



# Mental Rehearsal

From the Olympics to the Surgery Room



Mental rehearsal, also known as imagery, is a **cognitive technique commonly used by elite athletes to optimize performance and refine skills**. In this process, the athlete systematically visualizes specific actions or movements without fully engaging in their physical execution.

By using visualization, individuals can **practice and refine their motor skills, regulate emotional states, and mentally rehearse desired outcomes** without directly experiencing the situation. The rehearsal process allows for visualization of not only the ideal execution and outcome but also potential challenges.

## Why consider this technique?

Repetitive mental rehearsal has been shown to **enhance the development of both simple and complex motor and cognitive skills** (1). This effect is attributed to the activation of neural networks during mental imagery that partially overlap with those involved in physical execution, causing neuroplastic changes like those induced by physical performance (3). Additionally, this form of cognitive stimulation has been **demonstrated to increase confidence, reduce anxiety, and improve overall performance**. (4)

**In a study done with medical students, those using a mental imagery technique transferred learning from practice to actual surgery better than those who used textbook study only (2).**

# How to mentally rehearse

## Step 1 - Study the procedure

Familiarize yourself with the procedural steps. Read through them and understand their general order.

- Start with a broader, overall view of the procedure. If this is a procedure you haven't done before, read over the steps more than once, paying close attention to the transitions between steps.
- Find photos, illustrations, or videos to help you build a mental picture of what things should look like.

## Step 2 - Set the stage

Go to a quiet place, where you won't be interrupted, so you can mentally rehearse

- Give yourself the same amount of time the procedure would take in real life, to mentally rehearse.
- Don't rush through the steps.

## Step 3 - Mentally rehearse

Close your eyes and stand as you would in surgery. With your eyes closed, visualize each step in as much detail as possible.

- Move your hands, arms, and body as you would in surgery.
- Reach for the instruments as you would in surgery.
- Ask for assistance at the same time and in the same manner you would in surgery.

## Step 4 - Include more details

Selectively rehearse the parts of the surgery that confuse you or that seem more difficult to you.

- STOP to review steps that aren't clear to you and go over them several times until they become crystal clear.
- Predict potential complications and decide how you will address them.

## Step 5 - Review

Repeat the visualization exercise - Go over the whole procedure without stopping, until you feel confident and your body knows what to do.

## Pro Tips

### Rehearse Prep Steps

Rehearse the preparatory steps, such as positioning the animal on the table and draping, to make you more efficient and save some precious time in that phase.

### Include Details

The more detail and the more vivid the image you create during your rehearsal, the better you will remember.

### Engage Your Body

The more you engage your body, the easier it is to remember the steps and to create muscle memory. Move your body like you would in surgery, and talk out loud during the mental rehearsal to help commit things to memory.

### Predict Complications

Force yourself to think about the potential complications and how you plan to resolve them. This will help you realize areas of doubt and allow you to make a plan before surgery, which will increase your confidence.

### Review the Plan with your Team

Go over the general procedural steps, including positioning and instrumentation, with your nurses and assistants to save you time, avoid headaches, and stress during surgery.

### Debrief the Team Post-Op

Discuss the case after surgery and be willing to accept input so that everybody becomes a partner in the team and is working towards the same goal.

# References

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**“The expert at anything was once a beginner.”**

**– Helen Hayes**