average reimbursement for CPT code 76942 might look like this:

Medicare reimbursement: $54.77

Medicaid reimbursement: $84.63

Average commercial reimbursement*: $127.14

Thus, $ (.25)54.77 + $ (.15)84.63 + $ (.60)127.14 = $102.66 (Average reimbursement for this practice for code 76942)

*Thus average reimbursement for commercial payers is [(0.5) Payer A rate + (0.25) Payer B rate + (0.25) Payer C rate]

Beyond this, keep in mind that in all cases, it is at the discretion of the payer as to whether the use of ultrasound in a given situation is considered reasonable and necessary. Basically, your documentation and best clinical judgment must align with your bill coding (as always).

Are there billing “pearls” that can augment ultrasound reimbursement?

1. Be aware of which injection codes are currently bundled to ultrasound guidance and which are not.
2. Be aware that some payers will deny reimbursement for both a diagnostic survey (76881) and a guidance code on the same date of service. Have your biller monitor this. If appeals are not providing you with resolution, you may need to require separate patient visits for diagnostic evaluations and guided procedures. If this is unfeasible, consider billing CPT code 99354 (prolonged service, 1st hour) as a lower-paying alternative.
3. Have your biller monitor payment rejections for multiple procedures. If this is occurring regularly, and appeals are unsuccessful, you will either have to write off the cost of some of the care you are providing, or require multiple patient visits.

How many ultrasound-based procedures will I need each month to pay for the cost of the equipment?

Once you know the average reimbursement per code, this becomes a fairly easy estimate. Start by identifying procedures that you are already doing which would be augmented by the supplemental use of ultrasound. Substitute the ultrasound-related codes for these procedures for a representative average of your current volume. For example, let’s say in one month, you average five small joint injections, ten intermediate joint injections and twenty large joint injections. In addition, you perform ten injections to tendon sheaths, which currently still remain unbundled from the ultrasound guidance code (76942). Contrast the unguided and guided joint injection rates and note the difference in total reimbursement. Add in the expected reimbursement from guidance with the unbundled injection codes, and this will give you a reasonably accurate estimate of revenue realized from interventional use of ultrasound.

Estimating revenue from diagnostic use of ultrasound will vary according to your use patterns. You will get a sense of this once ultrasound is in your office, as you accrue diagnostic studies for certification purposes. As a rule, if the expected revenue from interventional procedures will cover the cost of your ultrasound lease (less
any negative effects from loss of productive time, as noted above), revenue from diagnostic imaging may increase your revenue margin considerably.

What are the reporting requirements for the use of ultrasound?

Anytime ultrasound is used in the office, there needs to be official documentation in the patient record. The CPT section guidelines state that accompanying any billed ultrasound codes, “a written report, signed by the interpreting physician, should be considered an integral part of a radiologic procedure or interpretation.” Moreover, the Radiology Services portion of the CMS claims processing manual notes that “The interpretation of a diagnostic procedure includes a written report...An “interpretation and report” should address the findings, relevant clinical issues, and comparative data (when available)...” Guidance procedures should be accompanied by a documented description of the localization process, either as part of the clinical note, or in a separate report. It should be noted that in all cases, these reports must be accompanied by permanent images, stored either on hard copy or via electronic files. These images should include measurements when such measurements are clinically indicated. These documentation requirements can be greatly assisted through the use of templates.

The following reporting recommendations can be found in the American College of Radiology’s Practice Parameter for Communication of Diagnostic Image Findings:

Body of the report

a. Procedures and materials – The report should include a description of the studies and/or procedures performed and any contrast media and/or radiopharmaceuticals (including specific administered activities, concentration, volume, and route of administration [including anatomical direction of needle advancement] when applicable), medications, catheters, or devices used, if not recorded elsewhere. Any known significant patient reaction or complication should be recorded.

b. Findings – The report should use appropriate anatomic, pathologic, and radiologic terminology to describe the findings.

c. Potential limitations – The report should, when appropriate, identify factors that may compromise the sensitivity and specificity of the examination.

d. Clinical issues – The report should address or answer any specific clinical questions. If there are factors that prevent answering the clinical question, this should be stated explicitly.

e. Comparison studies and reports – Comparison with relevant examinations and reports should be part of the radiologic consultation and report when appropriate and available.

Impression

a. Unless the report is brief each report should contain an “impression” or “conclusion”.

b. A specific diagnosis should be given when possible.

c. A differential diagnosis should be rendered when appropriate.

d. Follow-up or additional diagnostic studies to clarify or confirm the impression should be suggested when appropriate.
e. Any significant patient reaction should be reported.

Summary
Ultrasound has the potential to be transformative in a sports medicine practice. Fortunately, in most cases, the acquisition of ultrasound will also improve your practice’s bottom line. Like any investment, careful attention to both direct and indirect costs will allow you to reasonably estimate whether the investment in time, reorganization of clinical pathways and financial resources justify the cost. Know what you specifically want to achieve by introducing ultrasound into your practice before you acquire it. That should allow you to weigh the indirect, or intangible benefits of a practice with ultrasound against the financial impact, properly estimated. The AMSSM Sports Ultrasound Committee is a resource to you as well. Visit the AMSSM website (www.amssm.org) for additional ultrasound resources, including forums for billing and coding questions, templates for joint surveys and educational resources, as well as regularly updated listings of educational courses. Good luck!

The information in this report is accurate as of February, 2016.