

RENEWING ENERGY

By Stuart Moody

Everything we do depends on energy: the quality of our work, how beautiful our homes look, how much we are able to give to others.

When energy is high, we can approach every activity and face every challenge with confidence and enthusiasm. When it is low, we can't put as much into meeting life's opportunities and may even avoid doing things that we need to do.

We can succeed in life to the degree that we have access to energy for living and growing. As the moon can not shine without sunlight, our lives cannot thrive without energy.

What is energy?

Physiologists define energy as the capacity to do work. Energy is what moves the world, the invisible power contained in everything in the universe.

Consider children on a swing set. The children have energy, and they use it to do the work of pumping the swing. The outcome of their work – swinging – is delight, or joy. This leads to a simple formula:

ENERGY is for WORK. WORK is for JOY.
So, ENERGY IS FOR JOY.

How do we get more energy?

Some of the ways that we get energy include:

- Eating high quality food
- Eating right amounts of food – just what we need, no more nor less
- Being out in fresh air
- Spending a few minutes in the sunlight
- Getting adequate rest
- Exercising our bodies

Let's look at exercise

Walter Bortz, M.D., has defined life as "the effect of an orderly flow of energy through matter." The reason that exercise is good for us is that it increases the flow of energy through matter (our physical body). Why do we often see significant declines in health and vitality with age? Bortz says it's because we don't energize the system enough. The flow of energy through matter declines, and so we feel less vitality. When energy goes down, life goes down.

A study by Dr. Bortz and his son in 1996 looked at how fast we really age. Reviewing research on the aging body, they found fairly uniform rates of decline in measures such as vital capacity, leg strength, and speed of running. But these rates varied greatly depending on the amount of exercise that individuals got. People with sedentary lifestyles, the Bortzes found, declined at a rate of about 2% per year. From age 30 to 65, such individuals could lose 70% of their strength and vital capacity, leading to observable frailty and all the health risks that come with it. Masters athletes, in contrast – people who keep in shape by training and participating in swimming, running, or rowing competitions – age at a "more

stately pace," about 0.5% per year. This means that from age 30 to 65, these athletes may lose about 18% of their vital reserves, keeping them well within the range of high functioning and very far from frailty.

What kind of exercise helps?

Exercise energizes the system. Will any exercise do? If we want the whole body to be vital and full of energy, we need to energize the whole body. For instance, we need to use many more of our 700 muscles than we normally do. But there's more to energizing the system than just exercising the muscles. Our skin, our joints, even our eyes and inner ears all need to be stimulated and utilized in order to wake up fully the flow of energy.

Life is the story of the capture, storage, and utilization of energy. This play of energy occurs at many levels in the physiology. The table below addresses some of these, indicating types of exercise which encourage the flow of energy. The column on the right offers possible explanations of how each type of activity liberates energy for more effective and enjoyable living.

The last type of exercise on the list, meditation, may surprise you. Meditation, after all, involves no gross movement of body or limb. Yet its effects on the physiology are profound. What happens in our brains affects everything else in the system. Mental qualities such as determination, resolve, and "toughness" play a role in how much work an individual is capable of doing. "Although difficult to categorize and quantify," note exercise physiologists McArdle, Katch, & Katch (2000, p. 188), "motivation plays a key role in superior performance." In the words of Paramahansa Yogananda, "The greater the will, the greater the flow of energy."

Suggested exercises in the rest of the paper will focus on the first four types of activity, from tactile stimulation to stretching the four latter types, however, are equally valuable.

Types of exercise for energizing the system

ACTIVITY	Rationale
<i>Tactile stimulation</i> (e.g., self massage)	Improves transmission of neural impulses ↑ mind-body connection ↓ pain ↑ serotonin and dopamine levels ↓ cortisol, epinephrine, and norepinephrine
<i>Vestibular stimulation</i> (moving the head through space)	↑ secretion of acetylcholine, a key neuro-transmitter at the nerve-muscle junction
<i>Range-of-motion exercise</i>	Stimulates proprioceptors (sensory cells) at the joints ↑ flow of synovial fluid in the joints
<i>Stretching</i>	Stimulates receptors in muscles, tendons, and joints (e.g., Golgi tendon receptors) Warms the muscles and joints

<i>ACTIVITY</i>	Rationale
<i>Strengthening</i>	↑ muscular power available for exertion at any time
<i>Aerobic conditioning</i>	↑ red blood cell count ↑ vascularization of tissues ↑ white blood cell count (decreasing risk and severity of energy-sapping infections) ↓ adipose tissue stores (improving overall efficiency) ↑ vital capacity (meaning more energy available on demand)
<i>Deep breathing</i>	Strengthens respiratory system Soothes nervous system Improves immunity Normalizes body weight and energy levels
<i>Meditation</i>	Dissolves fatigue Eliminates deeply-rooted stresses ↑ coordination of mind and body Calms the brain, liberating mental resources for more purposeful activity

Sample activities

Yoga exercises apply the above principles in ways that are gentle and enjoyable. The sequence outlined below can be done in its entirety as a home yoga practice. Also, you can take a minute for a few moves during the day to boost your alertness and vitality.

TACTILE STIMULATION

Remove eye glasses and other accessories that may get in the way.

Area	Contact/move	Suggested repetitions
Forearm	Palms (P)	8 strokes on each side of the forearm; repeat on the other arm Repeat sequence up to 4x
Crown of head	Tips of fingers (T)	8 strokes near forehead; 8 more a little farther up; continue, starting farther back each time, all the way to base of skull
Nape of neck	T	4 x 8 strokes
Base of skull	P (other hand on forehead)	4 x 8 (reverse hands each set of 8)
Temples	T or P	4 x 8
Base of ear	Place edge/heel of each hand on either side of ear	8 strokes on one side; switch to other; 4x
Pillars of Heaven	T on muscles on either side of cervical spine (back of neck)	2 x 8
Shoulder muscles	Fingers drag over and down: ipsilateral, then contralateral	8 alternating
Sternum	T: straight up & dn	4 x 8
Ribs	P: ipsilateral up & dn	4 x 8

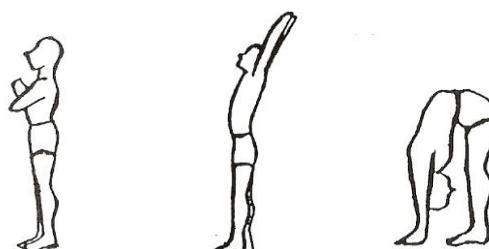
Lumbar	Knuckles (K): up & dn; then lateral (in-out)	8 strokes one way; 8 the other; repeat
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Palming Cup your palms gently over your closed eyes, with fingertips at the top of your forehead, heels of palms on or below the cheekbones. Visualize the darkness as you rest your eyes.

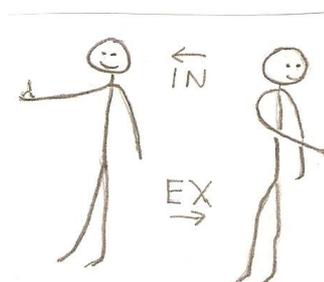
VESTIBULAR STIMULATION

Any movement of your head through space gives you vestibular stimulation. When adaptively done (that is, comfortably and safely), this kind of movement can put you into "the fourth dimension" and can be highly energizing. The exercises below range from mild to demanding. As with all new exercises, go slowly and with awareness. Do only what feels really good for you. With practice your range of capability will grow.

Sun Greeting Stand or sit comfortably upright, with palms together at heart. Inhale and look upward, hands reaching up as far as comfortable. Exhale and return gaze forward, hands back to heart. 1-10 x



Long swing Extend R arm in front, holding your index finger up. Exhaling, gently swing down to L, following finger with your eyes. At the same time, watch the surroundings move by. Inhaling, return to starting position. Repeat a few times on each side; with practice, you may increase repetitions as comfort and stability grow.



Bouncing Stand or sit comfortably upright, hands together or at sides. Gently start bouncing up and down, giving your muscles, bones, and insides "a little jiggle." Increase the bouncing as comfortable, eventually even jumping up and down if balance and strength permit. (5 seconds - 2 minutes)



Spinning Stand in a space free of obstacles, with a stable surface. With arms outstretched and palms facing down, slowly turn one time clockwise. Stop and assess your balance. Repeat the spin if it feels safe. Eventually you may spin up to 21x.



RANGE-OF-MOTION

Here is a routine to help keep your joints limber and wake up your proprioceptive sense. The moves feel ancient and universal. Indeed, numbers 1, 3, 5, 6, & 7 are included in Paramahansa Yogananda's *Energization Exercises* (Kriyananda, n/d). Others come from Tai Chi, Aikido, and other, unnamed traditions.

1. *Ankles*: Stand on one foot. Hold onto a chair for support if needed. Rotate the free ankle 3-5 times one way, then the other. Repeat with the other foot.



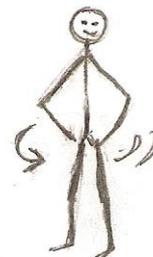
2. *Knees*: With feet side by side, place hands on knees. Bending knees, dip and circle the knees around 5 times in one direction, then 5 times in the other.



3. *Hips*: Extend one foot in front of you, just off the floor. Slowly circle the foot around to the side and back, as if inscribing a circle on the ground. Repeat 3-5 times in each direction, then on the other side.



4. *Pelvis*. With hands on hips, circle the pelvis gently several times in each direction. To prevent low back irritation, start small and extend the range of movement as you feel comfortable. Keeping your abdominal muscles lightly contracted will help save your back by stabilizing your spine.



5. *Lower back*: With hands on hips, bend forward with a straight back. Keeping the back straight, comfortably rotate the upper body around a full circle – three or more times one way, then the other.



6. *Upper spine:* Hold arms out in front of you, side by side. Turn to the left, swinging your left arm back while your right arm bends and your right fist touches your chest. Turn this way in the other direction, follow your leading hand with your eyes. Keep your pelvis stable, facing forward, so that the twist happens in the upper back.



7. *Shoulders:* Place hands on shoulders. Make circles with the elbows, 3-5 times each way.



8. *Wrists:* Hold arms outstretched in front. Slowly make circles with your fingertips. Repeat several times in each direction.



9. *Neck:* With chin comfortably drawn in, and back of neck straight, slowly rotate the head side to side: left to right, right to left.



10. *Eyes.* Keeping the head and neck still, rotate your eyes 5-10 times clockwise, then 5-10 times counterclockwise.



STRETCHING

Somatic stretches based on the work of Thomas Hanna are described in the paper, "Releasing Tension Naturally." The key principle in somatic "stretching" is not to pull on the muscles. Instead, recruit the muscles slowly and smoothly, and then relax them slowly and smoothly. This approach is much closer to Tai Chi than to the kind of stretching we may associate with our PE classes and which we still often see practiced by young athletes in our schools and sports programs.

STRENGTHENING

Yoga offers a rich selection of strength-building asanas, or poses. Here is one simple asana for developing balance and lower leg strength:

Rising Mountain

Stand straight, feet slightly apart. (You may stand next to a sturdy, stable chair or table, resting your fingers lightly on it for support if you wish). Inhaling, rise up off your heels. Pause. Exhaling, slowly lower heels to floor, lifting toes a little when you are fully down. Repeat 3-10 times. As your balance allows, let your arms rise out and up as you inhale, returning to rest at your sides as you exhale.

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