

# **THERAPEUTIC EXERCISES**

*for*

**CRANIOFACIAL PAIN AND DYSFUNCTION**

*A Manual For People Suffering From Chronic Pain  
In The Head, Neck, and Jaw.*

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*A Manual For People Suffering From Chronic Pain  
In The Head, Neck, and Jaw.*

*Bernard T. Williams, D.D.S.*  
*and*  
*James L. Guinn, D.M.D.*

## **CAUTION**

*This booklet is intended to supplement your doctor's care. If professional advice differs, disregard the booklet, and do what your doctor says. Only the person treating your condition is qualified to appraise your total physical condition and to recognize problems outside the scope of this manual.*

*Once under a doctor's care, it is important to continue under that care. CONTACT YOUR DOCTOR PROMPTLY IF IMPROVEMENT DOES NOT COME AS EXPECTED, AND ESPECIALLY IF SYMPTOMS GET WORSE OR NEW SYMPTOMS APPEAR.*

*It is important that you do only the exercises in this manual which your doctor prescribes. For certain conditions, some of these exercises are contraindicated and can exacerbate your problem or create additional problems.*

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Available from

TMJ Management Systems  
370 E. South Temple, Suite 350  
Salt Lake City, Utah 84111

**ABOUT THE AUTHORS:** **Dr. Bernard T. Williams** is in private practice in Kansas City, Missouri. He lectures extensively throughout the world on the management of TMJ pain and dysfunction. **Dr. James L. Guinn** has a practice limited to craniofacial pain in Salt Lake City, Utah, and lectures nationally on this subject.

**ACKNOWLEDGEMENT:** The authors express their thanks to the various consultants who participated. Their contributions were invaluable.

# CONTENTS

Note to prescribing doctor: Please place a check by each exercise which you wish your patient to perform.

Introduction . . . . .	1
Part I — PROPER POSTURE	
<input type="checkbox"/> The "Military Tuck" . . . . .	3
Part II — THERAPEUTIC EXERCISES	
<input type="checkbox"/> General and Special Instructions . . . . .	5
<input type="checkbox"/> Trapezius Exercise . . . . .	6
<input type="checkbox"/> Pectoralis Stretch . . . . .	7
<input type="checkbox"/> Shoulder Rolls . . . . .	8
<input type="checkbox"/> Weighted Shoulder Shrugs . . . . .	9
<input type="checkbox"/> Splenius Capitus . . . . .	10
<input type="checkbox"/> Levator Stretch . . . . .	11
<input type="checkbox"/> Neck Rotation . . . . .	12
<input type="checkbox"/> Side Bending . . . . .	12
<input type="checkbox"/> Neck Flexion . . . . .	12
<input type="checkbox"/> Head Resistive Exercises . . . . .	13
<input type="checkbox"/> Sternocleidomastoid (SCM) . . . . .	14
<input type="checkbox"/> Reflex Tapping of the Jaw . . . . .	15
<input type="checkbox"/> Jaw Stretching Exercise . . . . .	16
<input type="checkbox"/> Jaw Resistive Exercise . . . . .	17
<input type="checkbox"/> Jaw Hinge Opening Exercise . . . . .	17
<input type="checkbox"/> Proper Tongue Posture . . . . .	18
<input type="checkbox"/> Midline Opening Exercise . . . . .	19
<input type="checkbox"/> Back Posturing Exercise . . . . .	20
<input type="checkbox"/> Yoga Plough . . . . .	22
<input type="checkbox"/> Modified Yoga Plough . . . . .	23
<input type="checkbox"/> Pelvic Alignment Exercise . . . . .	24
<input type="checkbox"/> Soleus Stretch . . . . .	25
PART III — POSTURAL CONSIDERATIONS	
Activities to Avoid . . . . .	26, 27
Maintaining Correct Posture . . . . .	28
PART IV — SPECIAL PROBLEMS . . . . .	29

## INTRODUCTION

*In order to understand how these therapeutic exercises can help you with your pain or dysfunction problem, you must realize that the head is a heavy ball, weighing twelve to fourteen pounds. This ball is perched on top of a very flexible pole — the spinal column. The only thing which keeps the head “balanced” on top of this pole is muscles of the neck, jaw, and shoulders. Therefore, if the head, neck or jaw is positioned incorrectly, there is a tremendous strain placed on the muscles of this region, and can even affect other muscles in the back and legs.*

*When these muscles are stressed for a prolonged period, or traumatized in some way through injury, they become very irritated and fatigued. In turn, they may respond by becoming extremely tight and/or lose their ability to function properly. Pain is often associated with this condition. The pain may be in the muscles themselves or it may be referred to other areas in the head or jaw. In addition, other structures, such as the jaw joints or vertebrae may become strained, displaced, or painful. The ligaments in this region may be over-stretched or contracted and thereby add to the dysfunction.*

*In order to correct these problems and eliminate the pain, it is important for you to use proper posture at all times and to avoid activities which aggravate these imbalances. You must strive to achieve a normal range of motion in your jaw, head, and neck. This can be achieved through the exercises in this manual, which will help reestablish normal muscle function and harmony. This in turn will provide the conditions for the pain relief you are seeking. Please keep in mind that this therapy may not correct other functional problems you may have — such as joint dislocations or diseases, strained ligaments, nutritional deficiencies, bite disharmonies, or the stress brought on by the excess use of caffeine, nicotine, or sugar. For these problems you should continue to follow the advice of your doctor. In summary, our goal in producing this manual is to eliminate or reduce your pain and dysfunction by:*

- 1. Increasing the range of motion of the joints and ligaments.*
- 2. Restore normal anatomical relationships of the head, neck, and jaw.*
- 3. Develop harmony between various muscle groups.*
- 4. Eliminate improper habits that stress these structures.*

Your doctor has determined that you could benefit from this conservative therapy in the treatment of your pain and/or dysfunction problems. These exercises have proven extremely effective by clinicians around the world. However, **WITHOUT YOUR FULL COOPERATION, THESE TECHNIQUES WILL BE OF LITTLE BENEFIT.**

As with any exercise program, you may experience some soreness or stiffness during the initial program because you are using muscles which have not been functioning properly. On the other hand, this program is NOT based on the theory that it must hurt in order to help you. All of the exercises in this manual should be done in your range of comfort. If you cannot do the prescribed number of repetitions of each exercise, do as many as you can until you feel pain and stop.

Finally, we would like to emphasize that this manual is not intended to be the sole method of treatment used to solve your problems. It was designed to be used in conjunction with a sound program of nutrition, dental management (of TMJ and bite problems), physical therapy, and stress reducing considerations. The mere use of drugs to eliminate symptoms, while sometimes effective for the acute cases, many times is ineffective in the management of some acute and most chronic pain. It is not uncommon to find that patients need to perform these exercises forever. Many structural imbalances cannot fully be rectified due to longevity and genetic considerations. Hopefully, these exercises will give you a new awareness of the importance of maintaining your body in a physically and mentally healthy condition.

Bernard T. Williams, D.D.S.  
James L. Guinn, D.M.D.

## **Part I — PROPER POSTURE**

The key to your rehabilitative program is proper posture. This is true whether you are performing the assigned exercises or throughout your daily activities, including sitting and sleeping. The exercises in this manual will do little good, and may even be harmful, if not done from a position of proper posture. This proper posture may be achieved through the use of the "Military Tuck" described below, and illustrated on the opposite page.

### **THE MILITARY TUCK**

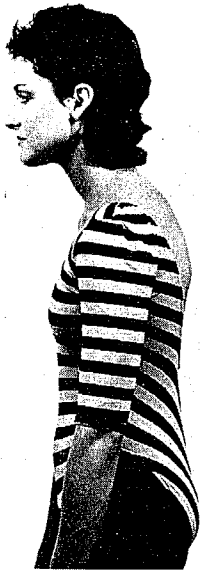
1. Imagine that a wire is attached to the top of your head and lifting, or extending the head so that it is extremely erect.
2. Place the shoulders back and down, while keeping the eyes level on the horizon.
3. Imagine that you are flattening the back of the neck to decrease the curve of the neck. If this exercise is done against a wall, you can imagine that you are trying to place the back of the neck against the wall. Using the wall as a guide may be a valuable aid while learning to do this exercise.
4. AVOID letting your head and shoulders come forward, whether performing the exercises or during any of your daily activities. See the examples on opposite page of incorrect posture.

While this exercise can be done in an erect posture, it should also be emphasized throughout all your daily activities, particularly during the early learning stages. This is the position considered ideal for normal and proper muscle harmony.

### **THE ALEXANDER TECHNIQUE**

Imagine that the wire mentioned above is attached to the top of your head throughout your daily activities — that it is lifting you as you stand up, as you climb stairs, as you carry objects, etc. This can have a profound impact on your posture and even your attitude and disposition. You will feel lighter and have more energy. For further information on this subject we recommend the book **The Alexander Technique — The Revolutionary Way to Use Your Body for Total Energy**, by Sara Barker.

**THE MILITARY TUCK**



*AVOID*



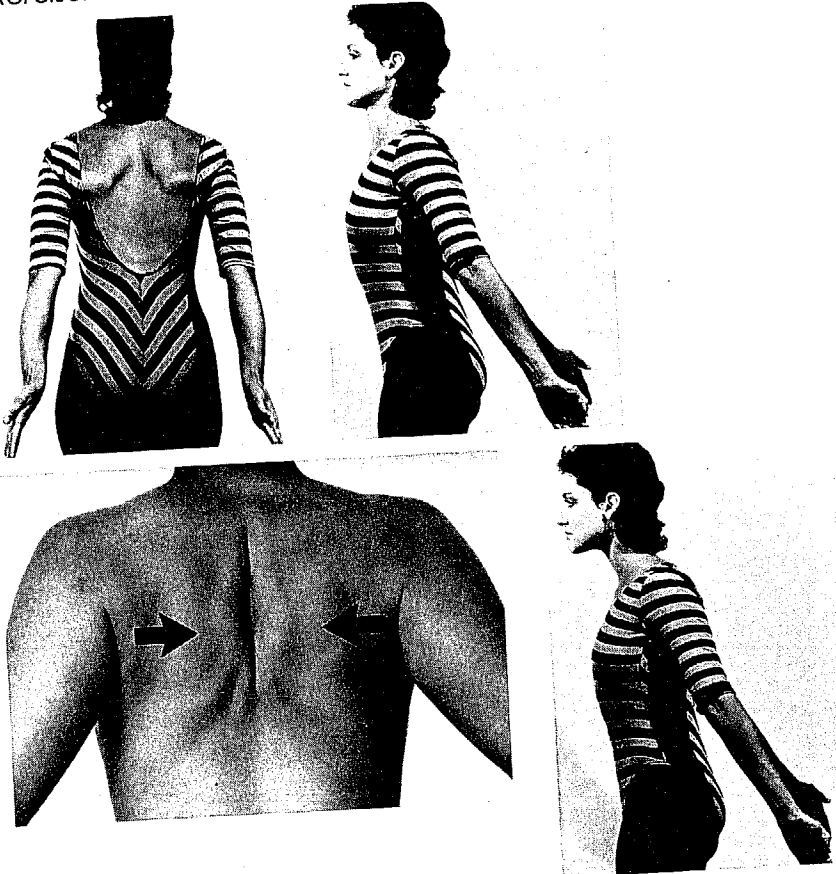
*AVOID*





## □ TRAPEZIUS EXERCISE

1. Start from a standing military tuck position.
2. Place the back of the hands against the thighs with the thumbs pointed back.
3. While maintaining the distance between your hands, move both hands behind you as far as you can.
4. Imagine a pencil is between your shoulder blades and you are trying to squeeze the pencil by bringing your shoulder blades together (see illustration).
5. Avoid letting your head come forward while performing the exercise.



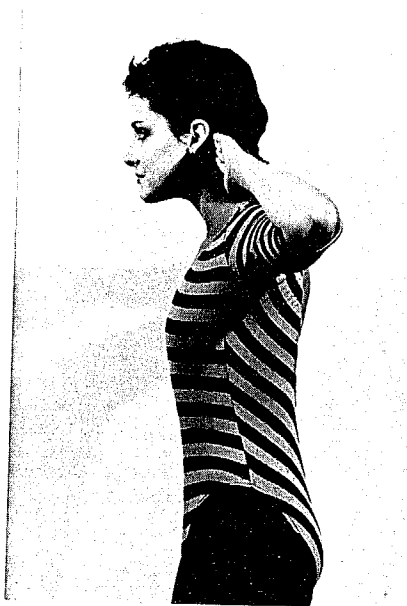
AVOID

## □ **PECTORALIS STRETCH**

1. Start from the military tuck position.
2. Place the finger tips behind the ears.
3. Attempt to bring the elbows straight back as far as you can, and hold for ten seconds.
4. While performing this exercise, attempt to bring the shoulder blades as close together as possible. Imagine you are trying to hold a pencil between your shoulder blades (see example under Trapezius exercise).
5. Avoid letting the head come forward while performing this exercise (see example below).



CORRECT



AVOID

## □ **SHOULDER ROLLS**

1. Start from the standing military tuck position.
2. Bring your shoulders up, back, and down in a rolling motion.
3. End the shoulder roll by returning to the military tuck position — avoid bringing the shoulders forward.
4. Do ten repetitions of this exercise once each hour.



SHOULDERS UP



SHOULDERS BACK

## □ **WEIGHTED SHOULDER SHRUGS**

1. Obtain some plastic buckets or other devices which can hold weight.
2. Position the buckets over some chairs, stools, etc., which will support the weight of the bucket.
3. Adjust the height of the buckets so you can hold the handles comfortably in the proper standing posture. This can be accomplished by either raising or lowering the supporting device, or by standing on one or more books while holding the buckets. The purpose of this is to avoid overstretching the shoulder muscles while performing the exercise.
4. Start out with two to three pounds in each bucket. You may use anything convenient for weight — a measured amount of water, bricks, canned goods, etc.
5. From the starting rest position, slowly raise your shoulders as far as you can and then SLOWLY lower them to the starting position again.
6. Work up to 35 repetitions.
7. If it becomes painful, do not attempt to do 35 repetitions — do five additional repetitions once the pain is felt and then stop.
8. Once you can do 35 repetitions without pain, increase the weight in each bucket 2-5 pounds and continue as above. Work up to 20-30 pounds in each bucket if a woman, 30-40 pounds if a man.
9. Repeat this exercise two or three times each day.



## □ **SPLenius CAPITUS**

1. Start from the standing military tuck position.
2. Place your forearm over your head and hold your hand over your opposite ear.
3. Turn your head as far as you can to the side opposite your raised arm.
4. While keeping your head turned as far as possible, tilt your head down by attempting to touch your chin to your shoulder without raising the shoulder — hold this position for ten full seconds.
5. Repeat the exercise with the other arm and by turning in the opposite direction.



## □ **LEVATOR STRETCH**

1. Start from the standing military tuck position.
2. Stand approximately one foot from a wall or door.
3. Place your elbow against the door and rest the palm of your hand on your shoulder (figures A and B).
4. While maintaining a straight posture, lean into the wall and allow your elbow to slide up the wall while your hand slides down your back (figure C).
5. AVOID allowing your body to twist or turn, as illustrated (figure D).
6. AVOID allowing your elbow to move forward or backward as it slides up the wall.
7. Hold this position for ten seconds, then repeat on the other side.



Fig. A.



Fig. B.



Fig. C.



Fig. D. - AVOID

**NECK ROTATION**

1. Start from the standing military tuck position.
2. With the eyes level on the horizon, rotate the head as far as possible in the range of comfort.
3. It is important to "lead with your chin," in order to keep the head erect. Avoid any side-bending of the head.
4. Repeat in the opposite direction, holding each position for ten seconds.



**SIDE BENDING**

1. From the starting position, bend your head to the side in an attempt to touch your ear to your shoulder **WITHOUT** raising your shoulder.
2. Repeat in the opposite direction, holding each position for ten seconds.



**NECK FLEXION**

1. With the teeth lightly together, attempt to touch the chin to the chest.
2. Hold for ten seconds.





## □ **HEAD RESISTIVE EXERCISES**

1. Start from the standing military tuck position.
2. While holding the head in one position, use your hands as indicated to exert as much force as possible in all four directions — forward, backward, and to each side.
3. Hold each position for ten seconds and repeat the series once each hour.



□ **STERNOCLEIDOMASTOID (SCM)**

1. Lay flat on your back. You may support your head with a towel but not something bulky like a pillow.
2. Rotate your head as far as you can to one side (Fig. A.).
3. While continuing to rotate, RAISE your head straight up and hold for ten seconds (Fig. B.).
4. Slowly ROLL your head forward and try to touch your chin to your chest (Fig. C.).
5. Slowly lower your head straight down (Fig. D.).
6. Repeat as above with your head turned in the opposite direction.



Fig. A.



Fig. B.



Fig. C.



Fig. D.

## □ REFLEX TAPPING OF THE JAW

1. Make a fist with one hand and place it under your chin.
2. With your hand in this position, open and close your jaw several times in a hinge-like motion.
3. Open your mouth approximately one finger width against the resistance of your fist.
4. Continue to try to open but prevent any further opening with your fist — use as much force as you can.
5. It is important that you do not allow your jaw to protrude while performing this exercise — your chin should be directed down and back as you try to open.
6. It is also important to maintain the military tuck position during this exercise — do not allow your head to come forward.
7. Hold this resisted position for ten full seconds and repeat the exercise four times per hour or any time you feel tightness in the jaw chewing muscles. You may perform this exercise while sitting down if desired.



## □ **JAW STRETCHING EXERCISE**

1. Place your thumb against the biting edges of your upper front teeth and your index finger against the biting edges of your lower front teeth.
2. Try to actively open your mouth as wide as possible using your fingers as an aid, as indicated. Repeat 5 times.
3. Relax your jaw as much as possible and attempt to open your mouth as wide as possible using **only** your fingers. Repeat 5 times.
4. Be sure to maintain the military tuck while performing this exercise.
5. Some people may find it more beneficial to use both hands to perform this exercise, as indicated.



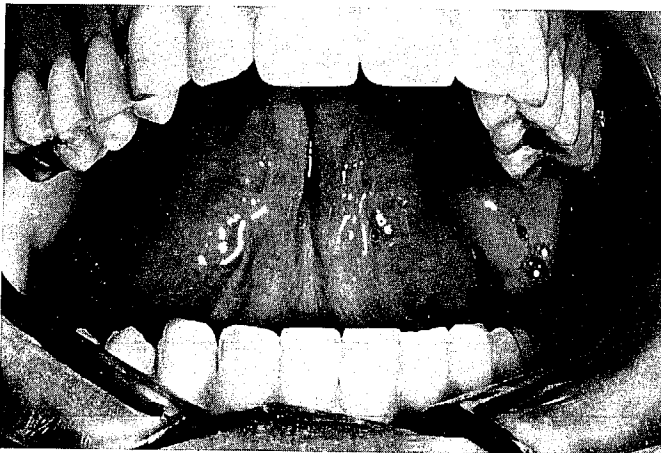
## □ **JAW RESISTIVE EXERCISE**

1. Place the heel of your hand against your jaw as indicated.
2. Separate your teeth slightly.
3. Attempt to move your jaw laterally against your hand as hard as you can while resisting any movement with your hand.
4. Hold for ten seconds. Repeat in opposite direction.



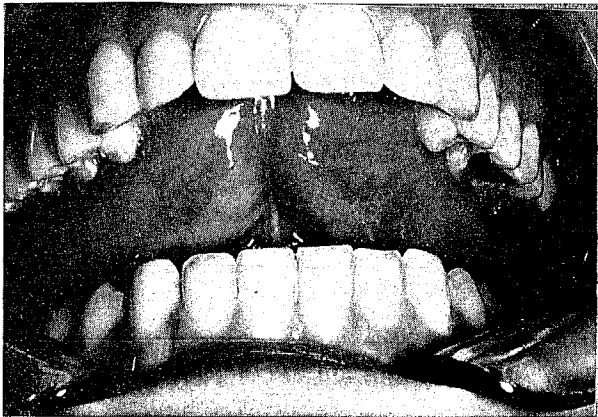
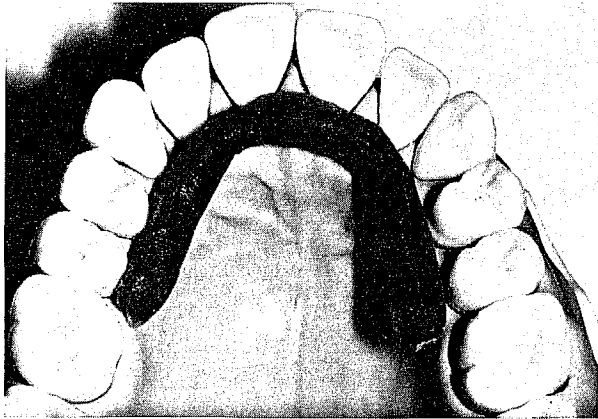
## □ **JAW HINGE OPENING EXERCISE**

1. Place the tip of your tongue in the roof of your mouth and then slide it back as far as possible down your throat.
2. While maintaining this tongue position, open and close your mouth as wide as possible on a hinge (do not let your jaw come forward).
3. Do ten repetitions of this exercise once each hour.



## □ **PROPER TONGUE POSTURE**

1. Place the tip of your tongue on your palate, just behind the two front teeth.
2. The remaining borders of your tongue should be in contact with the inside surfaces of all UPPER back teeth and gums.
3. This tongue position should allow you to create a seal between the roof of your mouth and your tongue, such that you could make a clicking sound if you opened your mouth quickly.
4. This proper tongue posture can greatly affect the muscle harmony of the jaw and neck, and should be practiced at all times in order to develop it into an unconscious habit.



## □ **MIDLINE OPENING EXERCISE**

1. Break a toothpick in half and place the pointed ends between the upper and lower middle teeth (Fig. A).
2. Close your teeth together.
3. While watching in a mirror, attempt to bring the lower toothpick straight down from the upper toothpick (Fig. B).
4. You should open your mouth as wide as possible while maintaining this straight line movement (Fig. C).
5. Do not allow any deviation of your lower jaw while either opening or closing.
6. After initial practice the toothpicks may not be needed.
7. Perform this exercise once each hour.



Fig. A



Fig. C



Fig. B

## □ **BACK POSTURING EXERCISE**

1. Lie on your back with your knees bent and your feet flat on the floor.
2. Place a towel or book under your head.
3. Place your hand under the low portion of your back to feel the curve that remains there (Fig. A).
4. Remove your hand and attempt to push this portion of your back down firmly against the floor. This can be accomplished by consciously contracting your abdominal muscles (Fig. B).
5. While maintaining this low back posture, push your buttocks off the floor until resistance to any further movement is achieved. You may note extreme tightness in your thighs (Fig. C).
6. This position should be held for ten full seconds and performed five times per day.
7. In addition to the exercise described above, it is also helpful to hold your thigh with both hands and pull it up to you as far as possible (Fig. D). Repeat with the other leg.

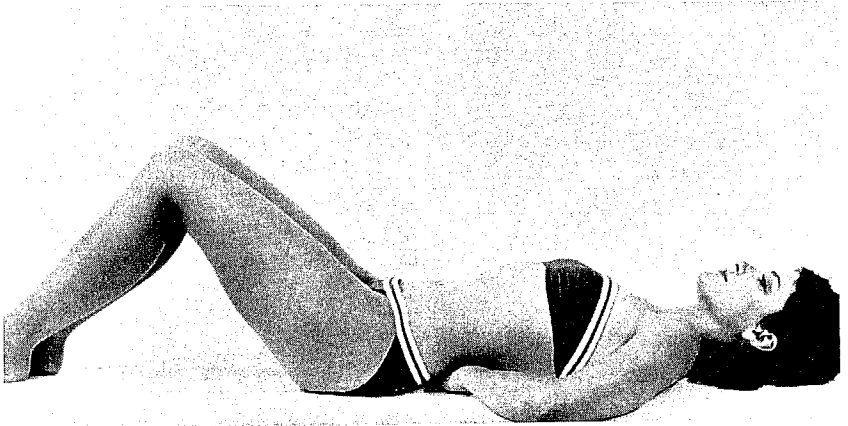
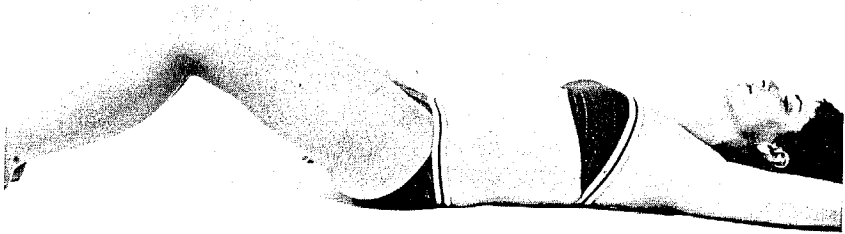


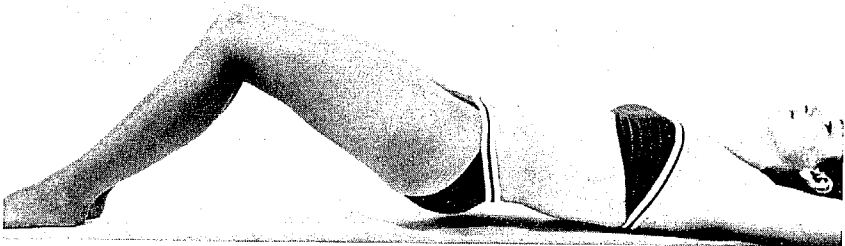
Fig. A.



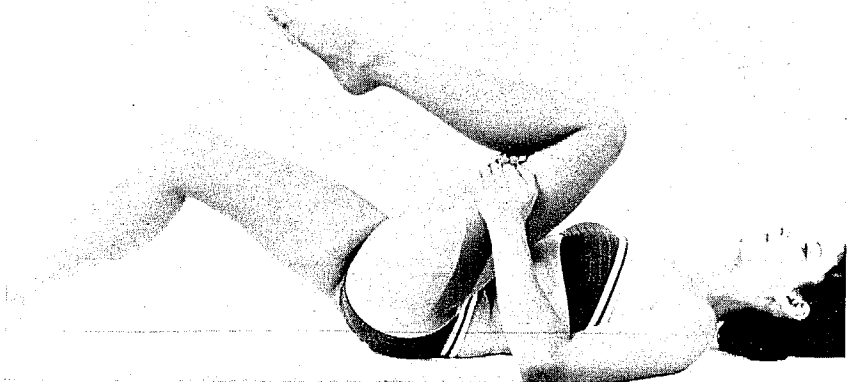
B.



C.



D.



## □ **YOGA PLOUGH**

*CAUTION: This exercise should only be attempted if recommended by your doctor and only in the range of comfort.*

1. While lying on your back, bring your feet over your head with the legs extended parallel to the floor (Fig. A). Hold this position for ten full seconds and perform 3 to 5 times per day.

2. As you become more limber you will find that your feet will touch the floor without effort (Fig. B). When this occurs, you may receive further benefit by bending your knees and holding the backs of your knees with your hands (Fig. C). Hold this position for ten seconds as well.



Fig. A



Fig. B



Fig. C

## □ **MODIFIED YOGA PLOUGH**

*CAUTION: This exercise should not be attempted until the conventional yoga plough has been mastered.*

- 1. The modified yoga plough differs in that you turn your head as far as possible to one side prior to starting the exercise (Fig. A).*
- 2. If you can achieve the position in Figure A, continue by bending your knees and pulling them in with your hands as in Figure B.*
- 3. Hold for ten seconds, then repeat from the starting position holding your head in the opposite direction.*



Fig. A

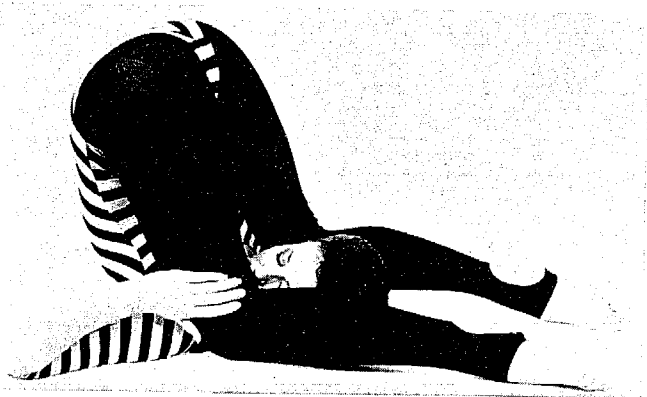


Fig. B

## □ **PELVIC ALIGNMENT EXERCISE**

1. From the standing military tuck position, raise one leg and hold on to your ankle and knee as illustrated.
2. Holding both hands at the same level, raise both hands equally to stretch the upper leg muscles.
3. Hold this position for ten seconds. Repeat using the other leg. Perform this exercise 3 to 5 times per day.
4. For some, it may be easier to start doing this exercise while lying down.
5. **AVOID** raising the hands unequally, as illustrated.



**CORRECT**



**AVOID**

## □ **SOLEUS STRETCH**

1. Using a wall to lean against, bend one leg and extend the other as illustrated.
2. Be sure to keep the foot of the extended leg flat against the floor throughout the exercise.
3. While maintaining this position, flex the bent leg and allow all your weight to be held by the extended leg. You will feel a stretching in the back of the extended leg. Hold for 10 seconds. Alternate legs and repeat.
4. Repeat exercise 3 to 5 times per day.



□ **Part III — POSTURAL CONSIDERATIONS**

*ACTIVITIES TO AVOID*



*AVOID USING YOUR NECK TO HOLD OBJECTS.*



*AVOID HEAVY SHOULDER PURSES.*



*AVOID HOLDING YOUR HEAD BACK FOR PROLONGED PERIODS.*



*AVOID HOLDING YOUR HEAD DOWN AND FORWARD FOR PROLONGED PERIODS.*

*ACTIVITIES TO AVOID*



*AVOID DRIVING WITH HEAD FORWARD, AND SHOULDERS ROUNDED, AND ARMS ELEVATED.*



*AVOID PLACING YOUR HAND UNDER YOUR JAW WHEN SLEEPING.*



*AVOID SLEEPING ON YOUR STOMACH. IT CREATES NECK STRAIN.*

□ **MAINTAINING CORRECT POSTURE . . .**

*WHILE SLEEPING*



*SUPPORT BOTH YOUR HEAD AND NECK WITH PILLOW. IF USING TWO PILLOWS, USE ONE TO SUPPORT SHOULDERS.*

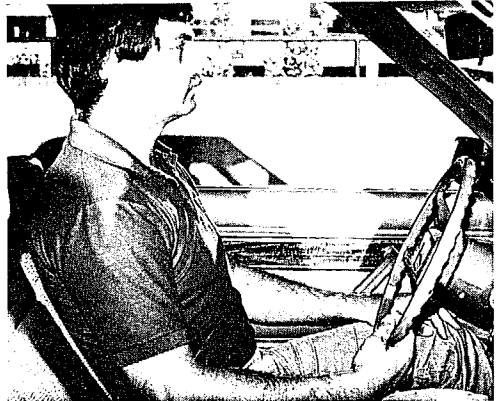


*CONSIDER PLACING A ROUNDED PILLOW UNDER YOUR KNEES, ESPECIALLY IF EXPERIENCING LOW BACK PAIN.*

*WHILE SITTING*



*TRY TO MAINTAIN THE MILITARY TUCK POSITION WHILE SITTING.*



*TRY TO KEEP YOUR ARMS DOWN AND YOUR SHOULDERS AND HEAD BACK WHILE DRIVING.*



## □ **Part IV — SPECIAL PROBLEMS**

### *IF YOU ARE OVERWEIGHT —*

*Extra pounds may contribute to a neck or back problem with its associated pain. Reduce gradually on a sensible program. Avoid fad diets. Be consistent. And enjoy the rewards.*

### *FOR WOMEN —*

*Consider the use of an underwire support bra with non-elastic straps. This can help relieve stress on the shoulders which may be contributing to your problems.*

### *FOR THOSE WITH LOOSE LIGAMENTS —*

*Some people have a problem with their jaw opening too wide, especially when they yawn. Occasionally this may lead to the jaw locking open or having a catch as you try to close. To avoid this problem, develop the habit of covering your mouth with your hand as you yawn, and as you do, hold the bottom of your jaw with your little finger to prevent it from opening too wide. With practice, this can easily be done in public without embarrassment.*