

## CHAPTER

# 13

## Using Imagery as a Mental Training Tool in Sport

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*This visualization stuff works.*

*—Carli Lloyd, Olympic and World Cup soccer champion and 2015 FIFA World Player of the Year*

Eight months before the 2010 Vancouver Games, Lindsey Vonn skis the Olympic downhill in her mind. She is in a subterranean workout room in Salzburg, Austria, balanced with each foot on a nylon slack line suspended three feet off the pebbled orange rubber floor. She is crouched in an aerodynamic tuck, her hands thrust out in front of her chin. Her trainer speaks gently into her right ear: *You're on the downhill course at Whistler. . . .* Vonn closes her eyes and begins shifting her weight rhythmically from one foot to the other as if executing high-speed turns on a Canadian mountainside more than 5,000 miles away.

She exhales and inhales forcefully, mimicking the aerobic demands of high-speed racing, alternately gliding and turning. Close your eyes with her and you can almost hear the chattering of snow beneath skis. After nearly a minute—shorter than the Olympic downhill but a long time on wobbly strips of thick cloth—she relaxes her body and jumps to the floor . . . aglow from three hours of training on a warm summer morning.

“I love that exercise,” says Vonn. “Once I visualize a course, I never forget it. So I get on those lines and go through exactly the run that I want to have. I control my emotions and just make it routine.” (Layden, 2010)

Lindsey Vonn took advantage of her most powerful weapon—her mind—in her preparation for the 2010 Winter Olympic Games. Along with her talent and physical preparation, her use of imagery as part of a systematic mental training regimen enabled her to win not only the 2010 Olympic downhill but also four World Cup overall championships. Not all of us are world-class athletes like Vonn, but all of us can enhance our personal performances through the systematic use of imagery.

### *What Is Imagery?*

**Imagery** is using one's senses to re-create or create an experience in the mind. It is a mental representation of an action in one's mind (Jeannerod, 1994),

but without the external stimulus for the action being present. This is what makes imagery so powerful. An Alpine skier can imagine herself skiing a downhill run, and her brain will interpret her images and fire the muscles in her legs as if she actually was skiing the course (Suinn, 1980). The power of imagery allows athletes to practice sport skills, strategies, and mental skills without physically being in the training or competitive environment.

### Imagery as Re-creating or Creating

Imagery can be used to re-create and create many types of experiences that benefit athletes. Consider the power of being able to *re-create* experiences in your mind. Athletes may *re-create their own personal highlight films* by arranging three to five outstanding performance moments into an imagined video that they watch for one to two minutes at least once a day (Selk, 2008), a practice that could be used to buoy confidence.

Imagery can also be used to *re-create performances to learn from mistakes* and extract valuable lessons from previous performances. Athletes often get stuck in this type of imagery by focusing on their mistakes, and they replay these miscues without any type of planned strategy for dealing with these negative images. The key for athletes is to learn to use imagery in a productive and controlled manner to learn from performance mistakes and to program their minds and bodies to respond optimally. A college gymnast described this process: "I missed that handstand on the high bar in practice . . . and I need to make sure during the actual meet I do it better. So I imaged correcting that mistake right after practice" (Post & Wrisberg, 2012, p. 109).

As stated in the definition of imagery, imagery also involves using our senses to *create* new experiences in the mind. Although imagery is essentially a product of memory, our brains are able to put pieces of the internal picture together in different ways. Football quarterbacks use imagery in this way to *create offensive game plans* based on the defensive

tactics of upcoming opponents. By viewing films of the opponent's defense, a quarterback can create an offensive game plan and visualize the successful execution of this strategy without having previously played against that particular opponent.

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### Example

*Bobsledder Lyndon Rush described how he repeatedly used imagery to create a perfect upcoming performance in his mind on the Olympic sliding track in Sochi: "I've tried to keep the track in my mind throughout the year. I'll be in the shower brushing my teeth. It just takes a minute, so I do the whole thing or sometimes just the corners that are more technical. You try to keep it fresh in your head, so when you do get there, you are not just starting at square one. It's amazing how much you can do in your mind" (Clarey, 2014, p. 3). Rush admitted that he had mentally driven the Sochi course hundreds of times from start to finish prior to competing in the Games.*

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Athletes can also use imagery to *create and rehearse productive responses* for various competitive situations, such as performing in front of large crowds or responding to mistakes in competition. Many elite athletes create elaborate mental focus plans for competition and regularly use imagery to rehearse and prepare to respond productively to various competitive stressors. Four-time Ironman champion Chrissie Wellington describes her use of imagery to practice responses: "I [first] picture myself performing at my peak. Then I imagine all the things that could go wrong, and picture myself dealing with them. What will I do if my goggles are knocked off? What will I do if I suffer a puncture or cramps?" (Oakley, 2015, p. 26).

### Imagery as a Polysensory Experience

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The second key to understanding imagery is realizing that imagery is a **polysensory** experience that

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should involve all relevant senses, from visual to auditory, olfactory, gustatory, tactile, and kinesthetic. Auditory refers to sound, such as hearing the crack of the bat in baseball or the satisfying sound of a perfect golf drive. Olfactory refers to smell, such as a swimmer smelling chlorine in the pool. Tactile is the sensation of touch, such as feeling the grip of a golf club or the textured leather of a basketball. Gustatory refers to the sense of taste, such as tasting salty sweat in your mouth. **Kinesthetic** sense is the feel or sensation of the body as it moves in different positions. The kinesthetic sense is important for a gymnast using imagery to practice a balance beam routine or a diver using imagery to feel the rotations before reaching for the water. The more vivid the image, the more effective it is. Let's use the example of a wide receiver in football to stress the importance of using different senses. The receiver uses his visual sense to read the defense and focus on the ball before catching it. He uses his auditory sense to listen to the snap count barked by the quarterback. He uses his tactile and kinesthetic senses to run his pattern, jump in the air, catch a hard thrown ball, and land with both feet touching in bounds. He might also smell freshly mown grass and the sweat of his opponent's jersey when he is tackled. He may even taste his mouthguard. All of these sensory cues serve to make the image vivid, thus preparing the receiver to perform optimally in competition.

In addition to the senses just discussed, the emotions associated with various sport experiences are an important part of imagery. In using imagery to help control anxiety, anger, or pain, athletes must be able to re-create these feelings in their minds. Jonny Wilkinson, former professional rugby player, describes the multiple senses and emotions he experienced during precompetitive imagery: "You are creating the sights and sounds and smells, the atmosphere, the sensation, and the nerves, right down to the early morning wake-up call and that feeling in your stomach. It helps your body to get used to performing under pressure" (Bailey, 2014, p. 2).

### Imagery as a Mental Training Tool

Athletes must use imagery in a systematic manner for it to qualify as mental training. Dreaming or random imagery is not systematic, and there is no evidence that these forms of imagery enhance athletes' performance. This doesn't mean that athletes have to spend numerous hours a day engaged in imagery for it to help their performance. However, they must use it in a systematic and intentional manner, even if in small doses, to have the desired effect on performance. This is similar to physical training, in which random, occasional physical practice won't do much to increase an athlete's skills. However, systematic, repetitive physical (and mental) practice clearly pays off in performance improvement in any sport.

Athletes must learn to control their imagery to use it effectively as a mental training tool. **Controllability** is the ability of athletes to imagine exactly what they intend to imagine, as well as the ability to manipulate aspects of the images that they wish to change. Dreams are for the most part uncontrollable—we simply experience them during sleep. Imagery, by contrast, must be controllable so that athletes can manipulate images in productive ways to program themselves for optimal performance. Sometimes images become uncontrollable, such as when athletes "choke" under pressure or experience performance slumps. Thus, coaches and sport psychology consultants must help athletes gain control of their images so that imagery can be used effectively in mental training. In addition to controllability, the other key to using imagery effectively in mental training is vividness. **Vividness** refers to how clearly athletes can see an image and how detailed the image appears to them. Vividness involves such features as whether the image is in color, how many senses are being used, and the emotion or physical sensations experienced when engaging in imagery.

Overall, imagery as a mental training tool involves the systematic practice and use of engaging in vivid and controllable polysensory images to enhance performance. When athletes first begin

using imagery, it is typical to lack vividness and especially controllability of images. However, systematic practice has been shown to be very

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using imagery, it is typical to lack vividness and especially controllability of images. However, systematic practice has been shown to be very effective in increasing imagery ability (Anuar, Cumming, & Williams, 2016; Williams, Cooley, & Cumming, 2013). It is important to encourage athletes if they are not skilled in their initial attempts at imagery. Imagery is a skill that takes time to train, but it is a learnable skill that they can improve with practice.

### **Internal and External Imagery Perspectives**

When you spontaneously engage in imagery, do you see yourself as if you're watching videotape, or do you see yourself from behind your own eyes? This question differentiates between an external and an internal imagery perspective. Athletes who use an **external imagery perspective** see the image from outside their bodies as if they are viewing themselves with a video camera from either behind, in front, or on either side. When athletes use an **internal imagery perspective**, they see the image from inside their bodies, the way their eyes normally see. Consider the imagery perspectives used by three different female gymnasts (Post & Wrisberg, 2012, p. 113).

"I would see the skill as if I was actually like, doing the routine per se . . . where I would look if I was doing the skill."

"There are times where I would visualize things from like . . . a coaching standpoint, like watching from the side and seeing the vault as a whole."

"I can see the whole thing like watching it on a video. I can watch myself from the side, the back, from the top . . . basically whatever I want."

Research has demonstrated that imagery can be effective using both internal and external perspectives, with more experienced performers benefiting from switching between the two. Some evidence suggests that internal imagery benefits tasks that depend on perceptual information (e.g., hitting a pitched softball, returning a serve in tennis) and

that external imagery is more useful for tasks that emphasize exact posture and form (e.g., figure skating, gymnastics) (Cumming & Williams, 2012). But there is no set formula for when to use each perspective. Athletes should experiment to find the imagery perspective and sensory type that is most helpful to them for specific situations.

Overall, athletes should be encouraged to practice both perspectives to be competent and comfortable with each. One way to develop athletes' imagery ability is to have them actually perform the skill (e.g., serve a volleyball, noting all the sensations) and then immediately close their eyes and try to replay the serve using an internal perspective (as if from inside their body). Repeat until the athlete can discern little difference between actual and imaged performance. Do this physical-mental practice routine again, only this time with an external imagery perspective (as if seen on videotape). Once athletes are more skilled in imagery, they may prefer to keep their eyes open and may discover a preference for using one perspective more than another.

### ***Evidence that Imagery Works to Enhance Athletes' Performance***

There is a wealth of evidence that supports the effectiveness of imagery as a mental training tool. As shown in Figure 13-1, imagery (a) enhances sport performance and learning, (b) enhances thoughts and emotions that are critical to athletes' performance, and (c) is systematically used by successful, world-class athletes who attest to its importance.

### **Enhancing Sport Performance and Learning**

Imagery interventions have successfully enhanced performance and learning in both adult and youth athletes (Smith, Wright, Allsopp, & Westhead, 2007). The research in this area is divided into three sections: mental practice research, preparatory imagery research, and imagery as part of multi-modal mental training programs (see Figure 13-1).

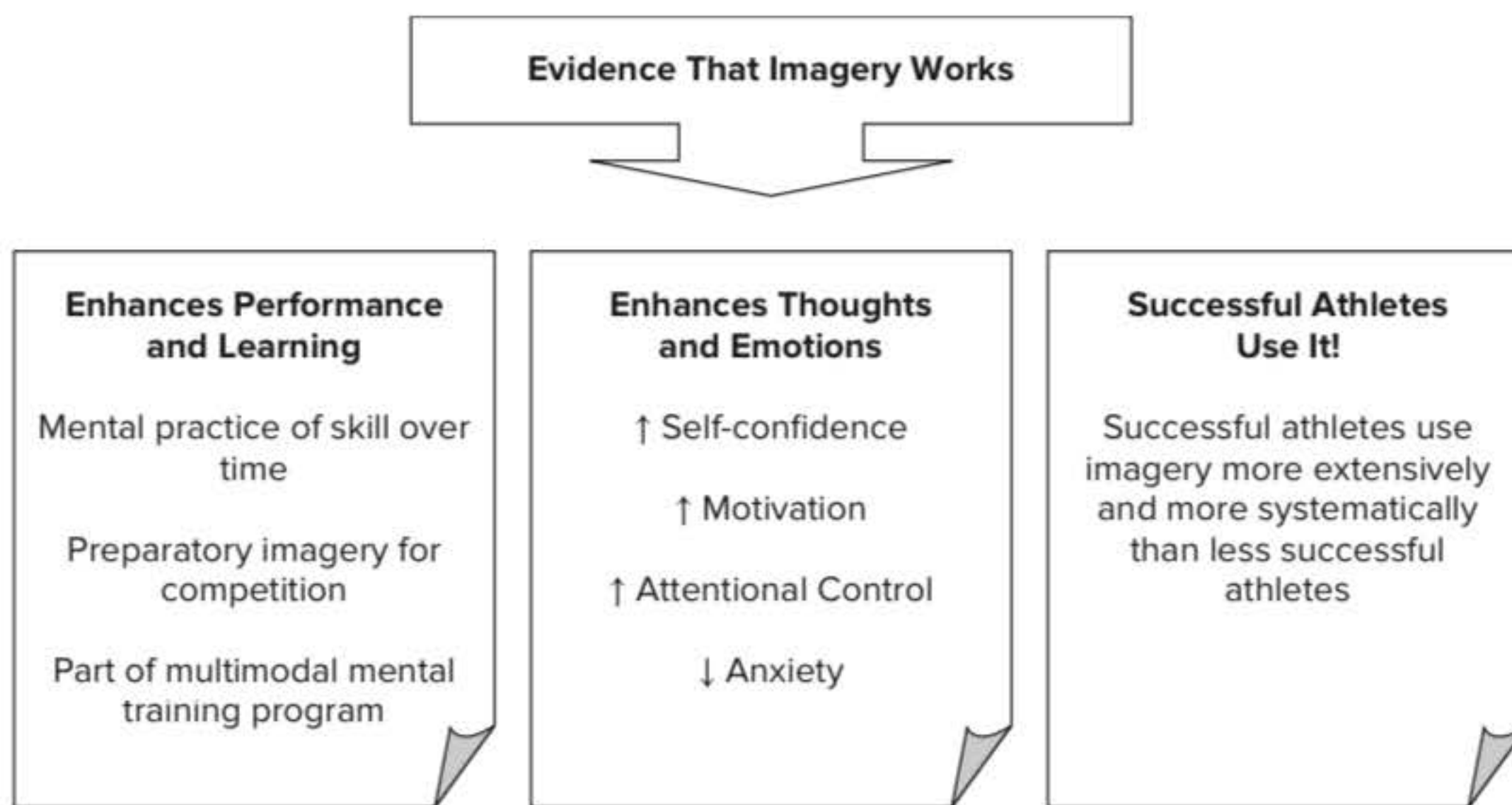


Figure 13-1 Summary of research support for the effectiveness of imagery

**Mental practice research.** Using imagery to perform a specific sport skill repetitively in the mind is called **mental practice**. Typically, mental practice occurs across a period of time in an intermittent learning style similar to a distributed physical practice schedule. Literally hundreds of studies have examined the effects of mental practice on sport performance, with the overall finding that mental practice, although not as effective as physical practice, does enhance performance and is better than no practice at all (Cumming & Ramsey, 2009).

Interestingly, there is evidence to show the combination of physical and mental practice can enhance performance more than physical practice or mental practice alone (Frank, Land, Popp, & Schack, 2014). This research finding suggests that the mental representation of the skill being practiced changes more substantially through combined physical and mental practice as compared to either physical or mental practice alone. This is an exciting possibility, which emphasizes the importance and usefulness of integrating physical and mental practice in building sport skills.

This is not to say that mental practice can completely take the place of physical practice. Deliberate, repetitive physical practice is critical

to develop and refine sport skills. However, mental practice is useful in complementing the rigorous physical practice schedules of athletes. Athletes can engage in physical practice for only finite periods of time because of fatigue and attentional overload. Mental practice allows athletes to refine their sport skills without having to physically engage in the activity. A Canadian Olympic gold medalist in the bobsled emphasizes this point:

In bobsledding, you can only do two or three runs per day. I would have liked to do 20 of them but I couldn't. The physical demands were too high. . . . So I did a lot of imagery instead and it was a real learning process. . . . Each track filled up a videotape in my head. (Durand-Bush & Salmela, 2002)

**Preparatory imagery.** Research has also shown that using imagery immediately before performance can help athletes perform better by “priming” the correct movement execution (Cumming & Williams, 2012). Imagery as a preparatory strategy used prior to performance has improved performance at strength and muscular endurance tasks, golf putting, table tennis, tennis, and free-throw shooting. Often, imagery is used just prior to performing to “psych up,” calm down, or focus on relevant aspects of the task.

Imagery has also been shown to be an effective part of athletes' pre-performance routines, which involve a planned sequence of thoughts and behaviors that lead to automatic performance execution.

### **A field study of imagery training in basketball**

*"Begin by taking some deep breaths. Take a deep breath in through your nose and out through your mouth. Tell yourself to relax. Do this again for several more times. Now imagine yourself shooting free throws in the upcoming game. Become aware of your surroundings; imagine yourself playing in the game. Image yourself as clearly as possible. See who is there; who is playing with you. Hear the sounds associated with the game . . . simulate, in your mind's eye, various distractions . . . voices from the crowd . . . a hard foul by the opponent . . . and tell yourself to let these distractions go.*

*See yourself being fouled. Now see yourself at the foul line. Adjust your feet until you feel comfortable and square to the basket. Knees are bent—legs are the primary force for the shot. Your wrist is cocked, with your shoulders, elbow, hand, and the ball lined up towards the basket. Now focus on the rim and feel yourself extending your arm toward the target. Flip the wrist forward and let the ball roll off your fingertips. Follow through with one smooth motion. See the ball swishing through the net.*

*Your balance and relaxation enable you to shoot perfect free throws. Feel your shot, smooth and graceful. Take a breath. For the next few minutes, image yourself shooting free throws in different game situations. Each time see and feel the smoothness of the shot.*

*You enjoy shooting free throws, shooting free throws is fun. You enjoy the challenge it gives*

*you . . . with a clear focus, smooth motion, and great confidence see yourself shooting perfect free throws. Continue imaging yourself shooting and making free throws until I ask you to stop"* (Post, Wrisberg, & Mullins, 2010, p. 10).

*This imagery script was developed after the first five games of the season when a high school girls' basketball coaching staff concluded that the team's free-throw shooting percentage of 58 percent was unacceptable. The coach guided players through the script each day for one week and then once a week for the remainder of the season. He also encouraged players to practice imagery on their own. Just prior to the team taking the floor for warm-ups before games, the coach guided the team through the imagery exercise. However, he did this only for half of the games (the script was used in 18 of the team's 36 games).*

*Overall, the team made 254 and missed 109 free throws (70 percent) in games preceded by the imagery intervention, compared to 173 made and 153 (53 percent) missed for games not preceded by the imagery activity. The players took the intervention seriously and agreed that it was helpful to them in their free-throw performance.*

**Multimodal mental training interventions.** The effects of imagery on performance and learning have also been examined within multimodal mental training interventions that are implemented with athletes over time. For example, a mental training program consisting of imagery, relaxation, and self-talk training was implemented with soccer players during the season to improve three soccer-specific skills (Thelwell, Greenlees, & Weston, 2006). Multiple mental training intervention studies across many types of sports have shown that performance may be enhanced using a multimodal intervention approach that includes imagery.

### Enhancing Competition-Related Thoughts and Emotions

In addition to helping athletes perform better, research findings indicate that imagery enhances the competition-related thoughts and emotions of athletes (see Figure 13-1). This is important because a basic objective of sport psychology is to help athletes think better—to enable them to manage their thoughts and emotions effectively to create a productive competitive focus.

Imagery training can enhance confidence, motivation, attentional control, decision making, and flow in athletes (Calmels, Berthoumieux, & d'Arripe-Longueville, 2004; Koehn, Morris, & Watt, 2014; Mamassis & Doganis, 2004; Post & Wrisberg, 2012; Stewart & Hall, 2016). Imagery also can change perceptions of anxiety from harmful to facilitative and help decrease or control precompetitive anxiety (Cumming, Olphin, & Law, 2007; Post & Wrisberg, 2012). A gymnast describes how imagery helped her manage anxiety prior to her routines: “It calms my nerves, because I would see myself doing it and that reminded me to stop worrying about what could happen and instead focus on the routine” (Post & Wrisberg, 2012, p. 110).

### Successful Athletes Use Imagery

Successful elite athletes use imagery more extensively and systematically, and they have better imagery skill compared to less accomplished athletes (Calmels, d'Arripe-Longueville, Fournier, & Soulard, 2003; Gregg & Hall, 2006). Mental training (including imagery) to develop systematic competitive routines and plans was a critical factor in the successful performance of U.S. Olympic athletes (Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999).

Athletes who have at one time been the best in the world at their sport advocate the use of imagery, including Michael Phelps and Lindsey Vonn. Chris Evert, the great tennis champion, admitted that she practiced imagery before important matches by painstakingly imagining opponents' specific styles

of play and her successful responses to these opponents. Phil Mickelson, one of the top golfers in the world, states, “When I see a shot, I see in my mind's eye a ‘window’ I want the ball to pass through at the apex of its flight.”

Emily Cook, Olympic freestyle skier, stated: “I don't think I could possibly do a jump, or especially a new trick, without using this imagery process. For me, this is the key to the athlete I have become” (Clarey, 2014). Olympic champion swimmer Missy Franklin described how imagery prepared her for the London Games: “When I get there, I've already pictured what's going to happen a million times, so I don't actually have to think about it” (Maese, 2016). Four-time Olympic diver Troy Dumais explained his use of imagery: “The imagery work is what makes it happen. If you can see yourself hitting a dive, the chances of you hitting a dive increase greatly” (Maese, 2016).

### *How Does Imagery Enhance Athletes' Performance?*

How can a sensory experience in our mind enhance our ability to perform in sport? Neuroimaging techniques have shown that *imagery activates the same areas and processes in the brain as when the movement being imaged is actually executed*. This similar neural activity between imagery and actual physical performance is called functional equivalence (i.e., imagery is functionally equivalent to physically practicing the movement) (Jeannerod, 1994). When athletes image certain movements, the corresponding motor-related areas of the brain are activated. Thus, systematic imagery practice strengthens the neural pathways involved in the specific physical movement, resulting in improved performance.

### Developing and Enhancing Mental Representations of Action

We tend to think of images as video recordings, but it's more accurate to think of them as networks

or scaffoldings that we build in our brains. These networks are built through imagery, which activates and strengthens neural connections and can even change the structure of our brains (Nyberg, Eriksson, Larsson, & Marklund, 2006).

Images are mental representations of an action or event in one's mind. Through imagery or mental practice (like with physical practice), athletes develop expertise by creating more efficient and intricate mental representations (or networks) that they use to guide their performance (Schack & Mechsner, 2006). Think of the mental representation network of the pole vault in an Olympic pole vaulter's brain as compared to a high school pole vaulter's brain. The expert pole vaulter has an extensive and intricate mental representation of the approach run, plant, takeoff, swing, inversion, and turn over the bar. The novice pole vaulter has an incomplete and less organized mental representation of the phases of this skill.

Athletes develop mental representations of their sport skills through extensive, deliberate physical practice. They also can enhance these mental representations, and thus their expertise, through mental practice using imagery. Mental training using imagery has been shown to result in the development of better mental representations in gymnastics (Simonsmeier, Frank, Gubelmann,

& Schneider, 2018), golf putting (Frank et al., 2014), and volleyball serving (Velentzas, Heinen, & Schack, 2011).

An athlete's mental representation of a skill includes a series of **basic action concepts (BACs)**, which are *cognitive chunks of body postures and movement that are the building blocks of the skill in the brain's memory* (Schack, 2012). To assess these in research, athletes look at pictures or verbal descriptions of BACs and attempt to organize them in relation to the overall task. Example BACs for the four phases of the overhand volleyball serve are shown in Table 13-1. This research demonstrates *how* performance is enhanced through imagery, with the conclusion being that imagery or mental practice enhances the BACs representing specific mental representations of sport skills. Performance is improved using imagery as a mental training tool to activate, optimize, and even reorganize athletes' mental representations of skills in their sports.

### Developing and Enhancing Effective Responses

Building upon the concepts of functional equivalence and mental representations, imagery is viewed as facilitative to performance when it activates and modifies effective responses in the brain to different stimuli (Lang, 1979). A common misperception

Table 13-1 **Basic Action Concepts that Make Up the Mental Representation of the Volleyball Overhand Serve**

Preparatory Phase	Set Phase	Hit Preparation	Hit
1. Muscle relaxation	7. Image the movement	9. Toss the ball	11. Whipping arm extension
2. Positive self-talk	8. Ball to chest level	10. High elbow	12. Flick wrist
3. Get coach's information			13. Immediate readiness
4. Lock in serve target			
5. Breath control			
6. Bounce the ball			

is that imagining various stimuli (e.g., big crowd, importance of competition, colors and sounds) helps your performance. But research based on bio-informational theory (Lang, 1979) indicates that athletes have to imagine not just the stimulus characteristics in a situation but also their responses to these stimuli.

When athletes engage in imagery, they activate *stimulus characteristics* that describe the content of the image for them and *response characteristics* that describe what their responses are to the stimuli in the situation. For example, imagining shooting a pressurized penalty kick at the end of a championship soccer game would involve the stimulus characteristics of the sound of the crowd, the position of the opposing goalkeeper, and the sight of the goal itself. The response characteristics for this image might include feeling strong legs, quick and deceptive feet, and feelings of confidence and focused attention on the ball going into the goal.

According to **bio-informational theory**, by repeatedly accessing response characteristics and modifying these responses to represent perfect control and execution of sport skills (or practicing perfect responses), imagery can enhance athletes' performances. According to the theory, simply imaging the characteristics of the situation (stimulus characteristics) won't do it. Rather, athletes must imagine intense and perfect behavioral, mental, and physiological responses to various competitive challenges.

Research has shown that response-oriented imagery results in greater physiological reactivity (Cumming et al., 2007) and more "priming" responses in the brain as measured by electroencephalographic (EEG) activity (Smith & Collins, 2004) as compared to stimulus-oriented imagery. Moreover, athlete performance has been improved to a greater degree through imagery that included both stimulus and response characteristics, as opposed to imagery that just includes stimulus characteristics (Smith & Collins, 2004). Thus, imagery training should be an active response process to specific stimuli, not just an exercise in imagining the surrounding environment.

### Creating Better Mental Readiness

As discussed previously, imagery can enable athletes to perform better by helping them optimize their mental readiness in such ways as managing arousal, focusing attention, and enhancing confidence. Athletes commonly use imagery to psych up or calm down to meet the energy demands of a particular sport, as well as to visualize aspects of the upcoming competition to sharpen the focus they need to be successful. For example, imagery may help a wrestler psych himself up to a high energy level before a match and to focus his attention on the specific strategies and moves he needs to use against a particular opponent.

### Can Imagery Hurt Athletes' Performance?

Coaches often ask, "Can imagery ever hurt my athletes' performance?" Certainly, if athletes focus on the wrong image at the wrong time, that can hurt their performance. Nicole Detling, sport psychology consultant, explains: "In images, it's absolutely crucial that you don't fail. You are training those muscles, and if you are training those muscles to fail, that is not really where you want to be. So if athletes fail in an image, we stop, rewind, and we replay it again and again and again" (Clarey, 2014).

When individuals used debilitating imagery, or imagined performing unsuccessful putts, their golf putting accuracy declined (Short et al., 2002). This research indicates that imagery can hurt athletes' performance if they systematically imagine bad performances. This doesn't mean that athletes should not use imagery, as the point of imagery training is to enable athletes to control their previously uncontrollable images. Athletes are going to experience images whether they engage in mental training or not, so it seems productive to enable them to become more skillful in their use of imagery. The point is that athletes should create a mental representation for effective, not ineffective, responses.

In addition, research has shown that attempts to suppress debilitating images from conscious awareness can increase the probability that these

debilitative images will hurt performance (Beilock, Afremow, Rabe, & Carr, 2001). When individuals in a golf-putting task were told what *not* to image (“Be careful to try not to image hitting the ball short of the target. Don’t image undershooting the target!”), they performed poorly, even when they attempted to suppress these negative images. Similarly, golfers who were told to *avoid* thinking about the sand bunker (suppressive imagery) performed more poorly than golfers who were only told to focus on the target hole and successfully sink the putt (facilitative imagery) (Ramsey, Cumming, & Edwards, 2008).

From a practical perspective, athletes should not program themselves to NOT do something, or constantly focus on debilitating images and attempt to suppress them. Likewise, coaches should refrain from “negative coaching,” or giving verbal feedback such as, “Don’t pop up!” or “Watch out for the

out-of-bounds on the left.” These well-meaning, yet negative, coaching comments often create images in athletes’ heads of the exact performance the coach is suggesting that they not do. The key is to think productively and simplify one’s image to focus on successful execution and outcomes. Debilitative images may occur during performance slumps or after a particularly bad performance. However, the goal of systematic imagery training is to continue to develop one’s skills in controlling images and replace debilitating images with images of successful performance.

### How to Make Athletes’ Imagery More Functionally Equivalent

There are several ways to help athletes engage in more functionally equivalent imagery (see Figure 13-2). Remember that functional equivalence means that









-  Performance posture
-  Hold sport equipment
-  Feel/imagine (don’t just watch) performance on video
-  Load images with vivid kinesthetic responses
-  Load images with vivid emotional responses
-  Use real-time for competition, slow-motion when correcting
-  Personalize imagery scripts to enhance basic action concepts
-  Use memorable verbal triggers and symbolic images

Figure 13-2 Ways to make imagery more functionally equivalent

we want the images used by athletes to activate their brain in ways that are similar to when they are physically performing the skills.

**1. When possible, athletes should practice imagery in a posture similar to their performance postures, wearing performance clothes, holding performance implements, and in a similar environment to the performance environment.** It is common for athletes to be standing up and moving in ways that represent performance execution when practicing imagery. A diver could stand and then move her arms and twist her body as she mentally rehearses a specific dive. An Olympic freestyle skier describes how the starting area is full of skiers mentally rehearsing their routines by moving: “Oh yeah, It’s ridiculous. We’re all up there flapping our arms. It looks insane, but it works” (Clarey, 2014). Alpine skiers grip their poles with eyes closed and move their bodies as they imagine skiing a downhill or slalom course. Hockey players can hold and move their sticks to visualize various actions on the ice, and tennis players can hold their racquets and visualize service return responses.

Beyond just seeing themselves performing, athletes should focus on the kinesthetic sensations felt as when performing in these situations. A gymnast describes doing this: “I put my hands up over my head to feel that body position and then squeeze my muscles and actually do a half twist while standing there as if I was doing the skill” (Post & Wrisberg, 2012, p. 112). Although people envision mental training as something an athlete does while lying on a couch, athletes can be much more active in rehearsing using imagery. Imagery still works when athletes are sitting or lying quietly, but performance has been shown to be enhanced in several sports by engaging in more active imagery (Wakefield, Smith, Moran, & Holmes, 2013).

**2. Athletes can mentally rehearse while watching a video of themselves performing a task in their sport** (e.g., pitching in softball). Instead of going through the motions of watching film, athletes should put themselves “inside” the film to feel and personally experience the movements they are observing.

Coaches can help athletes personalize this action observation by filming from different angles to create personalized videos. For example, individualized action DVDs that they watched while wearing golfing attire, holding the clubs, and engaging in specific stances as shown on the videos improved the imagery ability of experienced golfers (Wright, McCormick, Birks, Loporto, & Holmes, 2015).

**3. Athletes should load their images with vivid behavioral, psychological, and physiological responses.** Remember that imagery enhances performance by repeatedly accessing response characteristics for a particular stimulus situation and modifying these responses to represent perfect control and execution of the skill. A swimmer’s imagery should contain not only the situational conditions (swimming in a specific pool, water is choppy, championship meet) but also the swimmers’ behavioral (swimming strongly, right on pace), psychological (feeling confident, focused on race), and physiological (feeling energized, warm muscles ready to explode) responses. Athletes must load their images with vivid, productive, personalized responses.

**4. Know when to use real-time, slow-motion, and fast-motion imagery.** Athletes should make their images as realistic in timing as possible in relation to the actual timing of their physical performance. Timing is a critical performance factor in many sports; thus, it becomes a key response characteristic that athletes want to stamp into their images. Elite swimmers and runners are typically able to imagine their races down to the fraction of a second in terms of their splits and final times. Gymnasts used real-time imagery when they wanted to feel the rhythm and timing of the movements in their routines (Post & Wrisberg, 2012).

However, athletes report using slow-motion imagery when learning new skills, correcting bad habits, and focusing on one small part of their overall performance (O & Hall, 2009; Post & Wrisberg, 2012). Athletes also report using fast-motion imagery when they need only to remind themselves of

how a mastered task is generally performed (O & Hall, 2009). This type of imagery may be useful in competitive settings where time is limited, and a brief fast-motion image could enhance focus and confidence. Research has supported that all types of timing used in imagery can enhance performance (O & Munroe-Chandler, 2008).

##### **5. Personalize imagery scripts to create and/or enhance the specific BACs that make up a skill.**

**Imagery scripts** are *written or recorded verbal descriptions that athletes use to guide them through imagery*. Developing scripts makes images intentional, systematic, and focused on the imagery preferences of each athlete. Scripts should include the behavioral, psychological, and physiological responses that athletes want to experience in relation to competition and/or training demands. Athletes can develop their scripts on their own or get help from a sport psychology consultant or coach. Imagery scripts will evolve as athletes learn what words and images help them the most during their imagery sessions (some example scripts are provided in this chapter, and many sport-specific scripts are available online).

Athletes should image full performance sequences as well as outcomes. We know that imagery enhances the BACs that make up the mental representation of skills in the brain, so athletes could create scripts that include effective performance of the subskills that are part of the overall skill being imaged. For example, the BACs of an expert's mental representation of the volleyball serve are listed in Table 13-1. Athletes could use a list like this as a guide for creating their personalized images of serving. Of course, each script would be customized with individual preferences, but the list in Table 13-1 gives athletes a guide for an imagery script for this skill from the preparatory phase through successful completion of the skill. Notice the responses and subskills included in the following image of a 1,000-yard practice set in swimming (adapted from Post, Muncie, & Simpson, 2012, p. 337):

You hear [coach] call out that you will be swimming the 1000 for time. Feel yourself in your lane getting ready . . . and begin to narrow your focus on your practice set. Release any possible distractions . . . cold water . . . the school day . . . and remind yourself of what you need to do to swim your ideal practice set . . . whether that be going out faster . . . keeping your stroke long . . . executing your flip turns flawlessly . . . or maintaining a tighter dolphin kick off the wall.

As you wait to start, feel yourself being confident, positive, having high energy, and a competition focus for the upcoming set. Now adjust yourself in the water as you wait to start . . . just a few seconds to go. As [coach] yells go . . . image yourself starting your ideal 1000-yard practice set. See and feel yourself going out fast . . . swimming strong . . . keeping your stroke long . . . maintaining your tempo . . . having a hard kick . . . executing a perfect s-shaped catch . . . timing your breathing just right with your stroke.

As you get to the wall, experience yourself executing your ideal flip turn . . . cleanly coming over the top with your hips and legs coming straight over . . . staying low to the surface . . . hitting the wall shoulder-width apart and pushing off strongly . . . using a tight and fast dolphin kick you get good distance from the wall. As you surface, see and feel yourself swimming ideally. Now continue in your timed practice set, feeling strong and powerful with your long stroke, hard kick, and rhythmic tempo . . .

As you swim your last lap, you dig into your reserves and use them to powerfully propel yourself forward. Your training pays off in this lap as you maintain strong technique and relentless tempo. As you pull toward the finish, you attack the water with powerful strokes and kicks in pursuit of the final touch, surging forward until you put your head down and touch the wall. You feel pride and satisfaction that your body is totally spent from maxing all your energy into the swim. Your awareness broadens from competition mode as you relax and feel the accomplishment of a best time and confidence in your training and swimming skill.

**6. Use verbal triggers and symbolic images as part of imagery training to strengthen athletes' mental representations of sport skills.** To help athletes strengthen or build their mental representations through imagery, you as a coach can guide them with verbal triggers and symbolic images. **Triggers** are words or phrases that remind athletes to focus on key aspects in an image to make the mental representation correct. Coaches use triggers all the time in teaching skills or as points of emphasis they want athletes to think about when performing. Softball batters can think *aggressive* and lock in to the *ball* at the plate. Volleyball serving is taught by having athletes focus on the *bow and arrow* technique. Basketball players are taught to *plant* their inside foot and *square up* for perfect jump-shot form. Cross-country skiers think *quick* for their uphill technique to trigger the quick, short-kick technique needed on hills. Golfers use simple triggers such as *smooth* to create the imagined tempo of a perfect golf swing in their minds prior to hitting a shot. A professional golfer kept the word *ooooom-PAH* written on her driver to program the image of an easy slow backswing followed by a strong and vigorous downswing.

**Symbolic images** are *mental symbols or models for desired components of performance*. Archers can envision a *string extending from the center of the target* that pulls their arrows directly into the bull's-eye. Sprinters may imagine the explosive energy in their legs as *coiled springs* that will catapult them from the starting blocks. Instead of telling tennis players to take the racquet back in a straight line, tell them to take it back as if they were *sweeping dishes off the dinner table*. Golfers can imagine *turning their body inside a barrel* to ensure proper body rotation on the swing and can imagine their *arms as a pendulum* swinging from the shoulders for the proper putting stroke. A gymnast may visualize her back against a *cold, steel wall* to perfect the image and movement of a perfectly straight body during a floor exercise routine. Triggers and symbolic images help athletes lock in the proper responses because they're brief, colorful, and easy to visualize.

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### Exercise 1: Triggers and symbols

*Identify several verbal triggers and symbolic images that can be used in your sport to program skilled performance by your athletes. Be innovative and attempt to think beyond the traditional, typical triggers that are used by all coaches in your sport. The key is finding triggers and symbolic images that help athletes really "feel" the image.*

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### *How Do You Set Up an Imagery Training Program?*

#### **Step 1: Introduce Imagery to Athletes**

An approach that we have found useful in introducing imagery to athletes is the analogy of building a machine. When athletes continuously practice a sport skill over and over, they are in essence attempting to build a machine. Divers attempt to fine-tune their body to make their muscles react flawlessly in a dive. Shot putters work hours refining their technique in order to uncoil their body in maximum thrust. Coaches and athletes spend a great deal of time using drill and repetition, attempting to build a flawless, automatic machine. Why not use imagery to help? Make the point that building a machine for optimal sport performance requires mental training as well as physical training.

The introduction of imagery can take place in an informal group setting if you are working with a team. We recommend that you spend no more than 15 to 20 minutes summarizing some important points about imagery. An introduction to imagery might include the following steps.

**Hook 'em.** Grab athletes' attention right away: You could (a) discuss the concept of building a machine, (b) ask them if they use imagery and have them describe how they use it, and (c) explain how several famous, successful athletes use imagery. Also, it is critical that you are enthusiastic and

model your confidence and strong belief in the power of imagery.

**Define and give evidence.** Briefly explain what imagery is by using a definition, such as “practicing in your head” or “building your mental action plan.” Without bogging them down with scientific research, provide some brief evidence that imagery does work to enhance performance. It is helpful to use testimonials from famous coaches and athletes who believe in imagery.

**Explain how it works.** Provide a simple and brief explanation for how imagery works to enhance performance. Athletes are always intrigued when they learn that innervation of their brains during imagery is similar to when they are performing the skill. To emphasize the way imagery works, you may want to take your athletes through one or both of the following exercises so they can immediately experience the power of imagery.

**String and bolt.** Give each athlete a string approximately 14 to 16 inches long threaded through a heavy bolt (a neck chain and heavy ring also will work). Stabilizing the elbow, ideally on a tabletop, have each athlete lightly hold the two ends of the string between the thumb and forefinger with the weight suspended directly below. Focusing on the weight, each athlete in his or her mind’s eye should imagine the weight moving right and left like the pendulum of a clock. Once most athletes have at least some movement right and left, have them change the image so the weight swings directly away from and then toward the chest. Again, once successful, change the image so the weight moves in a clockwise circle and finally in a counterclockwise circle. In discussing this exercise, you will find most athletes are impressed at how imagining the movement ultimately translates to the actual physical movement of the pendulum. Once completed, you can explain to the athletes that the subtle muscle innervation in the arm and hand created by the imagery is responsible for the movement of the pendulum.

**Arm as iron bar.** Pair each athlete with a partner of similar height and strength. While directly facing each other, one partner extends his dominant arm straight out, palm up, so the back of the wrist is resting on the partner’s opposite shoulder. The other partner cups both of his hands above the bend in the partner’s elbow. The person whose arm is extended then maximally tightens all the muscles in the arm, trying to make it as strong as possible. Then the partner tests for strength by pushing down at the elbow with both hands, trying to see how much strength it takes to bend the arm. Then switch roles. Afterward, resume the initial position with the original partner. This time, to create strength, the partner is to close everything out of his mind and imagine that the arm is a thick steel bar. Not only is the arm a hard, steel bar, but it also extends out through the opposite wall. Once the partner has created the image of an unbendable, strong steel bar, he indicates such by raising a finger on the opposite hand. This signals the partner to again test for strength. Again, switch roles. In follow-up discussion you will find that most athletes will be amazed at how much stronger their arm was using the iron bar image.

Give specifics about how imagery will be used. At this point let the athletes know exactly how they will incorporate imagery into their training. For example, a basketball team could start by using mental practice for free throws and imagery to mentally rehearse specific team plays. It is a mistake to try to do too much too soon. However, it is important for athletes to quickly see how imagery can be applied to meet their practical needs.

## **Step 2: Help Athletes Evaluate Their Imagery Ability**

After sparking athletes’ interest in imagery, the next step is to help them evaluate their imagery abilities. One method of evaluation is to take the athletes through some of the Basic Training imagery exercises provided in this chapter. By discussing their images with them, you could determine

whether certain areas need to be strengthened. Another way to evaluate imagery ability is to administer the Sport Imagery Evaluation (see Appendix B), which measures athletes' abilities to experience different senses, emotions, and perspectives during imagery. There are other inventories designed to measure imagery ability, but this evaluation seems to be most useful to the coach/practitioner.

For best results, direct athletes through the exercises in the evaluation (it takes approximately 15 minutes). Encourage athletes to answer honestly on the basis of their imagery ability. Afterward, discuss the results informally with athletes to better understand their unique imagery abilities and to target areas that can be improved through practice.

### Step 3: Guide Athletes Through “Basic Training” of Their Imagery Skills

Basic Training is similar to a preseason physical conditioning program. By developing a foundation of strength and endurance, athletes are better equipped to fine-tune their physical skills when the season begins. By strengthening their imagery “muscles” in Basic Training, athletes are more likely to benefit from the use of imagery during the season.

Basic Training includes three types of imagery exercises. First, athletes need to develop *vivid* images. Like using a fine-tuning control on a television, increasing the vividness of images sharpens the details of the image. Second, athletes must be able to *control* their images. Controllability exercises involve learning to manipulate images by will. Third, athletes need to enhance their ability to engage in *self-awareness*. It is a skill to use imagery to become more aware of underlying thoughts and feelings that often influence our performance without our realizing it.

It is helpful for athletes to gain proficiency in all three types of imagery exercises. The example exercises purposely use vague descriptors to encourage you to develop your own imagery exercises that are tailored specifically for you or your athletes. It is

also helpful to develop additional exercises in areas in which athletes are having trouble.

## Vividness

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### Exercise 2

*Place yourself in a familiar place where you usually perform your sport (gym, pool, rink, field, track, etc.). It is empty except for you. Stand in the middle of this place and look all around. Notice the quiet emptiness. Pick out as many details as you can. What does it smell like? What are the colors, shapes, and forms that you see? Now imagine yourself in the same setting, but this time there are many spectators there. Imagine yourself getting ready to perform. Try to experience this image from inside your body. See the spectators, your teammates, your coach, and the opponents. Try to hear the sounds of the noisy crowd, your teammates' chatter, your coach yelling encouragement, and the particular sounds of your sport (e.g., ball swishing through the net, volleyball spike hitting the floor). Re-create the feelings of nervous anticipation and excitement that you have before competing. How do you feel?*

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### Exercise 3

*Choose a piece of equipment in your sport, such as a ball, pole, racket, or club. Focus on this object. Try to imagine the fine details of the object. Turn it over in your hands and examine every part of the object. Feel its outline and texture. Now imagine yourself performing with the object. First, focus on seeing yourself very clearly performing this activity. Visualize yourself repeating the skill over and over. See yourself performing from behind your own eyes. Then step outside of your body and see yourself perform as if you were watching yourself on film. Now, step back in your body and continue performing. Next, try to hear the sounds that accompany this particular movement. Listen carefully to all the sounds that are being made as you perform this skill. Now, put the sight and the*

*sound together. Try to get a clear picture of yourself performing the skill and also hear all the sounds involved.*

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#### **Exercise 4**

*Pick a very simple skill in your sport. Perform the skill over and over in your mind and imagine every feeling and movement in your muscles as you perform that skill. Try to feel this image as if you were inside your own body. Concentrate on how the different parts of your body feel as you stretch and contract the various muscles associated with the skill. Think about building a machine as you perform the skill flawlessly over and over again, and concentrate on the feeling of the movement.*

*Now try to combine all of your senses, but particularly those of feeling, seeing, and hearing yourself perform the skill over and over. Do not concentrate too hard on any one sense. Instead, try to imagine the total experience using all of your senses.*

*Once athletes have mastered these exercises, you might consider follow-up variations to imagine more complex skills, grouping skills together, or placing the skill in the context of competition (such as reacting to certain defenses, executing strategy, etc.).*

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#### **Controllability**

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#### **Exercise 5**

*Choose a simple sport skill and begin practicing it. Now imagine yourself performing this skill either with a teammate or against an opponent. Imagine yourself executing successful strategies in relation to the movements of your teammate or opponent.*

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#### **Exercise 6**

*Choose a sport skill that you have trouble performing. Begin practicing the skill over and over. See and feel yourself doing this from inside your body. If you make*

*a mistake or perform the skill incorrectly, stop the image and repeat it, attempting to perform it perfectly every time. Re-create past experiences in which you have not performed the skill well. Take careful notice of what you are doing wrong. Now imagine yourself performing the skill correctly. Focus on how your body feels as you go through different positions in performing the skill correctly. Build a perfect machine!*

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#### **Self-Awareness**

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#### **Exercise 7**

*Think back and choose a past performance in which you performed very well. Using all your senses, re-create that situation in your mind. See yourself as you were succeeding, hear the sounds involved, feel your body as you performed the movements, and reexperience the positive emotions. Try to pick out the characteristics that made you perform so well (e.g., intense concentration, feelings of confidence, optimal arousal). After identifying these characteristics, try to determine why they were present in this situation. Think about the things you did in preparation for this particular event. What are some things that may have caused this great performance?*

*Repeat this exercise, imagining a situation in which you performed very poorly. Make sure you are very relaxed before practicing this image, as your mind will subconsciously resist your imagery attempts to re-create unpleasant thoughts, images, and feelings. Attempt to become more self-aware of how you reacted to different stimuli (e.g., coaches, opponents, officials, fear of failure, needing approval from others) and how these thoughts and feelings may have interfered with your performance.*

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#### **Exercise 8**

*Think back to a sport situation in which you experienced a great deal of anxiety. Re-create that*

*situation in your head, seeing and hearing yourself. Especially re-create the feeling of anxiety. Try to feel the physical responses of your body to the emotion, and try to recall the thoughts going through your mind that may have caused the anxiety. Now attempt to let go of the anxiety and relax your body. Breathe slowly and deeply, and focus on your body as you exhale. Imagine all of the tension being pulled into your lungs and exhaled from your body. Continue breathing slowly and exhaling tension until you are deeply relaxed. Now repeat this exercise, imagining a situation in which you experienced a great deal of anger and then relax yourself using the breathing and exhalation technique.*

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### Exercise 9

*The purpose of this exercise is to help you become more aware of things that happen during competition that bother you when you perform. Think about the times when your performance suddenly went from good to bad. Re-create several of these experiences in your mind. Try to pinpoint the specific factors that negatively influenced your performance (e.g., officials, teammates, opponents' remarks, opponent started to play much better). After becoming aware of these factors that negatively affected your performance, take several minutes to re-create the situations, develop appropriate strategies to deal with the negative factors, and imagine the situations again; but this time imagine yourself using your strategies to keep the negative factors from interfering with your performance. Reinforce yourself by feeling proud and confident that you were able to control the negative factors and perform well.*

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### Step 4: Implement a Systematic Imagery Program

Athletes are now ready to begin a *systematic* program of imagery. Imagery practice must be systematic to be effective, so always follow the KISS principle (keep it simple and systematic). The first

concern is to build the imagery program into athletes' routines. The imagery program should be an integral part of training and practice.

Another key is to fit the needs of the athlete. The imagery program need not be long and complex. In fact, when first starting, it is a good idea to keep it concise and simple. Initially, choose a sport skill or strategy that is easy to control, such as when the environment is stable rather than reactive. For example, in basketball you could start with free-throw shooting and in racket sports with the serve. As your athletes become more proficient at and accepting of the program, you can increase its complexity.

### *Imagery Cookbook for Coaches and Practitioners*

It is impossible to design a single imagery program appropriate for all sports. For that reason, we have designed this section like a cookbook, which itemizes the necessary ingredients of an imagery program. The ingredients listed include ways to use imagery, times in which imagery may be practiced, and strategies to enhance imagery practice. It is up to you to choose which ingredients are most relevant for the needs of your athletes.

#### Ways to Use Imagery

Athletes can use imagery in a number of ways to enhance sport performance. These include

- Learning and practicing sport skills
- Correcting mistakes
- Learning and practicing performance strategies
- Preparing a mental focus for competition
- Automating preperformance routines
- Building and enhancing mental skills
- Aiding in the recovery from injuries

*Learning and practicing sport skills.* One of the best places for athletes to start using imagery is

mental practice, or the repetitive practice of a sport skill in their minds. They should choose one or two skills in their sport and mentally practice these skills. Urge athletes to mentally practice on their own, but they will be more inclined to do so if mental practice is incorporated as part of their regular training. Coaches can implement a volleyball serving drill in which athletes serve ten balls and mentally practice each serve prior to physically performing it. This also could be applied to shooting free throws, executing wrestling moves, serving in tennis, sprinting over a set of hurdles, or hitting a baseball. Mental practice is also useful to aid beginners in learning sport skills by helping them to develop a visual picture of the skill.

**Correcting mistakes.** A very simple use of imagery for athletes is in correcting mistakes. Athletes receive constant feedback and corrections from coaches, and imagery is a great tool that athletes can use to gain the most benefit from these corrections. Athletes should listen to their coaches' feedback or correction and then see it and feel it as they incorporate the information from the coach into their image and execution of the skill. Coaches should teach and expect athletes to use imagery each time they receive feedback by requesting them to imagine the desired correction in performance; coaches should ask each time: Can you see it? Can you feel it?

Coaches also can help athletes "calibrate" their images by observing athletes perform and then comparing their observations with what the athletes perceive is occurring in their performance (Simons, 2000). Simons describes how a high jumper attempts to recall the image of her jump immediately after each attempt. She describes her image of her jump to her coach, who then describes her observations of the jump. In this way, the coach is calibrating the athlete's image of the jump to ensure that the athlete's perception and image of what she is doing are indeed correct in form.

**Learning and practicing performance strategies.** Imagery is very useful in helping athletes learn and practice performance strategies, such as tactics, systems of play, and decision making. For example, football quarterbacks can mentally rehearse various plays in relation to specific defenses, even imagining reacting to blitzes, calling an audible, and completing the appropriate offensive counter to this defense. When introducing a new basketball offense or out-of-bounds play, coaches can direct athletes to walk through the new pattern and then immediately follow this physical practice by imagining their movements through the patterns. Before competition, coaches can lead athletes in mentally rehearsing these previously learned offensive and defensive strategies and plays. Similarly, skiers may ski over a particular course in their mind to prepare for an upcoming downhill race. Softball outfielders may use imagery to practice throws from the outfield based on various situations that may arise in a game. Tennis players can mentally rehearse their planned strategy against a particular opponent.

**Preparing a mental focus for competition.** Imagery can be used by athletes to create and practice in their heads the strong, unshakable mental focus needed for specific competitions. Coaches should help athletes answer two questions: "What will it be like?" and "How will I respond?" "What will it be like?" refers to the external factors of competition, or the physical and social environment. For each competitive situation that athletes face, they should vividly imagine what it will be like in terms of the facilities, crowd, potential distracters, officials, weather, and so on.

The second question, "How will I respond?," is by far the most important question for athletes. Athletes should plan to respond, not react. Responding requires mental skill and toughness to manage one's thoughts and emotions and performance when faced with obstacles, surprises, and disappointments. Athletes should program the answers to the two questions into a short imagery

routine that they practice over and over in their heads in the days and weeks leading up to a particular competition. Imagery used in this way is an attempt to help athletes gain “experience” in responding to competitive challenges.

**Automating preperformance routines.** A **pre-performance routine** is a preplanned, systematic sequence of thoughts and behaviors in which an athlete engages prior to performing a specific skill. Pre-performance routines typically are used by athletes prior to the execution of specific sport skills, such as a golf shot, basketball free throw, gymnastics vault, volleyball or tennis serve, field goal kick in football, start in swimming, or any of the jumping and throwing events in track and field. Research has supported pre-performance routines as facilitative to athletes’ performances.

Athletes should keep their routines simple and flexible, so that they are easily repeatable yet open to some change if competitive conditions dictate this. Pre-performance routines help athletes lock in a sense of automaticity, so that once they begin their routine they kick in their automatic pilot, which is where the best performances occur. Pre-performance routines also give athletes something to think about besides the pressures of kicking the game-winning field goal or shooting the game-winning free throw. The key is for athletes to develop a routine and then practice it through imagery in their physical training sessions and then use it habitually in competition so that it becomes second nature. Hopefully, this will help their performance become second nature!

**Building and enhancing mental skills.** Imagery as a mental training tool can be used to build and enhance all types of mental skills important to an athlete’s performance.

**Self-confidence.** Athletes can nurture a self-image of competence and success by re-creating past successful performances and the positive feelings

associated with these successes. An imagery exercise called Ideal Self-Image (ISI) is useful to work on confidence. To practice the ISI exercise, athletes should imagine themselves displaying the skills and qualities that they would most like to have, such as more assertive communication skills, a confident posture after performance errors, or the ability to manage emotions during competition. Then, they should compare their ISI with their current self-image. This should enable them to understand specific behaviors and thoughts that they can actively engage in to begin to move toward their ISI. The ISI exercise should be used continuously to understand differences between their real and ideal selves. Imagery then can be used to practice new behaviors and ways of responding that move athletes toward their ISI.

### Develop your athletes’ abilities to “see” success

*Sport psychology consultant Sean McCann (2015) uses the following exercise with “combat” sport athletes (e.g., wrestling, judo, boxing, taekwondo). He asks them to think about their toughest opponent and asks if they can beat them. Typically, they say yes. He then asks them how, and there is often uncertainty. McCann has the athlete describe the best strategy to beat this opponent and then visualize this as clearly as possible for 30 seconds.*

*After the 30-second imagery period, they review the strategy to see if it was successful. The idea is to keep problem solving and strategizing and visualizing until they are able to see their success against this particular opponent. McCann explains that when athletes visualize new behavior patterns, they are taking the first steps to actually perform in that way. If they cannot see themselves executing the specific strategies, the odds of them succeeding in real competition are minimal.*

**Energy management.** Athletes who need to increase their energy (arousal) to psych up for competition can imagine playing intensely and assertively in front of a roaring crowd. Athletes who need to decrease their energy or arousal before competition can mentally recall their preparation and good performances in practice and previous competitions and then visualize themselves handling the pressure and performing successfully in the upcoming competition.

An imagery exercise called the Energy Room can help athletes regulate arousal from different competitive demands. The Energy Room image involves athletes walking down a dark tunnel to a door that leads them into a room that is very comfortable and pleasing. (You can create whatever type of room you wish.) Imagine the room is sealed and special air is piped in that creates the type of energy that is needed for this specific athlete in his or her event. The athletes feel themselves become more energized or relaxed with each inhalation and feel increasing focus, intensity, or relaxation. The breathing continues until the athletes feel appropriately energized and walk back through the tunnel feeling relaxed, focused, intense, centered, or confident. Whatever variation is used in this image, the main objective is for athletes to have an imaginary place that they can go to create optimal energy and use any mental strategies they want to employ. The room should become comfortable and familiar so it is an easy place for athletes to go in their minds to manage and control their physical and mental arousal levels.

**Stress management.** Energy management is usually needed just before or during competition. Imagery may also be helpful to reduce stress that occurs because of an overload of life demands (e.g., job pressure, exams, deadlines). Coaches and athletes both should have two or three relaxing images that they can use when they need to reduce stress and help them to relax and unwind. These images might be of a favorite place or a warm beach. An example stress reduction imagery script is provided in the following box.

### Sample imagery script for relaxation/ stress reduction

1. *Get into a comfortable position and close your eyes. Take several deep, cleansing breaths to relax and center yourself. Take a moment to scan your muscles. If you feel tension anywhere, gently remind yourself to "let it go." Continue to scan the muscles of your body. Wherever you feel any tension, allow yourself to consciously "let it go." As you do this, repeat the words "let it go" to yourself.*
2. *I would like you to visualize a very thick rope that is tied into a big knot. See the knot in your mind's eye. Notice the tightly intertwined pieces of the rope that are stretched taut against each other. Now visualize the knot slowly loosening, slowly loosening—a little bit of slack at a time until it is slack, limp, and completely uncoiled.*
3. *Now visualize a candle that has burned out. Focus on the cold and hard wax that has accumulated at the base of the candle. Now visualize the wax slowly softening—becoming first gooey, then soft like butter, then totally liquid as the wax warms and melts.*
4. *Visualize yourself on a loud city corner. It's windy and cold, very busy, and very noisy. Feel people buffet you as they rush by, hear the noise of cars and trucks, and smell the fumes as buses drive by. Right beside you is a construction site, and a jackhammer goes off without warning. It is so loud that your ears hurt and your body vibrates with the noise and concussions as it tears up the concrete. Slowly, ease yourself away so you are lying on your back on a grassy knoll by a sparkling blue lake.*

*The sun warms your face and body, and a gentle breeze creates small ripples on the water. Listen as the jackhammer fades into a woodpecker gently rapping on a tree.*

5. *Now focus inwardly on yourself. You have released the knots and relaxed your body. You have softened and then melted the tension of your day. You have transformed the bustle and noise in your life into pleasant sounds of nature. By doing this, you have gained control over your mind and body. Remind yourself now that you have the ability to gain control of your thoughts and feelings through creative visualization. Affirm your personal power to choose to think and feel well and to believe in your ability to transform your life in productive ways.*
6. *Refocus now on your breathing, and repeat the following affirmation each time you exhale: "My body is relaxed and open" (wait 30 seconds). Now change that affirmation (each time you exhale) to: "I choose to think and be well" (wait 30 to 50 seconds). Feel pride in yourself and your abilities, and reinforce to yourself now that you have the power each day to manage how you think and feel. Take time each day to relax your body, melt away the tension, and quiet the noise in your life.*

**Increasing self-awareness.** By systematically practicing imagery, athletes can become more aware of what is taking place within and around them by relaxing and paying attention to sensory details. A runner may learn much about a previously run race by vividly re-creating it in her mind. A member of the U.S. Nordic ski team was having problems sustaining the level of concentration she needed throughout her races. By imagining her past races in vivid detail, she suddenly became aware that she

was shifting attention to the wrong things at the end of her races. She made a tactical correction in her race plan and then mentally practiced her new strategy using imagery.

Aiding in the recovery from injury. Because injured athletes typically cannot participate in physical training, imagery allows them to mentally practice skills and strategies during their recovery. Injured athletes should attend team training sessions and imagine themselves running through the drills and workouts just as though they were physically performing them. Challenge your athletes to use their time recovering from their injuries to engage in mental training and to maintain a focused, productive, strong-willed mind-set toward recovery. Among other things, athletes can set progressive rehabilitation goals and vividly imagine the attainment of these goals. They can also use the ISI exercise to work toward full recovery of their competitive self-image.

Olympic freestyle skier Emily Cook engaged in extensive imagery training during a prolonged injury layoff by creating imagery scripts in a recorder (Clarey, 2014). Cook says: "I would say into the recorder: 'I'm standing on the top of the hill. I can feel the wind on the back of my neck. I can hear the crowd. Kind of going through all the different senses and then going through what I wanted to do for the perfect jump. I turn down the in-run. I stand up. I engage my core. I look at the top of the jump.'" Cook then played the recording back as she relaxed, eyes closed, feeling her muscles firing in response. She said that her imagery work helped her return to her sport as a better jumper.

### Times to Use Imagery

You now know some specific uses for imagery. But when is the most effective time to use it? Staying with our cookbook design, we offer three suggestions about when to use imagery.

**Daily practice.** To be systematic, daily imagery practice is a great idea, although research shows that three times per week is effective (Wakefield & Smith, 2009, 2011). As you will see in the sample

programs at the end of the chapter, this may require only five to ten minutes per day or session.

- Before physical practice sessions. This fits imagery into the athletes' routine and may get them into the proper frame of mind for practice.
- After physical practice sessions. This has been successful with groups in reaffirming the points emphasized in practice that day. Also, athletes are more relaxed at the end of practice and may be more receptive to imagery at that time.
- During practice. For example, if a basketball coach implements an imagery program to practice free throws, he or she may build in time for imagery prior to shooting free throws in practice. This is especially helpful in developing kinesthetic imagery ability.

**Pre-performance routine.** It is helpful for athletes to go through a pre-performance imagery routine *before competition*. This routine should be individualized for each athlete and practiced in pre-performance situations. To facilitate developing a routine, it is helpful to have a quiet, comfortable room available to all athletes prior to competition. However, if no room is available, imagery can be practiced anywhere. In this case, athletes could use the Energy Room image suggested earlier to mentally prepare for competition. Suggestions about the content of these precompetitive routines are included with the sample programs at the end of the chapter.

Also, certain skills in sport are conducive to a pre-performance imagery routine before actually performing the skill. Closed skills such as free-throw shooting, field goal kicking, ski jumping, volleyball serving, or gymnastic vaulting are more easily practiced in this way, as opposed to open skills such as broken field running in football or executing a fast break in basketball.

**Post-performance review.** Another appropriate time to use imagery is after competition. This should be an individual exercise, but coaches can monitor it by having the athletes complete post-competitive

evaluation cards based on their post-performance imagery. Using imagery at this time facilitates increased awareness of what actually happened during the competition.

**Imagery Cookbook for Coaches and Practitioners.** You now have all the ingredients (uses, times, strategies) to cook up an effective and systematic imagery program for your athletes. Remember the KISS principle—keep it simple and systematic instead of trying to do too much at first. Carefully consider the types and methods of imagery that will work for you in your particular situation.

**Sample imagery programs.** Two sample imagery programs are provided next to give you a basic idea about the structure and progression of imagery programs for athletes. These program outlines are generic and can be modified to meet the sport-specific and program-specific needs of your athletes.

### Team Imagery Program

The coach or sport psychology consultant should begin the team imagery program well before the start of the competitive season so athletes are familiar with imagery and proficient in their imagery skills.

#### *First three weeks of preseason*

1. Introduce program (10 minutes).
2. Evaluate athletes' imagery ability (15 minutes).
3. Basic Training (three times per week for 10 minutes following practice). Begin Basic Training with the exercises suggested in this chapter, then add exercises that are appropriate for your team and sport (team tactics and strategies).
4. Provide individual imagery sessions for athletes who are interested. Also, invite athletes to meet with you individually to discuss personalized imagery training they can do on

their own. Continue to provide individual sessions for athletes throughout the season if they want them.

**Remainder of season.** (three times per week 10 minutes before, following, or during practice).

1. Repetitive practice of simple sport skills\*
2. Repetitive practice of advanced sport skills\*
3. Competitive tactics and strategies in relation to specific needs of team and upcoming opponents\*
4. Re-create past successful performance
5. Goal programming (planning and imagining attainment of specific goals) for future success

Include in *all* sessions the imagery exercises marked with an asterisk. They are a warm-up for the other types of imagery. After these initial warm-up exercises, you can use any type of imagery exercises. Other suggested images might include the following:

- Confidence in fulfilling team role successfully
- Attentional focus (develop a team focus plan for different opponents)
- Using verbal triggers and symbolic images
- Energy management (Energy Room or similar image to feel control over arousal regulation)
- Correcting mistakes/practice refocusing plan
- Pre-competitive routine (should be practiced at least twice a week)

**Pre-competitive imagery routine.** The suggested practice outline (the first five steps listed under “Remainder of season”) could be incorporated into individual pre-competitive routines. Encourage each athlete to develop his or her own routine, and make available a pre-event imagery room or specified area in which imagery can be practiced privately.

**Post-game imagery review.** You may want to devise an event evaluation card that athletes will complete

after each game. This card should ask the athletes to evaluate their performance in such areas as physical skills, strategies, fulfillment of role, achievement of goals, energy management, attentional focus, self-confidence, areas that need improvement, and strategies to improve these areas. Make the card concise and objective so the athletes will find it easy to complete (see Chapter 11 for a sample evaluation card).

### Individual Imagery Program

1. Education about imagery to understand basics of imagery
2. Evaluation of imagery ability (use questionnaire)
3. Basic Training (once a day for 10 minutes)
4. Regular imagery sessions (throughout competitive season)

*Pre-practice* (5 minutes): Technique work, goal programming for practice

*Post-practice* (10 minutes): Re-create practice performance, mental skills practice (according to individual need), practice precompetitive imagery program

5. Competition day

*Pre-event imagery* (10 to 20 minutes): Use format suggested in “Team Imagery Program”

*Post-event review* (10 to 20 minutes): Design personal event evaluation card or log

### Case Studies

Now that you’ve read the “cookbook” and some sample programs, let’s try your hand at planning imagery training programs for athletes. In this section, three case studies are presented that describe athletes who are having performance problems. Read through each case and use your knowledge from the chapter to plan an imagery

intervention to help that athlete perform better. Write your plan for each athlete down on paper, and then go on to read the hypothetical imagery interventions that we suggest for each case. Don't look ahead until you plan your own imagery interventions for each athlete!

### **Molly**

Molly, a 13-year-old figure skater, is attempting her senior freestyle test for the third time. Molly needs to pass this test to qualify for the highest level of national competition. In practice, Molly has completed all of the elements of her freestyle program with ease, but she tends to choke during the test sessions. Her coach attempts to be patient and supportive by telling Molly that she just needs to try harder and practice more.

### **Mario**

Mario is a collegiate ice hockey player who lacks consistency in his performance. He performs well until he becomes distracted by his anger in reaction to game events that he cannot control, such as poor officiating, rough play by opponents, or poor ice conditions. When asked about his inconsistency, Mario says, "I just can't concentrate on the game when things go wrong!" Mario's coach tells him that he'd better get a handle on his temper and focus on the game.

### **Dee**

Dee is a gifted high school sprinter. She is in top physical condition and is expected to have a great senior season and earn a track scholarship to a major university. Dee injures her ankle before the first meet of the year, yet when she returns to competition a few weeks later, she does not perform as well as she or her coaches expected. Dee has recovered physically from the injury, but mentally she is worried about reinjury. She is not putting 100 percent effort into practice, and her performance suffers as a result. Deep down, she is

concerned that she will not make it back to her previous performance level, and she is worried that she will now fail to gain a scholarship.

### **Suggested Imagery Intervention Plans**

*Molly.* Initially we got to know Molly and talked with her about her perceived strengths and weaknesses as a figure skater. We introduced the concept of imagery to her and guided her through imagery in which she imagined her performance during practice and during a test session. After imagining each scene, she wrote down the characteristics of the performances, including how she felt during the performance, what she said to herself, how she prepared for the performances, and how she responded to mistakes. Based on an evaluation of Molly's imagery ability, we recommended some Basic Training exercises with an emphasis on arousal control and refocusing after mistakes.

We worked with Molly to develop a pretest imagery program in which she saw herself performing well, achieving her goals (goal programming), and refocusing after mistakes in her program. We developed an imagery script for Molly to use before test sessions focusing on arousal control and self-confidence. Here is an example of Molly's imagery script:

I am calm, confident, and in control. My muscles are loose and relaxed, like flexible springs. I am breathing easily, feeling my lungs fill with energizing air. During my warm-up, I feel focused and confident. My blades cut into the ice with ease, making a crisp cutting noise. My jumps are snappy and explosive. My spins are centered and tight. My muscles are warm and elastic. As I step onto the ice for my program, I feel balanced and in control. I take my beginning position with a confident posture, feeling excited anticipation to perform my best. I know that I'm ready.

Molly practiced this pretest imagery program during simulated test sessions and during practice sessions to re-create the testing experience. Through

imagery, Molly developed the mental skills to become more mentally tough and focused during pressure performances.

**Mario.** We first got to know Mario and talked with him about his perceived strengths and weaknesses as a hockey player. We introduced the concept of imagery to him and guided him through an imagery session in which he visualized his performance being negatively affected by anger. After the imagery, we specifically worked with Mario to identify the specific characteristics of the situation, such as what triggered his anger, his attitude before and after the trigger event, and his focus before and after the trigger. We evaluated Mario's imagery ability and recommended various Basic Training exercises, especially focusing on self-awareness and controllability.

We worked with Mario to develop a refocusing imagery program in which he saw himself refocusing after negative events, directing the anger in a productive way, and performing well after negative events. Mario imagined several different scenarios in which he typically loses his temper and his focus, such as after a poor call from an official or rough play by the opposing team. We worked with Mario to develop several imagery scripts incorporating imagery triggers, so he could mentally practice emotional control and refocusing. An excerpt from his emotional control script follows:

[Trigger event] . . . Deep breath . . . Squeeze stick . . .  
Let anger swell up from the bottom of your toes,  
into your legs, all the way through your trunk and  
chest. Feel the anger flowing down out of your arms,  
feel the hot emotions bursting out of your fingers.  
Squeeze all of that anger into your stick. Take a deep  
breath. Relax your hands.

Mario was able to use his imagery scripts to practice emotional control and refocusing skills. He became more consistent in his ability to focus after negative events during games and continued to use imagery for refocusing.

**Dee.** We first got to know Dee and discussed her physical and mental approach to competition. We guided her through several imagery sessions in which she imagined her performance both before and after her injury. We asked Dee to focus on how she felt, what she said to herself, and what her mental attitude was during both situations. We had her re-create through imagery the times before her injury in which she ran well and had her compare her thoughts, feelings, and behaviors to times after her injury. During this time, we also had Dee practice imagery to become more skilled at controlling her images.

We worked with Dee to develop an imagery program in which she re-created the feelings of confidence and competence she experienced prior to her injury. We had her keep a log of her mental states before, during, and after practices and meets. Additionally, Dee recorded any triggers that she associated with changes in her attitude or mood toward her ability. Initially, Dee's log indicated that she questioned her running ability. After a period of systematic and consistent use of imagery, Dee's attitude began to change. She began to feel surer of herself and thus pushed herself harder during practice. The combination of her mental and physical training helped Dee get back to her preinjury running level. Seeing *was* believing for Dee as she went on to become a successful collegiate runner and an advocate for the power of imagery.

## Summary

Imagery is using one's senses to re-create or create an experience in the mind. Athletes must use imagery in a systematic and intentional manner as a mental training tool for it to enhance their performance. Both scientific and experiential accounts of the use of imagery to enhance sport

performance report positive results. Athletes can and should increase their imagery skills to engage in vivid and controlled images and to utilize both internal and external imagery perspectives.

Neuroimaging techniques reveal how imagery activates the same areas and processes in the brain as when the movement being imaged is actually executed. This similar neural activity between imagery and actual physical performance is called functional equivalence. Systematic imagery practice strengthens the neural pathways involved in the specific physical movement, resulting in improved performance. Athletes can make their imagery more functionally equivalent by practicing imagery using their typical performance posture and movements, holding performance implements, loading their images with vivid responses to specific stimuli, using verbal triggers or symbolic images, and generally imaging in real time.

Setting up a systematic imagery program involves introducing imagery to athletes, helping them evaluate their imagery abilities to understand their strengths and areas that need improvement, leading athletes in Basic Training exercises, and helping athletes integrate imagery into their physical practice routines. Imagery can be used to practice specific sport skills, prepare for competitive strategies and tactics, prepare a mental focus for competition, automate pre-performance routines, enhance mental skills, and aid in the recovery from injuries.

### Study Questions

1. Briefly describe some of the evidence supporting the positive influence of imagery on sport performance.
2. Describe the four phases of setting up an imagery training program.
3. How does imagery enhance performance in terms of the functional equivalence explanation?
4. What are five different ways imagery can be used by athletes?
5. Explain five specific ways that athletes can make their imagery training more functionally equivalent.
6. Develop an imagery program for an athlete in your sport using the imagery cookbook.
7. Explain why and how imagery can be polysensory.
8. What are three different times imagery can be used optimally by athletes?
9. What is the difference between external and internal imagery, and how can athletes use each perspective?
10. Can imagery hurt athletes' performance? Explain and then identify how athletes can avoid this negative imagery effect.

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## Sample Imagery Script for Competition Preparation

Get into a comfortable position and close your eyes. Focus on the center of your body and take several slow deep breaths. With each inhalation, imagine that you are pulling all of the tension from your body into your lungs. With each exhalation, imagine that you are releasing all of your tension and negative thoughts from your body. Continue this focused breathing until your body becomes relaxed and your mind is alert and open for productive thoughts. (Pause for 30 seconds.)

Imagine it is the night before an important competition or performance. You are preparing for the next day's event. As you are preparing to go to sleep, you are focusing on feeling calm, confident, and physically and emotionally in control. (Pause for 10 seconds.) You are excited and anticipatory about performing well tomorrow. (Pause for 10 seconds.) You sleep well and awaken feeling rested, excited, and focused. (Pause for 8 seconds.) You realize that you are well prepared, both physically and mentally, for the competition. Physically, you feel balanced and ready. Mentally, you are confident and focused. (Pause for 10 seconds.)

Now imagine that you are at home preparing to leave for the competition site. (Pause for 10 seconds.) You take some time to run through your mental warm-up by visualizing several repetitions of a few basic skills in your sport, such as

a warm-up drill. (Pause for 30 seconds.) Now in your mind's eye, focus on the specific goals and strategies for this particular competition. Imagine yourself performing perfectly, achieving your goals for the competition and successfully executing specific strategies for this opponent. (Pause for 60 seconds.)

Now imagine yourself arriving at the competition site feeling confident in your physical and mental preparation. (Pause for 20 seconds.) You feel the nervous anticipation of competition and remind yourself that it is exhilarating to play your sport. You love it! (Pause for 10 seconds.) Imagine your feelings as you dress and go through any precompetitive preparations. (Pause for 20 seconds.) You feel confident in your preparation and clearly focused on your upcoming performance. Your breathing is calm and controlled. Your muscles feel warm and elastic, ready to explode with intensity and precision. You are ready! (Pause for 15 seconds.) Imagine going through your competition warm-up as you have done so many times in practice. (Pause for 30 seconds.) Your warm-up goes well, yet you remind yourself that you are ready for any unexpected problem or obstacle. You are confident in your refocusing ability and remind yourself that you are mentally tough. You feel optimally energized and ready to go. Enjoy it!

## APPENDIX

# B

## Sport Imagery Evaluation

As you complete this evaluation, remember that imagery is more than just visualizing something in your mind's eye. Vivid images may include many senses, such as seeing, hearing, feeling, touching, and smelling. Vivid images also may include feeling emotions or moods.

In this exercise you will read descriptions of general sport situations. You are to imagine the situation and provide as much detail from your imagination as possible to make the image as real as you can. Then you will be asked to rate your imagery in seven areas:

- a. How vividly you *saw* or visualized the image.
- b. How clearly you *heard* the sounds.
- c. How vividly you *felt your body movements* during the activity.
- d. How clearly you were aware of your mood or *felt your emotions* of the situation.
- e. Whether you could see the image from *inside your body*.
- f. Whether you could see the image from *outside your body*.
- g. How well you could *control* the image.

After you read each description, think of a specific example of it—the skill, the people involved, the place, the time. Then close your eyes and try to imagine the situation as vividly as you can.

There are, of course, no right or wrong images. Use your imagery skills to create the most vivid and

clear image that you can. After you have completed imagining each situation, rate your imagery skills using the following scales.

*For items a-f:*

- 1 = no image present
- 2 = not clear or vivid, but a recognizable image
- 3 = moderately clear and vivid image
- 4 = clear and vivid image
- 5 = extremely clear and vivid image

*For item g:*

- 1 = no control at all of image
- 2 = very hard to control
- 3 = moderate control of image
- 4 = good control of image
- 5 = complete control of image

### ***Practicing Alone***

Select one specific skill or activity in your sport, such as shooting free throws, performing a parallel bar routine, executing a takedown, throwing a pass, hitting a ball, or swimming the butterfly. Now imagine yourself performing this activity at the place where you normally practice (gym, pool, rink, field, court) without anyone else present. Close your eyes for about one minute and try to see yourself at this place, hear the sounds, feel your body perform the

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| a. | Rate how well you <i>saw</i> yourself doing the activity.                   | 1 | 2 | 3 | 4 | 5 |
| b. | Rate how well you <i>heard</i> the sounds of doing the activity.            | 1 | 2 | 3 | 4 | 5 |
| c. | Rate how well you <i>felt yourself</i> making the movements.                | 1 | 2 | 3 | 4 | 5 |
| d. | Rate how well you were aware of your <i>mood</i> .                          | 1 | 2 | 3 | 4 | 5 |
| e. | Rate how well you were able to see the image from <i>inside</i> your body.  | 1 | 2 | 3 | 4 | 5 |
| f. | Rate how well you were able to see the image from <i>outside</i> your body. | 1 | 2 | 3 | 4 | 5 |
| g. | Rate how well you <i>controlled</i> the image.                              | 1 | 2 | 3 | 4 | 5 |

movement, and be aware of your state of mind or mood. Try to see yourself from behind your eyes or from inside your body. Then, try to see yourself from outside your body, as if you were watching a videotape of yourself performing.

### ***Practicing with Others***

You are doing the same activity, but now you are practicing the skill with your coach and teammates present. This time, however, you make a mistake

that everyone notices. Close your eyes for about one minute to imagine making the error and the situation immediately afterward as vividly as you can. First, try to experience the feelings you have as you make the mistake. Then, quickly try to re-create the situation in your mind and imagine yourself correcting the mistake and performing perfectly. Try to see the image from behind your eyes or from inside your body as you correct the mistake. Next, try to see the image as if you were watching through a video camera as you correct the mistake.

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| a. | Rate how well you <i>saw</i> yourself in this situation.                    | 1 | 2 | 3 | 4 | 5 |
| b. | Rate how well you <i>heard</i> the sounds in this situation.                | 1 | 2 | 3 | 4 | 5 |
| c. | Rate how well you <i>felt yourself</i> making the movements.                | 1 | 2 | 3 | 4 | 5 |
| d. | Rate how well you <i>felt the emotions</i> of this situation.               | 1 | 2 | 3 | 4 | 5 |
| e. | Rate how well you were able to see the image from <i>inside</i> your body.  | 1 | 2 | 3 | 4 | 5 |
| f. | Rate how well you were able to see the image from <i>outside</i> your body. | 1 | 2 | 3 | 4 | 5 |
| g. | Rate how well you <i>controlled</i> the image.                              | 1 | 2 | 3 | 4 | 5 |

### ***Playing in a Contest***

Imagine yourself performing the same or similar activity in competition, but imagine yourself

doing the activity very skillfully and the spectators and teammates showing their appreciation. As you imagine the situation, try to see the crowd and hear the noise they are making. Imagine

yourself feeling confident in your ability to perform, as well as your ability to handle the pressure. Now close your eyes for about one minute and imagine this situation as vividly as possible.

Try to image yourself performing from inside your body, as if you were actually performing, as well as from outside your body, as if you were a spectator.

a.	Rate how well you <i>saw</i> yourself in this situation.	1	2	3	4	5
b.	Rate how well you <i>heard</i> the sounds in this situation.	1	2	3	4	5
c.	Rate how well you <i>felt yourself</i> making the movements.	1	2	3	4	5
d.	Rate how well you <i>felt the emotions</i> of this situation.	1	2	3	4	5
e.	Rate how well you were able to see the image from <i>inside</i> your body.	1	2	3	4	5
f.	Rate how well you were able to see the image from <i>outside</i> your body.	1	2	3	4	5
g.	Rate how well you <i>controlled</i> the image.	1	2	3	4	5

### Recalling a Peak Performance

Recall one of your all-time best performances—a performance in which you felt confident, in control, in the zone. Close your eyes for about one minute and try to see yourself in that situation, feel your

emotions, and re-create the experience. Imagine your performance and re-create the feelings you experienced, both mentally and physically, during that performance. Try to see the image from within yourself, and then try to imagine the situation from outside yourself.

a.	Rate how well you <i>saw</i> yourself in this situation.	1	2	3	4	5
b.	Rate how well you <i>heard</i> the sounds in this situation.	1	2	3	4	5
c.	Rate how well you <i>felt yourself</i> making the movements.	1	2	3	4	5
d.	Rate how well you <i>felt the emotions</i> of this situation.	1	2	3	4	5
e.	Rate how well you were able to see the image from <i>inside</i> your body.	1	2	3	4	5
f.	Rate how well you were able to see the image from <i>outside</i> your body.	1	2	3	4	5
g.	Rate how well you <i>controlled</i> the image.	1	2	3	4	5

### Scoring

Now let's determine your imagery scores and see what they mean. Sum the ratings for each category and record them below.

Interpret your scores in the visual, auditory, kinesthetic, emotion, and controllability categories based on the following scale: excellent (20-18), good (17-15), average (14-12), fair (11-8), and poor (7-4). Notice the categories in which your

scores were low and refer to exercises in the chapter to increase your imagery ability in those areas. All of these categories are important for imagery training,

so don't just rely on your visual sense. Work to improve the others! Remember, it takes practice but you *can* increase your imagery ability. Good luck!

<i>Directions</i>	<i>Dimension</i>	<i>Score</i>
Sum all <i>a</i> items	Visual	_____
Sum all <i>b</i> items	Auditory	_____
Sum all <i>c</i> items	Kinesthetic	_____
Sum all <i>d</i> items	Emotion	_____
Sum all <i>e</i> items	Internal perspective	_____
Sum all <i>f</i> items	External perspective	_____
Sum all <i>g</i> items	Controllability	_____