

# Research on Meditation

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## Resources

- [Psychologytoday](#)
- [Cleveland Clinic](#)
- [National Library of Medicine](#)
- [Mindfulness](#)
- [5 Visualization Techniques to Add to Your Meditation Practice](#)
- [List of mudras \(meditation hand gesture\)](#)

## How to meditate

Most forms of meditation are meant to decrease **distractibility** and **promote focus** on and **enjoyment of the present moment**.

### The essentials ([psychologytoday](#))

- **Focused attention:** requires that one turn attention to *a single point of reference*.
  - For example: breathing
  - bodily sensations
  - on a word or phrase, known as a mantra
  - Visualization
- **Relaxed breathing:** Deep, even-paced breathing helps to slow down heart rate and calm the mind.
- **A quiet setting:** minimal distractions.
- **A comfortable position:** can be any position that is comfortable, but typically done sitting or lying down.
- Can seek guided meditation if have a hard time concentrating.

### How long do you have to meditate to see results? ([psychologytoday](#))

- Many beginners start with short sessions of 3 to 5 minutes each and gradually increase the time they spend meditating.
- **Duration** is **less important** than **consistency**, as many meditators agree that they see results practicing just 10 minutes every day.

- Meditation sessions can last anywhere from 20 to 40 minutes or more.

## **Types of meditation** ([Cleveland Clinic](#))

- **Body-centered meditation**
  - Also known as self-scanning, involves focusing on the physical sensations you can feel throughout your body.
- **Contemplation**
  - Concentrate on a question or some kind of contradiction without letting your mind wander.
- **Emotion-centered meditation**
  - Focus on a specific emotion.
  - For example, focusing on how to be kind to others or on what makes you happy in your life.
- **Mantra meditation**
  - involves repeating (either aloud or in your head) and focusing on a specific phrase or sound.
- **Meditation with movement**
  - can involve focusing on breathing, holding your breath or performing specific body movements.
  - Can also involve walking while focusing on what you observe around you.
- **Mindfulness meditation**
  - Focus on what's happening at the moment rather than letting your mind wander and worrying about the past or future.
  - can be similar to body-centered meditation, using what you feel throughout your body as a foundation for your awareness of the world around you.
- **Visual-based meditation**
  - Focus on something you can see (either with your eyes or by concentrating on a mental image).

## Meditation steps

### Yoga Meditation (meditation air)

The best time to meditate is just after practicing yoga. Yoga relaxes the body and calms the mind, creating an ideal state for meditation.

*Asanas* (body posture) release tension, and *pranayama* (breath control practiced during yoga) regulates the breath, making it easier for beginners to meditate deeply and focus.

#### 1. Find a quiet space and choose a comfortable sitting position

Keep spine straight, shoulders relaxed, and hands resting on your knees or in a mudra (hand position) of your choice. ([list of mudras](#))

- Cross-Legged Pose (Sukhasana):
  - Classic sitting position for meditation, promotes grounding and stability.



- Sit on a blanket, pillow, or meditation cushion to create a stable base.
- Seated on a Chair:
  - Great if you have tight hips or knees.
  - Choose a chair without armrests and sit with your feet flat on the ground.
- Half-Lotus Pose (Ardha Padmasana):
  - For people with more flexibility in their hips.



- Sit on a cushion or blanket.

## 2. Do breathing exercises through the nose only

- Take slow, deep breaths in and out through your nose, for 6-10 rounds.
- Notice the sensation of the breath as it enters and leaves your body, then resume breathing with natural rhythm.

## 3. Focusing on one thought, sound, or symbol from nature

- As you continue to breathe, choose **a single point of focus** for your meditation.
- For example, a word or phrase, a sound, or a visual symbol from nature, such as a flower, river, or tree.
- Whenever your mind starts to wander, gently bring your attention back to your chosen point of focus.

## The 3 Stages of Yoga Meditation

Stage 1: Stilling the body

Stage 2: Concentrating the mind

Stage 3: Truly meditating

Body movements prevent you from concentrating. So, you first have to master the skill of coming to **complete physical stillness**. After that, you can move on to concentration.

## Guided imagery ([healthline](#))

Involves visualizing positive scenes and images, which can help you relax, cope with stress or fear, and feel more at peace.

For example, you may visualize yourself connecting with nature and relaxing in a calm space outdoors. Spending time outdoors can improve your health and well-being. According to 2018 research ([National Library of Medicine](#)), nature-based guided imagery is an accessible practice that could reduce symptoms of anxiety.

### 1. Find a Comfortable Meditation Position

- You can lie down or sit, whichever you prefer.

### 2. Close Your Eyes and Slow Your Breath

- Slow your breath to a calming, relaxing rhythm.

### 3. Visualize a Peaceful Place

- Visualize a place where you feel **content and calm**, could be somewhere you've visited or an imagined scene of somewhere you'd like to go.

#### 4. Explore the Sensations in Your Vision

- Explore different sensations you notice as you build this peaceful vision.
- For example, you may notice relaxing fragrances, hear calming sounds, or feel warmth.

#### 5. Engage All Your Senses

- Continue breathing slowly as you look around the scene you've created, fully experiencing it with all of your senses.

#### 6. Inhale Peace, Exhale Tension

- With each inhale, imagine peace and harmony entering your body.
- Visualize exhaustion, tension, and distress leaving your body as you exhale.

#### 7. End the Session Gently

- When you feel ready, you can open your eyes and leave your vision.
- *Knowing you can return at any time* can help your newfound sense of relaxation linger throughout your day. This can help you feel more in control of difficult feelings and allow you to manage stress and frustration more easily.

### Progressive muscle relaxation ([healthline](#))

Can help ease stiff or tight muscles. It involves focusing on **tensing and then relaxing different muscle groups**, one at a time.

This visualization exercise can help reduce anxiety ([National Library of Medicine](#)), stress, and depression. The effectiveness will likely increase when it's practiced alongside other techniques, such as:

- music therapy
- nature sounds
- deep breathing
- **guided imagery**
- health education

- mindfulness meditation
- cognitive behavioral therapy

**1. Find a Comfortable Lying Position**

- Lie on your back on a comfortable but **firm surface**. A **carpeted floor** or **yoga mat** may work better than a bed for this technique.

**2. Close Your Eyes and Focus on Your Breath**

- With your eyes closed, take a few seconds to relax and focus on your breathing.

**3. Work Through Your Body's Muscle Groups**

- Can start anywhere, but it can help to pick a place *where the progression feels natural*, such as from head to toes or vice versa.

**4. Tense and Relax a Group of Muscles**

- Start by tensing and then relaxing a group of muscles that **aren't** currently **troubling** you, this helps you better recognize when your muscles tense and when they're relaxed.

**5. Tense and Hold Muscle Tension**

- Tense the first group of muscles as you inhale slowly, hold for 5 seconds.
- Be sure not to tense your muscles so tightly that it causes pain.

**6. Relax and Visualize the Tension Leaving**

- As you exhale, relax those muscles all at once.
- Visualize the tightness and tension leaving your body with your breath.

**7. Rest Between Muscle Groups**

- Rest for 10 seconds between muscle groups
- continue slow, steady breathing as you rest.

**8. Proceed to the other muscle groups and repeat.**

# **Train AI for mental health expertise**

## **Fundamental knowledge of mental health**

### **1. Mental health theories :**

- Basic knowledge of anxiety, depression, and stress management.
- Common psychological methods: Cognitive Behavioral Therapy (CBT), Mindfulness-Based Cognitive Therapy (MBCT), Acceptance and Commitment Therapy (ACT).

### **2. Emotion awareness and management :**

- Enable users to recognize and accept emotions, provide coping mechanisms.
- Example: ABC model of emotions (Activating Event - Beliefs - Emotional Consequences).

### **3. Mental health assessment :**

- general mental health screening tools, such as GAD-7 (Generalized Anxiety Disorder Scale) and PHQ-9 (Patient Health Questionnaire)

## **Books :**

"The Miracle of Mindfulness" by Thich Nhat Hanh)

"The Power of Now" (Eckhart Tolle)

"The Courage to Be Disliked" (Ichiro Kishimi)

## **Mental health resources :**

World Health Organization (WHO) Mental Health Handbook.American Psychological Association (APA) Resources

Positive psychology

Guided Visualization

# We trained a version of ChatGPT to proactively respond to users with mental health knowledge and empathy.

## Used prompt:

You are a warm, empathetic mental health companion designed to help users manage stress, practice mindfulness, and find calm.

Speak like a supportive friend – casual, caring, and non-judgmental. Keep responses brief, natural, and easy to follow, avoiding formal or instructional language.

Your goal is to listen carefully, detect emotional cues (positive or negative), and respond with comfort and gentle guidance.

## Emotional Keyword Recognition:

Identify positive or negative emotional keywords in user input and reflect them back naturally.

- **Positive keywords:** happy, calm, grateful, peaceful, energized, hopeful, confident, relaxed, joyful, inspired, motivated, content.
- **Negative keywords:** stressed, anxious, overwhelmed, tired, frustrated, nervous, sad, angry, lonely, restless, confused, uncertain, disappointed.

## Response Behavior:

- When users express **negative** emotions, offer gentle comfort or guide them to calming exercises (like breathing or visualization).
- When users express **positive** emotions, acknowledge and encourage those feelings, reinforcing the positive state.
- If mixed emotions are detected, respond to both sides naturally, offering balance and support.
- Let the user set the pace – you are here to support, not to solve everything immediately.
- If the user's question cannot be answered from provided documents, use general knowledge to respond thoughtfully and conversationally.



Avoid giving medical advice or diagnosing the user. Focus on being present and supportive in the moment.

# Instructional agent prompt

## **User Footages:**

Positive:

Hi, I'm doing great today! I just got my new VR Headset today. Which I've been dreaming about for months.

Neutral:

I had an okay day today, just a very lazy Saturday.

Negative:

Huh, I'm very tired today. Work has been overwhelming lately. I've been struggling to keep up with everything

## **Chat instructions :**

Hello, my name is Flo, your personal mental health assistant, I'm here to listen. How are you feeling today?

Take your time. As you speak, I'll reflect your words as bubbles.

Your positive emotions will form soft, glowing bubbles. If there are heavier feelings, they might appear darker or sharper – and that's okay.

## **Bubble pop instructions :**

Let's pop some bubbles together. Stretch your hand to break them, or let them float down – it's all part of the journey!

With each bubble you break, the world around you opens a little more.

Not all bubbles need to be touched. Sometimes letting them fall brings new life.

## **Bubble pop success poke response :**

Wonderful! You've touched a bubble – feel the energy flow through you.

Great focus! Watch as the bubble shatters, opening portals around you.

## **Bubble pop random encouragements:**

Every movement matters.

Keep going at your own pace.

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Prompts after the user select meditation duration:

Slow and gentle tone, pause 2-3 seconds between sentences.

## **00 Meditation welcome**

1. Good job!
2. Did you know that you can do magical things when you calm your mind?
3. Let's try!
4. First, let's find a comfortable sitting position.
5. How long would you like to meditate today?
6. Welcome to Healing Forest, a world born from your wonderful thought bubbles.
7. Let's spend some time here together.

## **01 Stage 1: Slow your breath** (cue breathing animation)

1. When your body feels ready, you may gently tune in to your breathing.
2. Slowly inhale, feel a sense of peace and tranquility wash over you.
3. As you exhale slowly and completely, imagine all your worries, anxieties, and frustrations dissolving into the air like mist, leaving you feeling lighter and freer.
4. Continue this deep, rhythmic breathing, allowing each inhale to bring you a sense of calm and each exhale to release any negativity.

## **02 Stage 2: Observe**

1. Let your gaze wander across this forest.
2. As the fog begins to spread, notice how it gently envelops the landscape.
3. Observe the gentle wind whispering through the grass and leaves.
4. What else do you notice?
5. What is it like for you to be in your body right now?
6. Allow your awareness to expand to include the space around your body.
7. It's as if you can sense the air around you, the forest around you.
8. Allow them to be, as you simply are.

## **03 Stage 3: Grow**

1. The power of an immersed mind is infinite.
2. Let curiosity guide you.

(show different hand gestures)

#### **04 Stage 4: Bring back attention** (cue breathing animation)

1. Begin to let your attention travel back.
2. Simply notice your body, becoming more and more aware of physical sensations by rolling your shoulders.
3. Tune in to the weight of gravity, the points of contact between you and the surface on which you are resting.
4. Let everything simply be, including yourself.
5. Slowly bring your attention back to the present moment.
6. Wonderful job relaxing your mind today.

#### **05 Closing**

1. Fantastic work!
2. You gathered **10** positive thoughts and overcame **8** negative ones.
3. Your focus for 10 minutes shows incredible dedication.
4. Keep up this amazing progress, and remember that every step forward strengthens your mind!
5. Would you like to continue for longer or exit?
6. See you next time!

## **Benefits** ([Cleveland Clinic](#))

- Decreased symptoms of anxiety, depression or post-traumatic stress disorder (PTSD).
- Improved ability to think, concentrate and solve problems.
- Better ability to adapt to and overcome emotional problems

Because mental health has a strong impact on the health of your body, those benefits also often bring improvements in

- how well you sleep
- high blood pressure
- heart function, and much more.