IV. A procedure for optimization of posture

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IV. A. Indications and contraindications for this procedure.
Exclusionary criteria for P.O.P. are those for whom their pain is attributable to:

1. cancer;
2. infection;
3. acute herniation of an intervertebral disc;
4. cauda equina syndrome;
5. osseus fracture; or
6. anterior herniation of an intervertebral disc, with urinary incontinence.

Otherwise, if pain is recent in onset, or follows a limited and associated stress, such as a single fall, an excessive effort, or an inertial mishap, then a limited course of treatment (two to five weeks) may be indicated, initially. If this acute episode resolves, and if this is not a recurrent pain, further treatment is not necessary. If this pain is recurrent, or fails to abate, postural optimization may be indicated. Where direct treatment of the injury has not had satisfactory results, one can treat the picture indirectly by an enduring reduction of the destabilizing stress from sub-optimal posture. This stress can load the compensatory capacity of the system, and either:

1. **interfere** with recovery of the neuromusculoskeletal system (N.M.S.);  

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2. cause sub-acute/recurrent/chronic dysfunction and pain; or

3. have little apparent effect, where the compensatory reserve is adequate.

Such dysfunction can be somatic, and/or visceral, singular or multiregional, with tenderness and sometimes with pain. The conscious experience of these noxious sensations, if chronic and sufficiently severe, can affect a cerebral dysfunction, with affects that range from irritability or fatigue to reactive depression (Fig. 139).

Visceral dysfunction that is posturally linked is mediated by the neural interplay of both the spinal (sympathetic) and the cranial (parasympathetic) tracts (Fig. 140).

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Visceral dysfunction without an apparent and direct cause can be indirectly caused by sup-optimal posture. Under conditions of postural disarray, compensatory array of the spinal column can result in facilitated segments of the spine. Denslow and Korr associated the theory of the facilitated spinal segment with somatic dysfunction (Denslow, Korr, and Krems 1947) with component hyper-reflexia of the sympathetic nervous system.  

Hyper-reflexic sympathetic tone is credited with organization of disease (Korr 1976). The motor reflexes, from moment to moment, adjust the muscular forces around each joint, the regions of the body to each other and to the body as a whole, and of the body to the force of gravity (Korr 1979). Because sympathetic tone corresponds to gravitation, the boundary conditions of posture can relate to directly to disease mediated by sympathetic hyper-reflexia. This argument agrees with the anecdotal report by subjects that optimization of posture is followed by a marked reduction or alleviation of

1. dysphagia;

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2. dyspepsia, and
3. constipation that is not cathartic dependent. 95

There is a reasonable place for prophylaxis of progressive postural disarray in adolescence and infrequently, in children. Indications for P.O.P. for these age groups include:

1. recurrent or chronic pain;
2. clumsiness;
3. progression towards deformity (i.e. spinal scoliosis or genu valgus); or
4. social ridicule for reason of unusual appearance or performance.

There is no study reported of the long term effects of P.O.P. on children or adolescents. It’s hard to imagine a deleterious effect of postural symmetry on future growth. The statement, “As the twig is bent, so it grows”, has the corollary, “As the twig is straightened...” (Fig. 141).

It's of interest that the root words for orthopedics are

1. orthos: to straighten, and

2. paidos: children.

We now have a safe, effective, and non-surgical means to straighten our children's posture as well, or perhaps better than, the posture of adults.

IV. B. Recording the course of treatment.
Occasionally, a patient presents with a single site of chronic pain. With further questioning, on the average, the patient reports 3-4 regions of pain that is greater than 3 months in duration. Each of these chronic or recurrent pains are recorded on a single page Form For Postural Optimization (), in tandem with the Progress Note for additional information. This format permits the Operator to record, on one page, the
1. initial panel of chronic symptoms, the initial and follow-up radiographic findings, as well as the final prescription;

2. progression throughout the course; and

3. final disposition in terms of the foot orthotics, the thickness, and the side of heel, ischial, and shoe augmentation;

for easy reference. The form below reflects an actual course of treatment (see Appendix 1 for current, sample form).
Figure 142. A Postural Progress Note. This format permits easy tracking of the interim progress of the patient throughout his course of postural optimization.

At each visit, an interim history is collected. The operator asks of each pain: "Since our last visit, has the (particular pain):"
1. increased (+);
2. decreased (-);
3. stayed the same (-→); or
4. gone (0) ? "

The symbol for their response is entered under the number of treatments. The same question is repeated, more or less, for each of the prior pains, and the response is recorded. As a general trend:

1. reduction of pain occurs roughly in ascending order from feet to head, with the exception of tension headaches, which tend to resolve early on, and

2. at around the 80% completion of leveling the sacral base, for about 1/3rd of the patients there can occur a brief increase in their discomforts, or a return of discomforts that were previously gone, followed by a marked decrease in overall discomforts.

If a particular pain, initially attributed to posture, does not undergo reduction as the course progresses into the second half, the etiology of this pain can be reconsidered.

IV. C. Physical examination and manual manipulation
Initially, the patient is examined in the upright stance from the coronal and sagittal views. The coronal plane can be understood in terms in statics, and the sagittal plane in terms of kinetics. In the coronal plane, attention is paid to the presence of a curvature in a region that ideally is straight and vertical such as that straightness of the vertebral spine in the coronal plane. In the sagittal plane, attention is paid either to an increase or to a flatness of the physiologic curvatures in the sagittal plane, relative to the ideal (review Fig. 87 and view Fig. 143).

1. In the coronal plane, the feet are inspected (see details below), the angularity of the knees, the placement of the patella, the levelness of the shoulders, and the pitch of the head.
2. In the sagittal plane, one notes the recurvatum of the knees, the lumbopelvic curve, the thoracic kyphotic curve, and the cervical lordotic curve.

3. With respect to the transverse plane, the Operator notes:

   a. alignment of the feet with respect to their respective tibia, and

   b. rotation of the pelvis, thorax or head away from the midline.

The objective for this treatment is to reduce both 1) the systemic resistance to the optimization of posture, and 2) the burden of somatic dysfunction to the compensatory reserve. Where techniques for impulse mobilization of the vertebral segments are presented, it is assumed that the Operator is a functional manipulator by impulse, knowing the basic science and techniques of manual manipulation. For far greater detail regarding techniques for mobilization by impulse, please see the variety of good texts available on this subject.
IV. C. 1. **The foot region: extensibility of the 1st metatarsal-phalangeal joint**
While holding the calcaneus, extend the 1st M-P joint; identify a hypertonic and tender band of the plantar myofascia that spans from the great toe to the calcaneus, which tension band\(^{96}\) limits the extension of the 1st M-P joint (Fig. 144).

![Figure 144](image)

**Figure 144.** While holding the calcaneus, extend the 1st M-P joint; identify a hypertonic and tender band of the plantar myofascia that spans from the great toe to the calcaneus, which band limits the extension of the 1st M-P joint.

With one hand, reduce the extension of the 1st M-P joint sufficient to lightly engage the restriction. Gently ballot the restricted band by an impingement on the band with the pads of the fingers of the other hand, along a line of action that is 90 degrees perpendicular to the long axis of this tension band. After several appreciable reductions of rigidity of this band, proceed to examine and treat the other foot, and move on to the next region.

IV. C. 2. **The hip region: circumduction**
The Operator slowly circumducts the hip (Fig. 145), sensing for the contour, resilience and possible rigidity along the range of hip motion. Where rigidity is present, linger at that engagement for several respirations until there is sensed a reduction of that rigidity. **Where practical, arrange the engagement so that gravitation provides the greater portion of the tension of engagement.** Then proceed with the circumduction to test for other restriction.

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\(^{96}\) Tension band: a term coined by Angus Cathie, D.O., anatomist and a member of the Faculty of the Philadelphia College of Osteopathic Medicine.
Figure 145. Circumduct the hip, pausing where there is difformity and lightly engage the restriction, then instruct the patient to respire. On exhalation, take up the slack to the new barrier, and repeat.

IV. C. 3. The hamstrings
The Operator carries the thigh to vertical, then extends the knee to test the hamstrings for restriction (Fig. 146).

![Figure 146](image)

**Figure 146. Perform the straight leg test for restriction of the hamstrings.**

If the hamstrings are restricted, use active-resistance technique of Muscle Energy to reduce this restriction. With the hip flexed 90 degrees, rest the Achilles on the shoulder of the Operator, place the hands across the dorsum of the thigh, and extend the knee to lightly engage the hamstrings. Direct the patient to gently flex the knee for several seconds while the Operator gives resistance to this effort.

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Take up the slack to engage the new barrier, and repeat this action several times sufficient to somewhat improve this range of motion.

IV. C. 4. The gluteals and the piriformis
The Operator sits at the table side, directs the patient to raise the hips, and places his hands beneath the gluteals at the posterior-lateral aspect, bilaterally. Direct the patient to respire several times or more while the Operator monitors the gluteal tone for several improvements in resilience (Fig. 147).

Figure 147. To release the proximal portion of the gluteals and piriformis, place the palms of the hands across the postero-lateral and upper contours of the gluteals and piriformis.

IV. C. 5. The lumbosacral region.
The patient raises the hips and the Operator places one palm beneath the sacrum, in contour with the sacral curve, and the other hand along the lumbar spine (Fig. 148).
Figure 148. To release the lumbosacral regions, position one hand beneath the sacrum and the other hand along the lumbar spine and gently engage during respiration for release of the lumbopelvic region.

The Operator monitors the resilience of the sacrum and the paralumbar tissues while the patient respires. After the lumbosacral region responds with several increases in resilience, the patient is directed to raise their seat and the Operator moves on to the thoracic region.

IV. C. 6. The flanks
Flank restriction can be reduced by placing the lateral aspect of the torso into convexity (Fig. 149).

Figure 149. To release the flank region, the patient in the lateral recumbent position with 1) one hand on the ankles, 2) a knee acts as a pivot for the under knee, and 3) a hand rests on the axillary aspect of the shoulder. Direct the patient either to respire or to alternately resist and release.

IV. C. 7. The upper extremity
a. Wrist.
   The Operator tests the flexion and extension of the wrist relative to neutral (Fig. 150).
Where either is compromised from a 90 degree range, the Operator engages the restriction and gently ballots the respective extensor or flexor musculature at the most ridged portion, until several releases have followed. Alternatively, Muscle Energy Technique with active resistance can be used successfully.

b. Shoulder

1) With the shoulder abducted to 90 degrees and the elbow pivoting on one hand, internal and external rotation is evaluated. If internal rotation is diminished, engage the restriction and gently ballot the teres major and minor with the finger tips positioned at the lateral margin of the scapula, to release (Fig. 151).

Figure 151. Position for release of the teres major and minor. The tip of the Operator’s finger in the axilla delivers a focal pressure, mild, to the lateral and tender margin of the scapula. The fingers of the other hand anchor the acromioclavicular junction to counter any anterior rotation of the scapula secondary to the resistance from internal rotation of the glenohumeral joint musculature by the shortened teres muscles.
2) If the shoulder is restricted from external rotation, lightly engage the barrier towards the origin of the pectoralis and ballot the proximal portion of the pectoralis musculature (Fig. 152).

![Figure 152. Technique for the engagement of a restricted pectoralis by abduction of the arm with external rotation sufficient to engage the pectoralis.](image)

3) Straighten the elbow and test the range of extension of the shoulder. If restricted, engage and ballot the inferior/lateral tip of the scapula to release the latissimus dorsi (Fig. 153).

![Figure 153. Position for testing for restriction of the latissimus dorsi. Where the shoulder does not extend 180 degrees, position the extended arm to light engagement of this restriction, and ballot the tender inferior/lateral tip of the scapula to release the latissimus dorsi.](image)

c. **The rhomboids.**

Adduct the arm across the midline to test the freedom of the rhomboid. If the elbow cannot cross the midline of the sternum, engage the barrier gently
from the elbow and place the other hand beneath the scapula to enable ballotment of the rhomboid (Fig. 154).

![Figure 154. Position for engagement of the rhomboid by carrying the elbow up to the midline of the thorax.](image)

Direct the patient to respire during the gentle engagement and ballotment until several releases occur.

**IV. C. 8. The thoracic region.**

The operator is positioned at the head of the table, and directs the patient to fold the arms across the chest, with the elbows pointed towards the ceiling. Four portions of the thorax are treated in ascending sequence.

a. The Operator rolls the patient first to one side and then the other, quickly slipping his hands (palms up) beneath the postero-lateral and lower portion of the thorax, bilaterally (Fig. 155). The Operator monitors the resilience of the thorax while the patient respires.
b. After several releases, the patient is once gently rocked side to side to permit the Operator repositions his hands along the paraspinal aspect of the mid-thorax, and the patient respires to a release (Fig. 146).

Figure 155. Release of the lower. Posterior portion of the thorax.

c. The patient is directed to raise his head and shoulders to permit the Operator to position one arm along the midline of the thoracic spine, with the other hand over the sternum (Fig. 147). The Operator's palm rests beneath the convex portion of the back side of the thorax.

Figure 156. Release of the scapular region of the thorax.

The patient respires several times to affect the release.

d. Finally, for the thoracic inlet, the Operator moves to the side of the table to position one hand beneath the C7-T1, and the other hand across the sternal notch. The patient respires several times to release while the Operator
directs light compressive pressure anterior to posterior, engaging from C7-T1 to the sternal notch (Fig. 158).

![Figure 158. Release of the thoracic inlet.](image)

IV. C. 9. The cervical region
The Operator moves to the head and rests his hand on the edge of the table and places the thenar eminence beneath the lordotic curve of the cervical spine with the head of the patient extended partially off the end of the table sufficient to gently engage the anterior cervical tissues (Fig. 159). First for the antero-lateral portion, and then the midline, test for restriction and if present, engage that anterior restriction and direct respiration while balloting the rigid tissue sufficient to release several times.

![Figure 159. Position for engagement of the anterior and antero-lateral tissues of the cervical region.](image)

The underside of the neck is supported by the thenar eminence of the Operator. The fingers of the free hand ballot the bands or areas of restricted tissue.

IV. C. 10. The cranial region
To test and release the cranial region the head is gently engaged with respect to four axes:

a. vertex to maxilla;
One hand is placed over the vertex, and the fingers of the other hand engage the maxilla, bilaterally, from the mentum approach (Fig. 160).

![Figure 160. Position of the hands to test and treat the vertex-maxillary-mentum axis.](image)

Gently, torque is introduced to test the rotatory, flexion/extension, and side bending motion w.r.t. the vertex-maxillary axis. Where restriction is found, one can either directly or indirectly engage this restriction for several respirations until a release occurs.

b. **frontal to occipital;**

The Operator rests one hands across the frontal bone, and the other across the occipital bone (Figs. 161, A & B).

![Figure 161-A. Position of hands for palpation of the frontal-occipital axis of the cranium.](image)
These bones are balloted along the occipital-frontal axis, and if ridged, this ballotment continues until a release follows.

c. **bi-temporal**
   The Operator places his fingers across center of the temporal bones, and gently ballots towards the midline along the transverse and bitemporal axis (Fig. 162). If there is rigidity, ballot gently along this difformed axis, until one or two reductions in rigidity occur.

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**Figure 162.** Position of the hands for palpation and treatment of the bi-temporal and transverse axis.

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d. **cranial base, anterior to posterior**
   Test the cranial base for rigidity by placing several finger tips over the glabella and the inion, then lightly compress along this axis. If there is rigidity, linger for several ballotments until this axis becomes more resilient (Fig. 163).
Figure 163. Position of the hands for palpation of the potential rigidity of the cranial base along the axis from the inion to the glabella.

e. maxillary-occipital axis

Lightly ballot over each of the four sinuses: the 2 maxillary and the two supraorbital sinuses. Note rigidity, if present, which indicates sinus dysfunction. Place the pads of several finger of one hand over a maxilla or a supraorbital sinus(es) that is (are) rigid, and the fingers of the other hand over the occipital prominence that is contralateral to the involved sinus (Fig. 164).

Figure 164. Position of the hands for palpation of the potential rigidity of the bone that overlays the maxillary sinuses along an axis to the contralateral and superior portion of the occiput.
Ballot gently with both hands along this oblique axis until there is a noticeable increase in resilience.

f. supraorbital-occipital axis
Lightly ballot over each of the two supraorbital sinuses (Fig. 165). Note rigidity, if present, which indicates dysfunction of the respective sinus.

Figure 165. Position of the hands for palpation of the potential rigidity of the bone that overlays the supraorbital sinus and that extends along an axis to the contralateral and inferior portion of the occiput.

Place the pads of several finger of one hand over the supraorbital sinus(es) that is (are) rigid, and the fingers of the other hand over the occipital prominence that is contralateral to the involved sinus. Ballot gently with both hands along this oblique axis until there is a noticeable increase in resilience along this axis.

IV. C. 11. The lumbar roll: impulse mobilization

For further details regarding these and for many other techniques for articular mobilization by impulse, the Reader can refer to a variety of informative books on the subject. 99

Set-up:
To position the patient in the lateral recumbent position with their right side on the table, the Operator places his left hand on the topside hip to stabilize

99 Please refer to the list of publications on manual manipulation available from the American Academy of Osteopathy, 3500 DePaw Blvd., Suite 1080, Indianapolis, Indiana 46268-1136.
the pelvis, while the right hand flexes the topside knee then rests that forefoot behind the popliteal fossa of the tablesde leg (Fig. 166, A, B, C, and D).

Figure 166-A. The lateral recumbent position preliminary to impulse mobilization.

Place the right hand on the superior knee to stabilize the lower extremity and pelvis while grasping the tablesde arm. Gently tract the upper arm so as to rotate the torso towards the ceiling until there is felt an engagement of the lumbar spine from the anchoring hand on the knee. Place both of the patient’s hands on his topside of his waist, with the right hand lightly grasping the wrist of the left hand. Using the forearm over the hollow of the topside ilium, rotate the pelvis towards the Operator until the posterior plane of the pelvis is 45 degrees from vertical (Fig. 166-B).
Figure 166-B. A caudad view of the lateral-recumbent position that is preliminary to impulse mobilization. Note that the posterior plane of the pelvis is inclined from vertical by about 40 degrees. From this attitude and by use of a forearm to deliver a downward thrust through the upper ilium, the Operator has good mechanical advantage to torque the pelvis about the longitudinal axis.

Place the flesh of one forearm in the hollow of the ilium, being careful to not press the ulnar bone against the gluteals. Place the other arm through the axilla, and gently roll the upper torso and the pelvis in opposite directions until there is engagement of the lumbar spine (Fig. 166, C).

Figure 166-C. A posterior view of the lateral-recumbent position that is preliminary to impulse mobilization. Note that the Operator has the fleshy portion of each forearm in place, one across the hollow of the ilium, and the other in the crux of the shoulder.
Beginning at the level of L5-S1, the Operator places his finger tips placed over several neighboring segments and tests for rotatory motion by exerting a mild counter-torque from above and below (Figure 166-D).

![Figure 166-D](image)

**Figure 166-D.** To focus the impulse at the restricted segments, the finger tips are placed over the vertebral segments of the lumbar spine to monitor the rotatory motion of the column. The Operator exerts even and opposing torque so as to engage the restricted segments from both above and below.

**The impulse:**
Direct the patient to respire, and at 80% exhalation, deliver a mobilizing impulse by a counter-rotatory impulse that synchronously carries the pelvis and the thorax in opposite directions to effect the mobilization of the engaged and restricted segments of the lumbar spine.

Guide the patient to the lateral recumbent position on the opposite side, and repeat the procedure.

**IV. C. 12. Thoracic mobilization by impulse**
With the patient in the supine position, direct the patient to interlace their fingers to the knuckles with the hands behind their neck (Fig. 167).
Using the elbows as a lever, rotate the upper torso towards the Operator sufficient to permit the Operator’s hand to be placed palm-up along the lowermost thoracic segments (Fig. 168).

With the patient’s elbows snugged into the hollow of the Operator’s shoulder, return the elbows to a vertical attitude, with the head and neck flexed to make convex the posterior aspect of the thorax, with the apex just above the Operator’s palm acting as a fulcrum (Fig. 169).
Figure 169. The third step for impulse mobilization of the thoracic spine.

Impulse:
Maintaining this engagement, direct the patient to respire, and at 80 %
exhalation deliver a gentle impulse along the long axis of the elbows so as to
extend those spinal segments cephalad to the palm hand. Reposition the hand
several segments above those just mobilized, and repeat this procedure until a
gentle impulse toward mobilization of all the thoracic segments has been
made.

IV. C. 13. Mobilization of the cervical spine
The number of segments of the cervical spine that are mobilized per impulse can
vary, according to the findings. Where there exists two or more malrotations in
opposite directions, the Operator can perform a series of single-segment
derotations to correct these oppositional dysfunctions.

Where there are one or more malrotations in the same direction, one can perform
either a multi-segment or a pancervical mobilization. The later is achieved by:

A particular placement of the Operator’s hands is shown (Fig. 170).

a. The head hand: place the thumb against the lateral curve of the maxilla,
so that the convexity of the maxilla snugs into the concavity of the
proximal phalange of the thumb. The fingers wrap behind the ear along
the curvature of the occiput.

b. The head and neck hand: place the thumb as described above. Using the
head/neck hand, turn the head towards the head hand so as to place the
head in full support of that hand.
c. Fan the fingers along the postero-lateral portion of the cervical spine.

Figure 170. A positioning of the hands for mobilization of the cervical spine.

The method for pancervical engagement of the cervical spine follows.

1. Beginning with the lowermost segment and continuing to the uppermost segment, rotate, side bend and extend the head and neck to as to progressively engage the entire cervical spine;

2. Evenly approximate an Operator’s hand along the concave curvature of the neck and slightly translate the patient’s head and the neck in opposing directions while maintaining engagement by rotation/extension/side bending, thereby further engaging the cervical spine.

3. Direct the patient to respire, while the Operator maintains light engagement throughout the spine. At 80 % exhalation, deliver a gentle and synchronous impulse along certain axes.

   a. A rotatory impulse along the three cardinal axes.

   b. A translatory impulse along the transverse axis via the neck hand.

   c. A translatory impulse via the head hand that is counter to the translatory impulse of the neck hand.

Return the head to the neutral position and re-examine for residual malrotations. If present, perform selective segmental derotation.

IV. D. Therapeutic postures to reduce the bulk of tissue restriction.
From the findings from physical examination, a series of postural exercises can be prescribed to reduce broad and regional restriction of soft tissues. These postures are performed at home each day for 3 minutes each. The aim is to gradually reduce their burden of restriction that is largely reflective of their prior posture. Broad reduction of regional restriction accelerates their relief and smooths their progression through the procedure.

1. For patients with restriction of the cervical and thoracic regions, the shoulders, the lower torso, posteriorly, and/or the buttocks, the following series is practiced for three minutes each, daily, throughout the therapeutic course (Figs. 171-74).

Figure 171. A posture for the gradual reduction of restriction of the buttocks and the back side of the torso, shoulders, and neck. One sits daily on the floor with the legs crossed comfortably and the head and torso are relaxed into a forward curve so as to evenly and mildly engage the greatest area of restriction of the back side from the head to the buttocks.

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100 Op cit Irvin 1999.
Figure 172. A posture to reduce restriction of soft tissues of the lateral portion of the buttocks, the sides of the torso and of the neck. Practice this to both the right and to the left for 3 minutes each direction.

Figure 173. A posture for reduction of broad restriction of the front of the thighs, hips, abdomen, chest, and of the muscular attachments of the shoulders to the anterior portion of the chest. The cervical and thoracic tissues of the posterior portion of the neck and chest are gravitationally loaded for a passive stretch. The elbows are positioned at the side of the chest, and are vertically aligned.
Figure 174. A postural exercise for the reduction of concavity of the anterior portion of the cervical-thoracic regions. The shoulders, chest and neck are relaxed, and the chin rests on the palms of the hands. The elbows are positioned beneath the head.

2. For patients with too great of a sacral angle (> 41 degrees), restriction of the anterior thorax, or an increased angularity of the cervical-thoracic junction, a postural exercise called the ‘Book and Towel’ can be used (Fig. 175).

Figure 175. A drawing of the ‘Book and Towel’ postural exercise.

A thick bath towel is rolled tightly from one end to the other, to make a roll with a diameter of 3 to 3 and 1/2 inches. This towel is positioned along the posterior midline of the thorax, to extend from T-12 to beyond the occiput.

A paperback book, 1 inch thick, is placed beneath the sacrum. Paperback is preferable to a hardback for reason that the hardness of the later can cause the skin over the sacrum to become distractingly numb during this exercise.

The patient rests in this posture for 20 minutes, with the arms at their side or resting on the abdomen, and the knees straight and relaxed.
3. For patients with a tight lateral span of the torso and hips, the following postural exercise, practiced for five minutes each side, daily, is prescribed to reduce this extensive restriction (Fig. 176).

Figure 176. A photograph of the posture used to reduce restriction of the lateral margin of the hips, waist, and thorax.

4. To reduce restriction of the oblique musculatures of the torso and abdomen, the following posture is highly effective (Fig. 177). An indication for this posture is a gait where there is paucity of rotatory pendulum action of the pelvis and torso. Sufficient restriction can result in a gait that oscillates from side to side, rather than rotatory about the vertical axis, termed a 'lateral oscillatory gait'.

Figure 177. A posture used to reduce oblique restriction of the torso and pelvis, which restriction damps the rotatory pendulum action during gait.

5. To reduce restriction of the trapezius, rhomboids, and the low back, the following posture is effective (Fig. 178).
Figure 178. A posture used to reduce restriction of the trapezius, rhomboids, and low back.