



# The Wise Brain Bulletin

News and Tools for Happiness, Love, and Wisdom

Volume 6,3 (6/2012)

---

## *Quiet Eyes:*

### *Neuroscience Tips on Using the Body to Still the Mind*

© Prof. Michael Hagerty,  
University of California, Davis

Meditation brings the mind to stillness like a quiet pool without ripples. In our research at Wellspring Institute, we are looking at which meditations quiet your “pool” most quickly. Neuroscience imaging of the brain suggests that no body part is more important than our EYES, those deep pools that lead directly into our mind. This article gives simple exercises – derived from modern research and from ancient meditations - which you can use to still the mind more quickly and more deeply.

A surprising and often overlooked insight from neuroscience is that almost one-third of the volume of the brain’s cortex is devoted to vision. So if we want to quiet our brains, it makes sense to quiet our eyes. And in fact, recent studies show remarkable benefits to Quiet Eyes, helping surgeons to focus with less stress, and

## Greetings

The Wise Brain Bulletin offers skillful means from brain science and contemplative practice – to nurture your brain for the benefit of yourself and everyone you touch.

The Bulletin is offered freely, and you are welcome to share it with others. Past issues are posted at <http://www.wisebrain.org/tools/wise-brain-bulletin>.

Rick Hanson, PhD, edits the Bulletin. Michelle Keane is its managing editor, and it's designed and laid out by Laurel Hanson.

To subscribe, go to <http://www.wisebrain.org/tools/wise-brain-bulletin>.

helping basketball players to increase their success at free-throws. Here we describe three “Quiet Eye” exercises that can be helpful in different situations:

Quiet eyes in everyday life

Loving-kindness meditation with quiet eyes

Closed-eye meditation with quiet eyes

## *“Quiet Eyes” in Everyday Life*

Most of us aren't aware that we can choose two types of eye movements in everyday life: Saccades or Smooth Pursuit.

Saccades are very fast eye movements that jump around a scene. They can take in lots of information, but they can also be tiring and stressful. Our ancestors used these when searching for predators or prey – the type of actions that activate the stress-response sympathetic nervous system

and prepare us for fight or flight. In contrast, Smooth Pursuit moves the eyes across a scene more slowly and smoothly, and is naturally activated by scenes of pleasant landscapes or of loved ones. Hence it tends to quiet the mind and regulate emotions. Click below to watch a video to experience for yourself the big difference between Saccades and Smooth Pursuit.

Smooth Pursuit  
Demonstration

Visual artists have long known the power of Smooth Pursuit. Their skill in composing a portrait draws the eye smoothly from one object to the next. Watch the eyes of romantic leads in popular movies, and you will see Smooth Pursuit as the star “locks eyes” with his loved one (Johnny Depp and Nicolas Cage are masters at this). Psychotherapists harness Smooth Pursuit in classical hypnosis where the eyes follow a shiny watch moving back and forth smoothly, inducing deep relaxation. Therapists also harness Smooth Pursuit in Eye Movement Desensitization and Reprocessing (EMDR), in which the eyes follow the therapist’s fingertip back and forth (Kapoula et al. 2010).

But you don’t need to wait for a therapist to relax your eyes for you. You can quiet your own eye movements from jumpy Saccade to Smooth Pursuit and consequently relax your mind. Recent research has shown that doing so reduces stress and improves performance in everyday life. Wilson, Vine, and others (2010)



Photo: [Christa Gallopoulos](#)

trained surgeons to stop saccades and to rest the eyes quietly on the surgical field, resulting in lower stress and faster learning. They also trained elite basketball players (2011) to rest their eyes quietly on the hoop during free-throws, and increased free-throw successes by 10%.

## ***Loving-kindness Meditation with Quiet Eyes***

Our eyes can communicate love to others more deeply than words alone. We

can practice this by enriching the Buddhist meditation on “loving kindness” with quiet eyes:

1. Take an image of a loved one and tape it at eye-level as you sit down to meditate. The loved one can be a wise teacher (such as Jesus or the Buddha) or a beloved friend or family member. Try to find a picture that looks directly at you - such as the one of Mother Theresa below - so you can make eye contact.



Photo: [Christa Gallopoulos](#)

2. Gaze quietly into their eyes, perhaps

adding soft thoughts in the back of your mind, such as traditional phrases like: “May you be happy; may you be free of suffering.” As you send your love, notice both your sincere wish for their happiness and your reaction to looking into their eyes with love. Some of us have learned to shy away from looking into others’ eyes, or to seek only approval. Notice whether your eyes react by looking away or blinking more than usual, and whether you feel bored or ashamed or guilty. If you have any of these reactions, you can send yourself love too, knowing that you don’t need to be perfect to send sincere good wishes.

3. Many people get uncomfortable if you gaze into their eyes for a relatively long time, so practice moving your eyes with love. For example, move them gently to the right (using smooth pursuit), perhaps adding phrases such as: “May you and all beings in this direction be happy.” Practicing smooth pursuit not only calms you in the moment, but actually trains the six small muscles in your eye to become more supple and relaxed.

4. Now move your eyes slowly back to center and your loved one, wishing them loving-kindness again, and noticing your own eye movement as well as your loving wishes. Often our eyes jump back quickly (using jerky saccades) to the eyes of others. Try to resist this impulse and instead use smooth pursuit to slowly and lovingly move the eyes across the ear, the cheek, the outer eye, and finally the inner eye, wishing love to each one of these sights. This process trains the eyes to respond with calmness and love. (Physical therapists call this slow return “eccentric contraction,” and prize it as the most efficient method for retraining and relaxing any muscle.)

5. Finish by moving your eyes in other directions (left, right, up, and down) in order to retrain and relax all six of your eye muscles.

Our tiny eye muscles can contribute greatly to our own stress or our tranquility,

and they convey to others our own suffering and our love. If you like, click on the picture to experience this loving-kindness exercise with Mother Theresa.



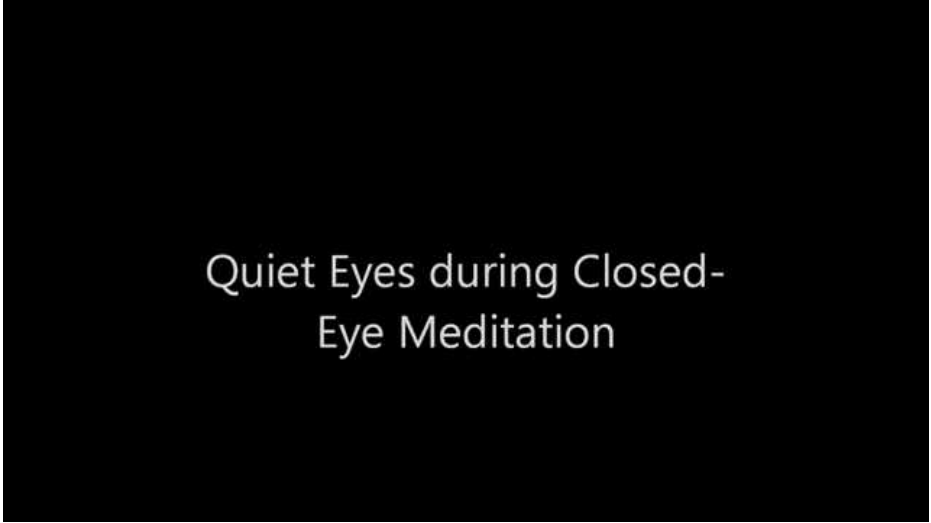
### ***Closed-eye Meditation with Quiet Eyes***

Most meditation teachers suggest that we bring the body and mind to stillness, but many teachers give only one instruction regarding the eyes: “close them.” Does simply closing the eyes bring them to stillness and quiet? Test it for yourself. First, place your fingertips gently on your closed eyelids, so that they lightly touch both top and bottom lids. What do you feel? Do the lids quiver with tension? Can you feel the eyeballs underneath moving in small saccades as you daydream, or as you speak to yourself?

We have learned to ignore these “bare sensations” when our eyes are closed, but in the brain these small movements are magnified because of the vast processing power that the eyes command. So if you want to quiet your brain, keep your fingertips on your eyes for 5 minutes at the start of meditation to monitor your eyes and to bring them to a new stillness.

Even after you drop your fingertips and resume normal meditation, it’s possible

to monitor your eyes to bring them to a deeper stillness. Watch for moving lights beneath your lids. Click on this picture for examples of what you'll see.



## Quiet Eyes during Closed-Eye Meditation

No, those lights aren't fairies dancing, but your eyes moving beneath your lids as you imagine scenes or talk to yourself. The lights appear to move because the light-and-dark patches from the outside scene are moving on your retina as you move your eyes, and your tensing eye muscles stimulate your retina. Children often notice this (that's why it can be scary and disorienting to close their eyes) but as we grow up, we are taught to ignore these moving lights. In contrast, meditation teaches us to become aware again of these "raw sensations" in all of our senses.

In summary, new insights from neuroscience point out the importance of quieting the eyes. Compared to their tiny physical size, their effects in the brain are like giants. Meditation teachers often invite relaxation by becoming aware of the "raw sensations" of touch (noticing your feet on the ground and your hands on your legs) and of hearing (noticing the whisper of the wind, or the creak of a chair). The three exercises described above help us become aware of the raw sensations in our eyes (movement and retinal activity), allowing deeper relaxation on the cushion, and more loving actions in life.

## References

Kapoula, Zoi, Q. Yang, A. Bonnet, Pauline Bourtoire, J. Sandretto. 2010. EMDR effects on pursuit eye movement, *PLOS ONE*, 5,10762.

Vine, Samuel J. and Mark R. Wilson. 2011. The influence of quiet eye training and pressure on attention and visuo-motor control. *Acta Psychologica*, 136, 340-346.

*Visuddimagga* (The Path of Purification). 1999. Translated by Bukkhu Nanamoli, Buddhist Publication Society: Onalaska, WA.

Wilson, Mark, John McGrath, Samuel Vine, James Brewer, David Defriend, and Richard Masters. 2010. Psychomotor control in a virtual laparoscopic surgery training environment: gaze control parameters differentiate novices from experts. *Surgical Endoscopy*, 24: 2458-2464.

• • • • •

Michael R. Hagerty, Ph.D. is professor emeritus at University of California, Davis, and has lectured across the world. He is a specialist in the new field of Happiness research and the study of positive emotions. He is on the Board of Mindful Schools, which has trained over 12,000 low-income kids in mindfulness to improve their skills in impulse control and paying attention. He has consulted for governments from Greenland to China on how to improve quality of life for citizens. He currently teaches meditation in San Rafael, CA and is on the board of Wellspring Institute. [mrhagerty@ucdavis.edu](mailto:mrhagerty@ucdavis.edu)



# *Swimming in a Sea of Supernormal Stimuli*

© Terry Patten

The phrase “supernormal stimuli” was coined in the 1930s by ethologist and ornithologist Niko Tinbergen. He had discovered that by enhancing key stimuli he could trigger unnatural behaviors in animals and insects: birds whose eggs were naturally small, pale blue, and speckled would quickly abandon their own eggs when presented with larger, bright-blue eggs with black polka dots; male fish would attack wooden decoys showing little resemblance to male mating competitors but which bore the enhanced quality of redness found on the real fish; striped butterflies were induced to mate with cardboard models vaguely resembling actual butterflies but with exaggerated, “supernormal” stripes.

Sound irrational and self-destructive? Or strangely familiar? In fact, recent studies in the field of Evolutionary Psychology draw the humbling conclusion that humans are just as susceptible to the allure of supernormal stimuli as animals, fish and insects. Our big brains don’t equip us to resist their larger-than-life charms. After all, is it any more unnatural for a butterfly to mate with a cardboard decoy that it is for a young male human to have a sexual experience with an Internet video?

## *Don’t Feed The Animals*

A supernormal stimulus is an exaggerated imitation that exerts a stronger pull than the real thing. Possibly the most widely referenced authority on supernormal stimuli is Harvard psychologist Deidre Barrett, author of *Supernormal Stimuli*:

How Primal Urges Overran Their Evolutionary Purpose. “You can’t trust your instincts in the modern world” according to Barrett. This is because the very structures of our brains and nervous systems are fitted to the original circumstances in which they evolved, not to the present conditions of the modern world, which have themselves evolved in order to appeal ever more powerfully to our instincts.

The mismatch between our hard-wired instincts and our contemporary environment has opened a widening gap, affecting our most basic human needs. “The most dangerous aspect of our modern diet arises from our ability to refine food. This is the link to drug, alcohol, and tobacco addictions...Salt, fat, sugar and starch are not harmful in their natural contexts. It’s our modern ability to

concentrate things like cocaine, heroin, alcohol - and food components - that turns them into a menace that our body is hardwired to crave” (Barrett 2010).

In 21st century culture, we’re awash in a sea of supernormal stimuli, which are constantly triggering hard-wired drives and responses, distorting our choices in unhealthy directions, and often leaving us feeling baffled and ashamed.



Photo: [Christa Gallopoulos](#)

## **Supernormally Stimulating Food**

The tough business of survival as hunter-gatherers living in small, relatively stable clan groups took place in an environment where human beings had an abundance of leafy green vegetables and a dearth of salt, sugar, and fat. As a result, we've evolved a deep, visceral pleasure in seeking and consuming these once rare, dietary treasures.

The superabundance of these supernormally stimulating foods, packed with the main tastes our nervous systems evolved to crave — sugar, salt, fat, protein, and dense calories—has led to an epidemic of degenerative diseases in developed societies. Even though we cognitively understand that eating large quantities of such foods degrades the quality of our health, attention, and lives, we still find ourselves indulging—widely suffering from what used to be called “the diseases of kings”.

## **Supernormal Sexual Stimuli**

And it's not just our food consumption and health that's affected - it's our web of relationships, the very fabric which binds us as the most social of species.

Pornography (and, to a less extreme degree, a great deal of contemporary advertising images) hijacks men's attention by inducing extreme, insatiable sexual craving. These images invoke a sense of lack and need rather than sustainable enjoyment, connectedness to another, or happiness.

Women similarly are seduced by exposure to celebrity “sexcapades”, soap operas, and romance novels. They are swept up in a passive feedback loop, wherein there is no risk of rejection and a momentary sense of excitement and connection is established. They are left with a painful longing for the fantasy figure of a noble Prince Charming who'll rescue them from a drab and uninteresting existence,

compromising their ability to value and work for the real-world possibilities of actual, albeit imperfect, human relationships and a real life partner.

## ***Real Danger vs. Supernormal DANGER!***

Similarly, our threat perception is distorted by supernormal stimuli. Our brains easily notice and move to defend ourselves from immediate sudden threats that come from malevolent human enemies who are “other.” However, we’re deadly slow to notice and respond to threats that develop gradually and have natural, impersonal or diffuse sources. Thus Americans were easily convinced to make staggering expenditures to fight Islamic terrorism, but have been very hard to mobilize to fight more lethal traffic fatalities, the flu, or global warming. (Similar dynamics are found all over the world.)

## ***Un-natural Nurture***

Testosterone and estrogen are not the only hormones that can be supernormally stimulated. So can oxytocin. Misplaced nurturing or the attraction to “cuteness” is another supernormal stimulus that is frequently exploited by advertisers. Our nurturing instincts are siphoned off by supersized shots of adorableness with fluffy-cute puppies and kittens, shiny-pink babies, or precious cartoon and anime characters. And they’re collectible! (The cruel paradox is that this not only drives us toward craving and consumption; it even diverts our care from beings in real need of nurturing, like endangered species, abandoned pets or impoverished children.)

## ***Don't You Know Who I Am?***

The supernormal stimulation of our instinctual drive to feel safe, protected, and in control, which in modern times translates to material wealth and social status, often finds expression in over-consumption, envy and greed. Even though

we enjoy luxuries and conveniences that were inconceivable even to kings and queens a few hundred years ago, we are plagued with a sense of lack. We are confronted by envy-evoking glamor magazines featuring aloof, exquisite models in extravagant settings. Millions of people follow television shows, and the real lives of celebrities and world leaders whose subjects boast supernormal beauty, outsized extraverted personalities, and/or live lives of outrageous power and/or privilege. No matter how much success or comfort people may have obtained, we perceive ourselves alongside these Technicolor images and tend to feel comparatively drab, uninteresting, and inferior.

On the flip side, we're besieged with threats (economic, political, and cultural) of losing what we do have, compounding the sense of scarcity and fueling and justifying greed. This lures us more deeply into the cycle of perceived lack, consumption, expenditure, insecurity and hyper-achievement.



## The Mesmerizing Media

Images of all the supernormal stimuli mentioned above reach us, of course, through TV, the Internet, social media, films, computer games, radio, billboards, smart phones, and other media - which themselves derive their hypnotic, persuasive power by super-normally stimulating us.

Ever since the Nielsen Company began rating television and radio audiences, programmers and advertisers have sought to broadcast whatever will most effectively stop our channel surfing in favor of a particular program. There is fierce competition for our attention. It's a marketplace that rewards those who most skillfully reverse-engineer our brains and present supernormal stimuli that rivet our attention.

And it's working. According to a recent study, the average American spent 11 hours a day during 2010 interfacing with television, the Internet, mobile phones, radio, or audio recordings (*eMarketer* 2010). Sadly, that doesn't leave much time for interacting with the tangible 3-D "real" world.

## The Gift of Awareness

So what do we do? How do we



cope with such primordial forces? How do we win the battle against ourselves?

As “evolutionary evangelist” Michael Dowd has pointed out, we are instinctively programmed to deceive ourselves about super-normal stimuli (Evolutionize Your Life 2009). This is not just a matter of applying willpower. This perspective creates an opening for self-compassion and an honoring of our instincts, which after all, enabled our great grandparents to survive long enough to get us here! No strategy will change this underlying reality. Our world has evolved to confront us with exaggerated temptations at every turn. To live wisely in the midst of this sea of supernormal stimuli is to appreciate that navigating it is and will remain difficult, and that there is no way to perfect our responses to these mismatches. However, there are many things we can do.

We can reclaim our sensitivity to less intense pleasures and renew our appreciation for simplicity. This is perhaps the most powerful strategy for awakening from the thrall of supernormal stimuli. When we tune into basic human pleasures like breathing or walking, we experience a quiet, authentic joy in place of the exotic, expensive supernormal stimuli we so often tend to crave. Just pause to savor and feel the miracle of drawing breath into your lungs. Delight in the feeling of your body as you walk slowly and consciously, enjoying every subtle movement.

***The Wellspring Institute  
for Neuroscience and Contemplative Wisdom***

The Institute is a 501c3 non-profit corporation, and it publishes the Wise Brain Bulletin. The Wellspring Institute gathers, organizes, and freely offers information and methods – supported by brain science and the contemplative disciplines – for greater happiness, love, effectiveness, and wisdom. For more information about the Institute, please go to <http://www.wisebrain.org/wellspring-institute>.

If you enjoy receiving the Wise Brain Bulletin each month, please consider making a tax-deductible donation to the Wellspring Institute. Simply visit [WiseBrain.org](http://WiseBrain.org) and click on the Donate button. We thank you.

Some other effective tools echo the wisdom of contemplative practice, including:

- Periodically zoom back as

you read or listen to news, and stop buying into the seriousness of the tone of voice. Or take a break from the news altogether.

- When you get triggered by a sexy celebrity or glistening chocolate cake, take a pause and detach. Think through that fleeting, but powerful desire. Remind yourself that the short-term pleasure will quickly be followed by a feeling of emptiness, and possibly even greater craving. And then savor the deliciousness of the image, along with your freedom from its implications.
- Practice taking in the positive experience of being grateful for whatever is not missing from this moment.
- In the spirit of the Buddhist distinction between “liking” and “wanting”, appreciate and enjoy what you feel drawn to have without necessarily needing to have it.

Ultimately, navigating a world awash in supernormal stimuli requires self-



compassion, presence, awareness and the freedom to choose—even if that choice is to occasionally indulge in supernormal stimuli. If we are doing it with self-compassionate feeling-awareness, we are bringing the full scope of our being into the experience. And that is the gift.

## References

Barrett, D. 2010. *Supernormal Stimuli: How Primal Urges Overran Their Evolutionary Purpose*. New York: W.W. Norton.

eMarketer. 2010. Retrieved from [www.newmediatrendwatch.com/markets-by-country/17-usa/123-demographics](http://www.newmediatrendwatch.com/markets-by-country/17-usa/123-demographics).

*Evolutionize Your Life*. Narr. Michael Dowd. 2009.

• • • • •

Terry Patten is a leading voice in the emerging fields of Integral spirituality and leadership. He worked with Ken Wilber and a core team at Integral Institute to develop Integral Life Practice, which distills ancient and modern practices into an intelligent contemporary transformational lifestyle. He has a history as a successful entrepreneur, having founded the catalog company Tools For Exploration, which defined the field of consciousness technologies. In addition to being a social-entrepreneur and conservationist, he is a faculty member for the Integral Executive Education program at the University of Notre Dame. An Integral coach, consultant, teacher, and author of four books, he has worked for thirty years to integrate ancient and modern practices to raise consciousness. Terry lives in Marin County, California. He is the author, with Ken Wilber, of *Integral Life Practice: A 21st-Century Blueprint for Physical Health, Emotional Balance, Mental Clarity, and Spiritual Awakening*. [www.integralspiritualpractice.com](http://www.integralspiritualpractice.com)



# *Skillful Means*

The [Skillful Means](#) wiki, sponsored by the Wellspring Institute, is designed to be a comprehensive resource for people interested in personal growth, overcoming inner obstacles, being helpful to others, and expanding consciousness. It includes instructions in everything from common psychological tools for dealing with negative self talk, to physical exercises for opening the body and clearing the mind, to meditation techniques for clarifying inner experience and connecting to deeper aspects of awareness, and much more.

## ***Progressive Relaxation***

### **Purpose / Effects**

Many people are stressed out, and this causes them difficulties at work and at home. They may have trouble falling asleep, or getting a good night's rest even when they do sleep. This progressive relaxation technique is a proven way to chill out, release all the tension from your body, and get some sleep.

### **Method**

#### **Summary**

Tense a muscle group as hard as you can, then let it go. Repeat this for each muscle group in the body.

#### **Long Version**

Lie on your back, with your arms by your sides. Your knees can be raised if this releases the lower back.

It's best to do this in a quiet, dark room where you will not be disturbed. Make sure all phones are turned off!

Start with the calf of one leg. Breathe in very deep and then let it all the way out. When the breath is out, tense the calf as tightly as is possible. Hold this tension for at least 10 seconds, giving it your all. Then let it go, relaxing it completely, and inhaling deeply again.

Next move on to another body part, for example, the other calf. Repeat the process, tensing this calf for 10 seconds or more, and then letting it relax.

Work with each muscle group in turn. The sequence may go something like this:

1. Left calf and foot
2. Right calf and foot
3. Left thigh
4. Right thigh
5. Left buttock
6. Right buttock
7. Lower belly
8. Stomach
9. Back
10. Shoulders
11. Left bicep
12. Right bicep
13. Left forearm and hand

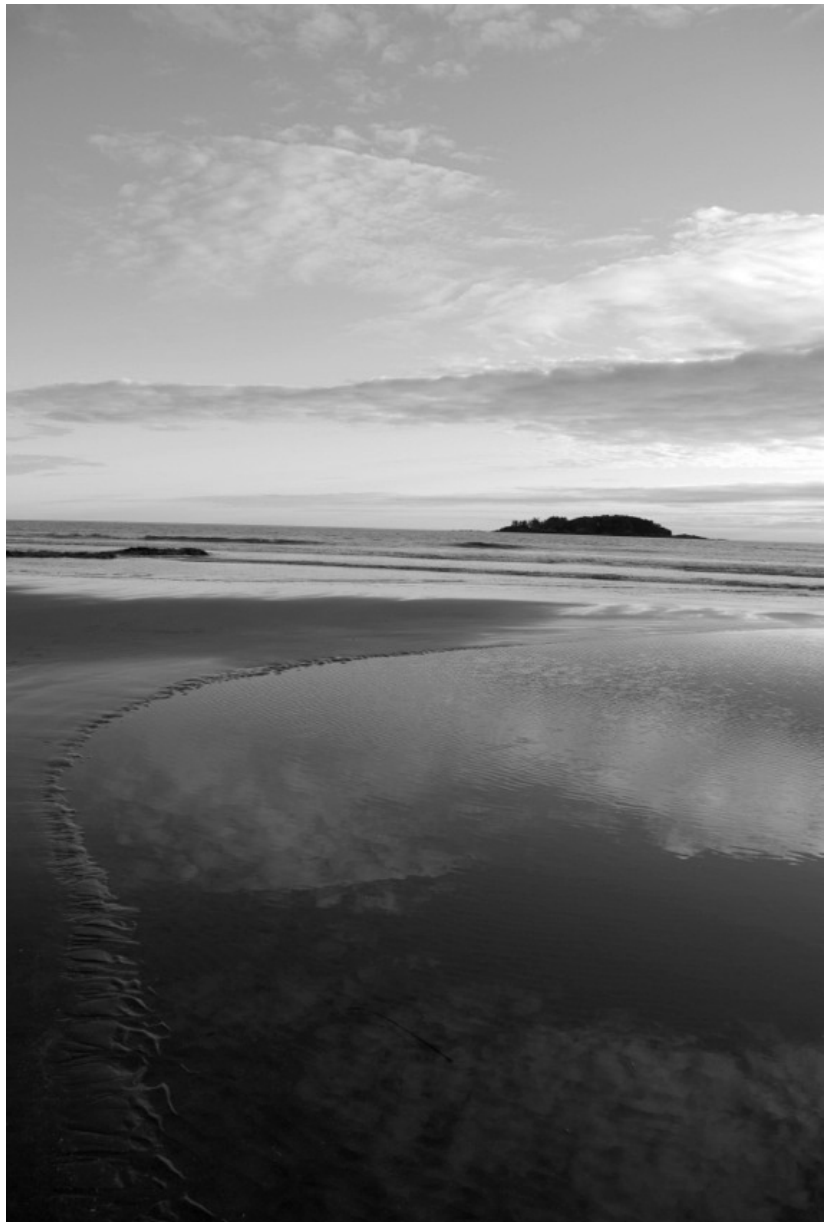


Photo: [Christa Gallopoulos](#)

14. Right forearm and hand

15. Neck

16. Face

Once you have covered the entire body, you can either repeat the process as many times as you wish, or consider yourself done for now.

### ***Perspectives on Self-Care***

Be careful with all self-help methods (including those presented in this Bulletin), which are no substitute for working with a licensed healthcare practitioner. People vary, and what works for someone else may not be a good fit for you. When you try something, start slowly and carefully, and stop immediately if it feels bad or makes things worse.

### **History**

This progressive relaxation has been taught for decades and works wonders!

### **Caution**

This technique can make you very sleepy. It may be better not to operate machinery immediately after doing this meditation. Do not do it while driving.

### **Notes**

Disputing negative thoughts takes a substantial investment of time and energy in order to be effective. However, the results of long-term application of this practice are quite positive.

### **External Links**

Here is a version of this technique that takes the form of a [Progressive Muscle Relaxation](#).

## ***Self-Compassion Pause***

### **Purpose / Effects**

Self-compassion is a powerful tool you can use to improve your well-being, self confidence and resilience. Many find it easy to have compassion for others but struggle in applying this same kindness to themselves. By taking moments

throughout your day to pause and practice self compassion, you can gradually increase this quality and make it a more regular habit in your life.

## **Method**

### **Summary**

Pause a few times a day – especially when you are feeling stressed or overwhelmed – and practice self-compassion.

### **Long Version**

- When you find yourself stressed out in a difficult situation, take a moment to pause.
- Reach up and touch your heart, or give yourself a hug if you are comfortable with that.
- Take a few deep breaths.
- Acknowledge that you are suffering and see if you can treat yourself with as much kindness as you would a dear friend or child who was struggling.



- Offer yourself phrases of compassion, first by acknowledging your suffering:
  - “This is suffering.” or “This is really painful/difficult right now.” or “Wow, I am really suffering right now!”
  - “Suffering is a part of being human.”
  - For the final phrase(s), choose whatever is most appropriate for your situation. Feel free to use any of the following phrases or create your own:
    - May I hold myself with compassion.
    - May I love and accept myself just as I am.
    - May I experience peace.
    - May I remember to treat myself with love and kindness.
    - May I open to my experience just as it is.
- Return to your daily activities, intentionally carrying an attitude of self-compassion and acceptance to your day.

### **History**

This method was adapted from the Self-Compassion Pause used in Kristin Neff and Christopher Germer’s Mindful Self-Compassion (MSC) training program. For more information about their program and about self-compassion, visit [www.mindfulselfcompassion.org](http://www.mindfulselfcompassion.org) and <http://selfcompassion.org>.

### **See Also**

[Lovingkindness](#)

[Affirmations](#)

[Mindful Pause](#)

[Writing for Self-Compassion](#)

### **External Links**

Link to various guided self-compassion meditations by Christopher Germer:  
[www.mindfulselfcompassion.org/meditations\\_downloads.php](http://www.mindfulselfcompassion.org/meditations_downloads.php)

## ***Fare Well***

***May you and all beings be happy, loving, and wise.***