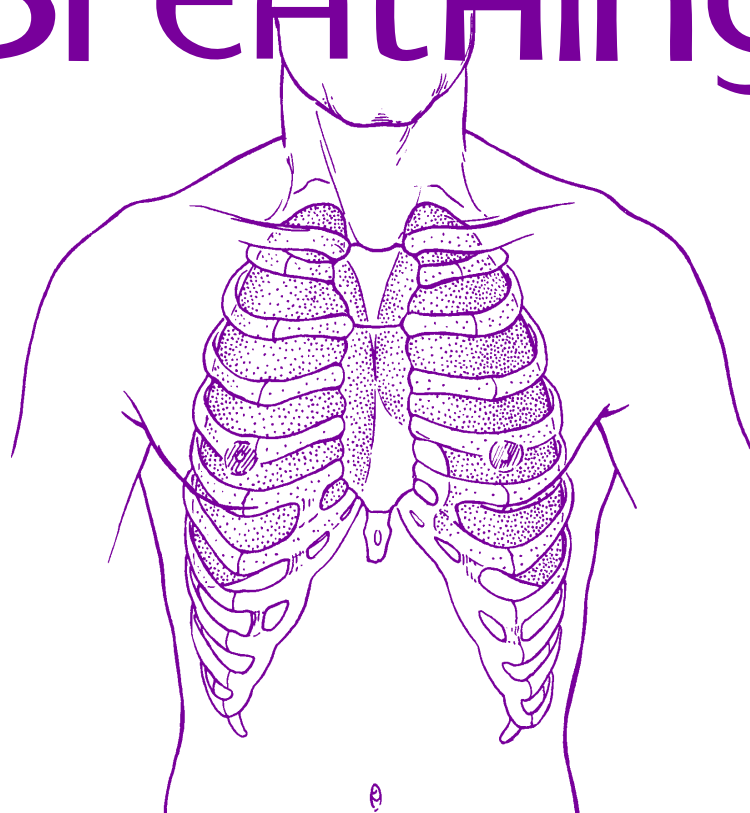


Designing Your
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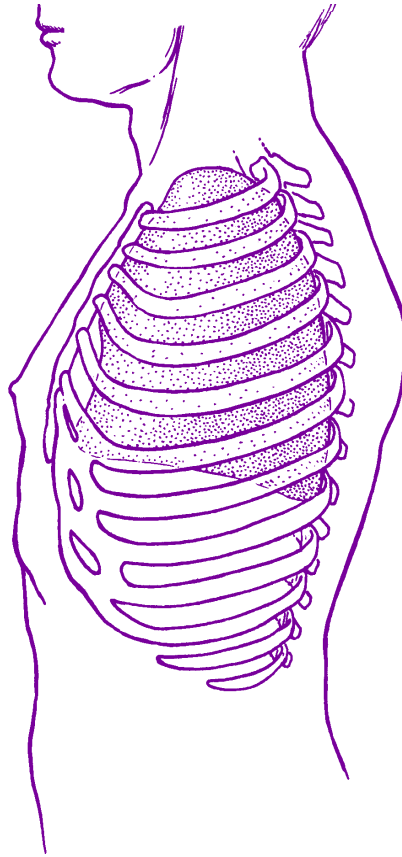
MUSCLES AND Breathing



A "True Education" Voice Series

“The inspiration of the Almighty
giveth them understanding.”

Job 32:8



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Student Section



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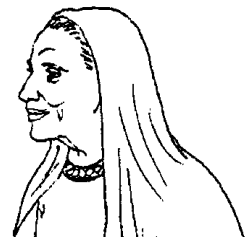
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Simeon and Anna had **discernment**,
and they moved in response
to the Holy Spirit,
just as the muscles respond
to the brain and each other.





MUSCLES AND BREATHING

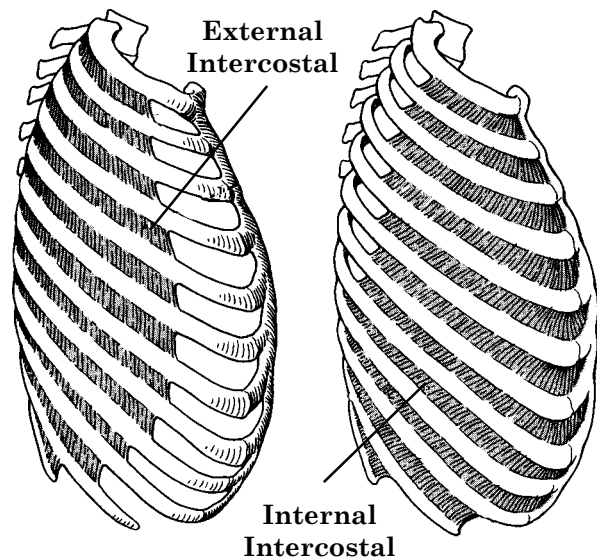
Research Main Muscles

There are three main muscles, or groups of muscles, that perform the function of breathing. These muscles are:

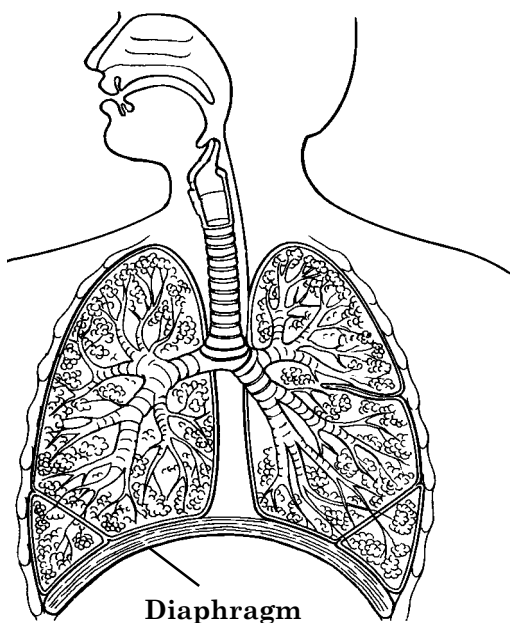
- (1) the diaphragm,
- (2) the intercostals, and
- (3) the abdominal muscles.

The brain is the coordinator of these different muscle groups. It **discerns** what is needed concerning the function of breathing. Then it sends messages to the muscles, telling them what part to play in the process.

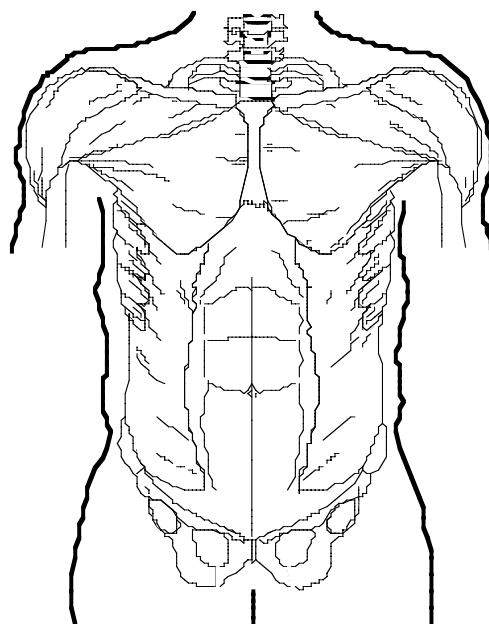
2. THE INTERCOSTALS



1. THE DIAPHRAGM

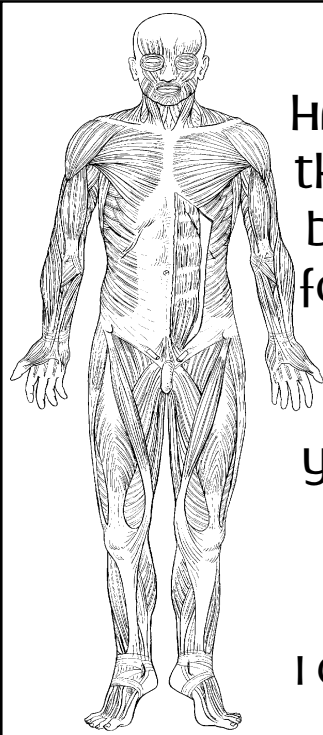


3. THE ABDOMINAL



Working Together

As each of these muscle groups **discerns** the action of the others, it responds with an action of its own. Their combined actions allow deep breathing. This results in fresh air coming into the lungs which cleanses the blood, bringing health to the body, and improving the voice.



“But God
HATH REVEALED
THEM UNTO US
BY HIS SPIRIT:
FOR THE SPIRIT
SEARCHETH
ALL THINGS,
YEA THE DEEP
THINGS
OF GOD.”

I CORINTHIANS 2:10

In our Bible lesson we read how Simeon and Anna had **discernment** and how they moved in response to the Holy Spirit. The muscles used for breathing are a good parallel to Anna and Simeon’s **discernment** in that they are sensitive to the brain and each other which allows them to work together for our health.

When all of the muscles do not work together properly, it results in shallow breathing. This leaves the blood unclean, is bad for the health, and weakens the voice. The priests, in the days when Christ was born, had lost their **discernment** because they were not being directed by or working together with the Holy Spirit. As a result, they had a very shallow religious experience. Their voice as spiritual leaders was greatly weakened. They did not recognize the firstborn Son who could cleanse them from their sins. Because of their bad example, the spiritual health of the nation of Israel was very poor.

We need to listen to the Holy Spirit that we may **discern** and respond to His commands, as the breathing muscles respond to the brain and the other muscles. Then we will have a deep spiritual experience, “*for the Spirit searcheth all things, yea the deep things of God*” (I Corinthians 2:10).

Do you listen
to the Holy Spirit
THAT YOU MAY
discern AND RESPOND
to His commands?

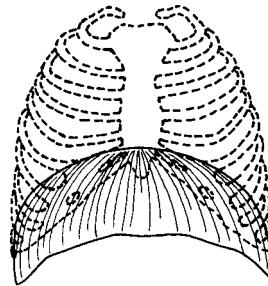
Diaphragm

The most important muscle used in breathing is the diaphragm. Like a broad, circular sheet, the diaphragm is attached to the lower ribs in the front and the spine in the back. When at rest, the diaphragm is dome-shaped, rising up into the cavity of the chest. When it contracts, the arch is flattened as the diaphragm descends, thus giving more space for the inflation of the lungs. The atmospheric pressure causes the air to rush in to fill the extra space made by the contraction of the diaphragm.

In breathing, the ribs are thrown apart sideways; this draws the diaphragm down. As the diaphragm flattens, it squeezes down on the liver, stomach, and other organs lying close up under it. This gently stimulates them, kneading or massaging them in a healthful way.

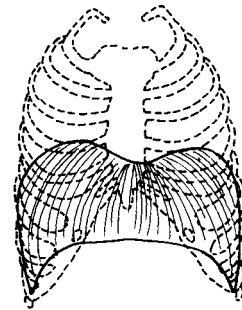


Illustration



The outer intercostal muscles aid in the expansion of the chest. The internal intercostal muscles do the opposite job.

As the lungs fill with air, they push the ribs apart.



Intercostals

As the lungs fill with air, like two plastic bags, they push the ribs apart. Then the action of the diaphragm begins. The intercostal muscles and abdominal muscles also help out secondarily to the diaphragm in breathing.

There are two sets of intercostal muscles lying between the ribs. (See page 1.) They help maintain the form of the chest. The outer set of the intercostal muscles aid in the expansion of the chest by a forward, upward, and sideways movement of the ribs. The internal intercostal muscles do the opposite job of the external intercostals. They pull the ribs downward, backward, and inward, thus decreasing chest expansion and capacity.

Review

Place II - III

1. What are the three main muscles or muscle groups that help in breathing? _____

7. Thought question: How could deep breathing help the digestion?

2. What organ **discerns** the needs of the body and controls these muscles? _____

8. Fill in the blanks. The internal intercostal muscles pull the ribs _____, _____, and _____.

3. What is the result if the muscles do not work together properly? _____

4. What leaves the blood unclean and weakens the voice? _____

5. Fill in the blank. When at rest, the diaphragm _____ and flattens out.

6. Fill in the blank. The sideways movement of the ribs in breathing draws the diaphragm _____.



Remind

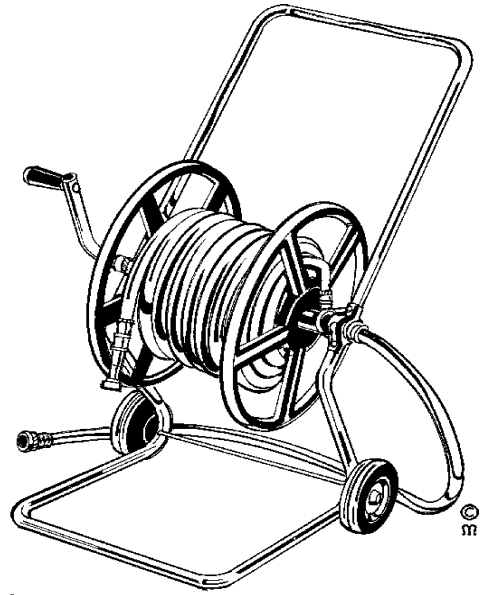
1. When Father asks you to do a certain chore, remember that he is like the brain which **discerns** what needs to be done in the body, and coordinates the movements of the breathing parts and muscles. Quickly respond to his request.

2. When you open the outside door and the air rushes in, remember how the atmospheric pressure causes the air to rush in to fill the extra space made by the contraction of the diaphragm.

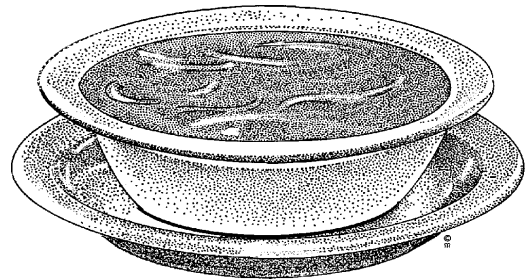
3. As you blow on the hot cereal or soup, or other food before tasting it, pay attention to how your breathing muscles coordinate to help you do this.

4. When you are sleepy and yawn, think of how your brain **discerned** that your body needed more oxygen and sent a message to the muscles.

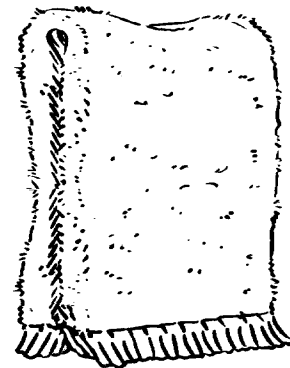
5. As you wring out the washcloth before hanging it up on the rack, be reminded of the gentle squeezing action of the internal intercostal muscles.



Watering for Father



Blowing on the Hot Cereal



Wringing out the washcloth

Research

The Veil

The diaphragm is like a curtain that separates the chest cavity from the abdominal cavity. It could be compared to the veil in the tabernacle that separated the most holy from the holy place. *“And the veil shall divide you between the holy place and the most holy”* (Exodus 26:33). As we have already noted earlier, the heart can symbolize God’s throne, and the lungs, the tree of life. You can think of them as being located in the “most holy place” of the trunk area of the body. The trunk area is basically rectangular in form which can remind us of the shape of the tabernacle.

Since the most holy place was where God’s Shekinah glory was manifested to the high priest, we could think of it as being the earthly throne room of God. God’s words, the Ten Commandments, were located there within the ark. Remember that God’s words serve the purpose of the tree of life for us. So, you might like to think of the heart (throne) and the lungs (tree of life) being separated from the other organs by the diaphragm as a physical object lesson of a spiritual reality.

Angels

The veil in the temple was embroidered *“with cherubims”* (Exodus 26:31). The diaphragm has the likeness of an angelic form on it with outspread wings made by the central tendon. (See *Gray’s Anatomy*, or other medical textbooks.) The way the diaphragm ascends and descends can remind us how angels ascend and descend from the throne of God on our behalf.

THE DIAPHRAGM
is like
THE SANCTUARY CURTAIN.



CHERUBIMS

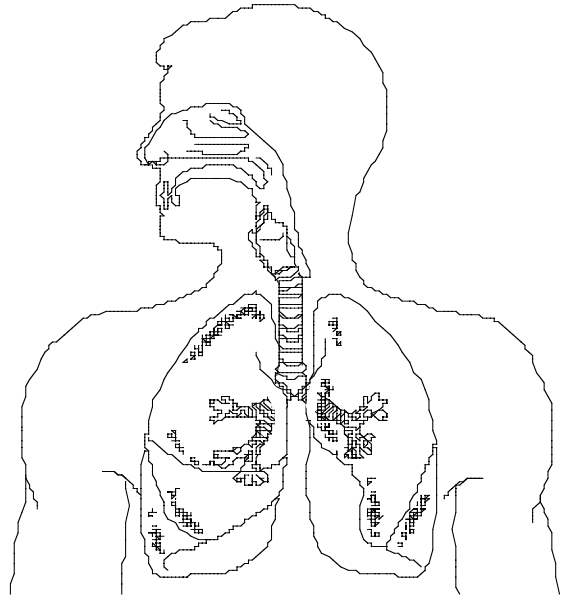
Refreshing Inspiration

When we breath in, or have an “inspiration,” the chest cavity expands. After this inspiration, expiration naturally follows without effort. The thorax simply returns to a condition of rest. This reminds us of how God longs to give us a “*refreshing*” experience that will be followed by rest—a rest from sin. (See Acts 3:19.)

“The inspiration of the Almighty giveth them understanding” (Job 32:8). Many in Christ’s day, as now, did not have an “*understanding*” of how to cease from sin. *“Let us therefore fear, lest, a promise being left us of entering into his rest, any of you should seem to come short of it. For unto us was the gospel preached, as well as unto them: but the word preached did not profit them not being mixed with faith in them that heard it”* (Hebrews 4:1-2). Anna and Simeon had faith in God’s promises, and they profited greatly from it. It was their faith that enabled them to see the Lord face to face in the temple. We need the same spiritual **discernment** to find our Saviour (by faith) in the temple in heaven.

We need the same spiritual discernment as Anna and Simeon?

Discernment



“THE inspiration of the Almighty giveth them understanding.”

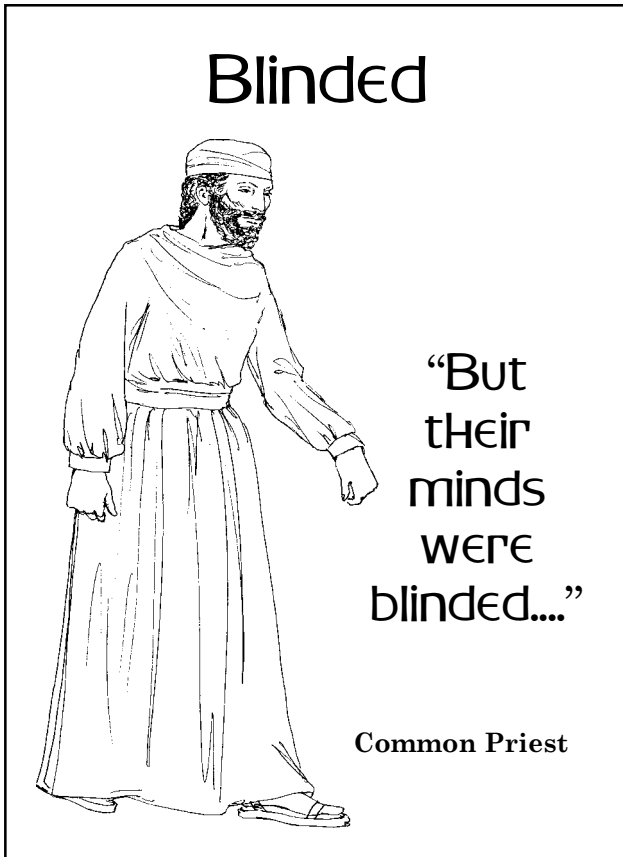
Job 32:8

ANNA AND SIMEON HAD FAITH IN GOD’S PROMISES,



Separation

Just as the veil separated the priest from the most holy place where the presence of God was manifested, so sin has separated us from God. *“Your sins have separated between you and your God”* (Isaiah 59:2). But, Jesus took our flesh that He might be our sin bearer. Veiling His divine nature, He took sinful flesh. He took our place of separation so that we might be restored to the presence of God. Because He did this, the blessed time will one day arrive when, “the people of God” will be able to “hold open communion with the Father and the Son,” “without a dimming veil between.”*



* *The Great Controversy* 676-677

In the meantime, our faith must enter within “*the second veil*” into “*the Holiest of all*” as Christ performs His final work in the heavenly sanctuary (Hebrews 9:3). To enter within the second veil means to accept the Three Angels’ Messages, and to walk in the light. *“Having therefore, brethren, boldness to enter into the holiest by the blood of Jesus, By a new and living way, which he hath consecrated for us, through the veil, that is to say, his flesh; And having an high priest over the house of God; Let us draw near with a true heart in full assurance of faith”* (Hebrews 10:19-22). If we fail to do this, we will be like the undiscerning Jewish priests who did not understand the important developments of the present truth in their day—that Christ would come in the flesh as a humble, suffering Saviour from sin. *“But their minds were blinded: for until this day remaineth the same veil untaken away in the reading of the old testament; which veil is done away in Christ. But even unto this day, when Moses is read, the veil is upon their heart. Nevertheless when it shall turn to the Lord, the veil shall be taken away”* (II Corinthians 3:14-16).

Undiscerning

Review

Place II - III

1. The diaphragm separates the

_____ cavity from the

_____ cavity.

2. What does it remind us of in the earthly sanctuary? _____

3. What separates us from God?

_____ (Isaiah 59:2)

4. What did the undiscerning Jews have upon their hearts?

FACE TO FACE

“Face to face with Christ my Saviour,
Face to face, what will it be,
When with rapture I behold Him,
Jesus Christ who died for me?”

Only faintly now I see Him,
With the darkening veil between,
But a blessed day is coming,
When His glory shall be seen.

—Mrs. Frank A. Breck

Remind

1. When you draw the curtains or blinds in your bedroom, be reminded of the curtain in the body between the chest and abdominal cavities.

2. When you meet someone who does not seem able to **discern** spiritual things, pray that God will remove the veil from their heart.

3. When Father calls on the telephone, be reminded how we can communicate through the breath of prayer with our Heavenly Father even though He is veiled from our sight. Then, when Father comes home, let it remind you that one day, if faithful, we will see God face to face.

4. Sing the hymn, “Face to Face.”

5. When you look up at the “dome-shaped curtain” of the sky, be reminded of the dome-shape of the diaphragm “curtain.” Think of how the sky curtain will be parted when Christ returns from the most holy place of the heavenly sanctuary to the earth.

**Read the story, “Teasers.”
This story tells how a parrot
taught a boy to be discerning.**

Practice

In order to control the tone of voice in singing and speaking, the muscles that are involved in regulating the breath must be controlled. When good control of the diaphragm is gained, the other muscles usually work properly too. To get control of the diaphragm, we must strengthen the muscles of breathing, making it possible to take a great deal of air into the lungs. We must also practice giving up the breath gradually by controlling the tension of the diaphragm.

Regulate
the breathing
in order to control
the tone of voice
in singing
and speaking.



Reinforce

Breathing Exercises

In breathing exercises, the easiest way to learn one's anatomy, and locate the sideways and forward action of the ribs and abdomen, is to practice the movements lying down until control is obtained of the diaphragm. This can easily be done on going to bed at night, and before rising in the morning. Lie on the back, and place one hand on the chest, and the other on the abdomen. Slowly exhale, emptying the lungs, then through the nostrils, draw in a deep, full breath. The chest should remain passive during the exercise, but the ribs should be thrown out sidewise, and the abdomen forward and up. Begin breathing exercises by exhaling. Inhale and exhale slowly.

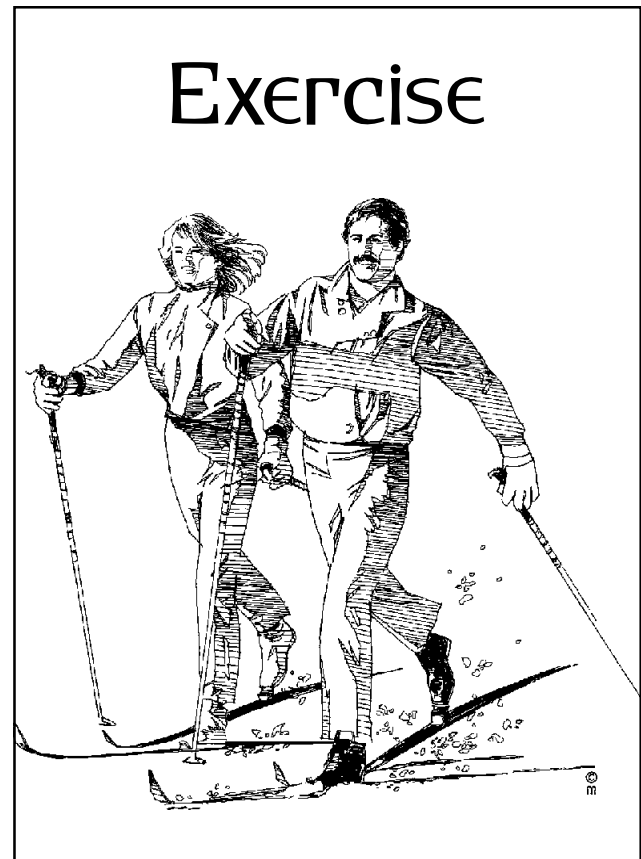
Another exercise may be taken as follows: Gently press in on the sides of your ribs with both hands while you are exhaling. Then inhale deeply, still compressing the hands, so that when the lungs are full, the hands will be far apart. This exercise is valuable in strengthening the intercostal muscles and educating the action of the diaphragm. Persistent practice will enable a person in a short time to use the diaphragm intelligently.

When control is obtained lying down, the exercises may be taken sitting, and then in a standing posture.

Another exercise is to sit on a low, comfortable chair erect, with the back unsupported, chest well up, arms at sides. Empty the lungs first; then slowly inhale, raising the arms sidewise until they are even with the shoulders. Allow the hands to droop at the wrist as the arms rise. Hold the breath a second, swelling the waist out full by muscular effort, then gently lower the arms, hands bending upward at the wrist as the arms descend. Exhale with this arm movement; take care to keep the chest passive and well up. Notice that the abdomen swells and recedes, and the ribs expand and contract. The arm movement assists in widening the chest, thus strengthening the intercostal muscles. Take the exercises with arms in front, raising and lowering as before. Next, extend arms straight out in front, palms facing; on inhaling, carry arms back even with the shoulders, hands turned in, fingers loose. On exhaling, bring the arms forward, wrist leading, hands floating loosely behind. The more feathery, floating, high, and airy the movement of the arms and hands are in these exercises, the more grace and free from tension they are. With arms at side, take a

deep, full breath (always remember to exhale first), bringing arms up in front and high overhead (lungs are full at this point); then with an easy sweep, bring arms out to the side, palms of hands up; when the arms are even with the shoulders, turn palms down, wrists drooping, and gently lower arms to side. Exhalation begins as the arms leave the upper curve over the head, and is complete as the arms sink. From three to five minutes should be given to each of the movements, care being taken that the poise of the body and the waist action are correct.

—Exercises Adapted From
Mrs. M.D. McKee



TEASERS

Henry Stearns, though neither ill-natured nor fretful, was accustomed to tease perpetually. He was never satisfied with one answer to a request, if that answer was a refusal; but hoped, by begging, to persuade his Mother to yield.

“May I go out, Mamma, and slide on the ice?”

“No, my son.”

“Why, Mamma?”

“Because it is cold.”

“Why can’t I go, Mamma, if it is cold?”

“Because, my dear, you were very restless and unwell all night.”

“Do let me, Mamma.”

“May I Mamma?”

“No, dear, do not ask me again.”

Henry went into the kitchen, and played with the cat. By and by he returned to the parlor.

“Mamma, may I go and see William Parsons?”

“No, my dear.”

“Why, Mamma?”

“You have taken cold, my love; and I fear any additional exposure will make you sick.”

“Do let me, Mamma.”

“I would if you were perfectly well. But you must be contented within doors today.”

“May I Mamma?”

“No Henry. You know I always gratify your reasonable wishes.”

In this way he annoyed his parents exceedingly, and would probably have continued to do so for a long time, had it not been for the following circumstances.

Mr. Stearns purchased a fine parrot, who had been taught to speak, and chatted merrily all the day long. She was so fond of talking that she easily learned to say anything she heard frequently. She had not been in the house long before she could repeat most of Henry’s part of the conversation, which he regularly carried on with his Mother when she denied his requests.

“Mamma, may I go down to the river?”

“No, dear.”

“Why Mamma?”

“Why Mamma?” called Polly, “Why, why, why, Mamma?”

“Now do let me, Mamma. I won’t be gone long.”

“Do let—let me Mamma!” repeated Polly.”

“I cannot, my son; I am afraid you will fall in. When your Father goes, you may go too.”

“May I, Mamma?”

“May I, Mamma? May I? May I, May I, Mamma?” said Polly.

Henry was silent, but the parrot went on practicing. “Why, why, Mamma, Mamma, now, now, do let, let me, Mamma.” She could get no further then, but only a few minutes elapsed before Henry found something else to tease about, and unintentionally supplied her with the forgotten sentence—may I Mamma.

Polly was so much pleased with what she had learned that she practised upon it a great deal, say-

ing it over and over fifty times a day, occasionally altering the arrangement of the words and then returning to the old routine. Sometimes she commenced low, and kept raising her voice higher and higher till she finished with a scream. She also identified the words with the speaker, and, however quiet she might have been, if he entered the room, it reminded her of them, and she went through—“Why Mamma? why, why? do let me—let me, Mamma—may I, may I, may I, Mamma?”

“I believe,” said Henry, as he sat at the supper table, “that Polly will scream me to death.”

Polly heard his voice, and began, “Why, why, why?”

Here she stopped, for Henry handed her a bit of cracker. “I sometimes feel,” continued he, “as if I cannot stay in the house.”

“You should not be unwilling to hear Polly say what you say so frequently yourself, Henry,” answered his Mother. “She learned it of you, and she would soon forget it, if you were not continually reminding her of it.”

“I did not think of that Mamma; I did not know [discern] either, how troublesome teasing is.

Polly will help you, Mamma, if she keeps me from it. I will set about trying to leave it off directly.”

He was so afraid of making Polly cry out—“Why,” that he did not once forget himself before he went to bed. The next day he was only twice guilty of the fault, and at the end of a month his Mother commended him highly.

“You have, my son,” she said, “gratified me by your behavior during the last four weeks. I can hardly tell you how much you have daily added to my happiness, by obeying me without previous questioning, without the ‘Do let me,’ which so much lessened the merit of your filial obedience.”

“Oh please do not remind me Mamma. I almost fancy I can hear Polly now screaming in my ears. I shall always remember her, and be grateful for the benefit I have received from her.”

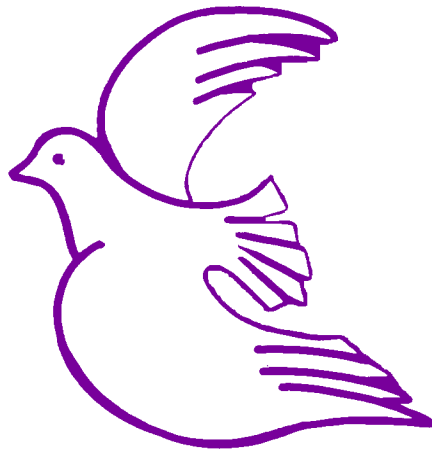
Polly



Reflect

- “He who knows others is clever; He who knows himself has **discernment.**” —Lao-Tzu (6th Century B.C.)
- “Give therefore thy servant an understanding heart to judge thy people, that I may **discern** between good and bad: for who is able to judge this thy so great a people?” —I Kings 3:9

We need to listen to the Holy Spirit
that we may discern and respond
to His commands,
as the breathing muscles respond
to the brain and the other muscles.
Then we will have a deep
spiritual experience,
*“for the Spirit searcheth all things,
yea the deep things of God.”*
I Corinthians 2:10



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- 8 – RESONATING CHAMBER, RESONANCE
- 9 – GROWING VOICE
- 10 – VOICE in COMMUNICATION



Mark 4:29