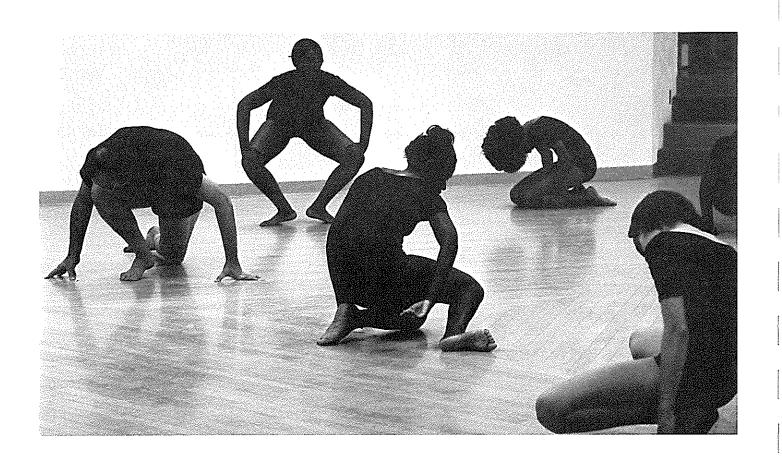
KNEE BENDING



KNEE BENDING

Bending is a basic body movement which is characteristic of many joints. The bending exercises in this chapter are limited to knees because bends of other joints occur in other chapters in combination with other movements.

Knees are a delicate part of the body and must be protected against injury or strain. Some students may have already injured their knees before beginning to study basic body movement, and many have knees which are stiff or weak from lack of use.

Knee bending exercises should always be approached carefully. Students should attempt only those which can be done without pain or serious discomfort in the knee joints.

OUTLINE OF KNEE BENDING EXERCISES

DEEP KNEE BENDS		248	
	1. 2. 3.	Deep Knee Spring Bending and Unbending Drop	248 249 250
		A. Two-Beat B. One-Beat	250 250
	4. 5. 6. 7.	Balance Straight-Back Bend Slow Motion Straight-Back Bounce	251 252 253 254
KNEE	LING	KNEE BENDS	255
	1. 2. 3.	Sit Back Side Sit Oblique Sway	255 256 257
OBLIG	QUE K	NEE BEND	258
	1.	With Support	258
		A. Part Way to Floor B. To Floor	258 259
	2.	Without Support	260

OBLIQUE KNEE BEND FALLS

See Falling, pages 320 - 323.

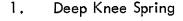
DEEP LUN	NGE		261
1. 2. 3.	Drop	ard Drop in Place Locomotion	261 261 262
	A. B.	Forward Backward	262 262
SIDEWARI) KNEE	BEND	263
LITTLE LU	INGES		264
1.	Lunge	e with Leg Stretch	264
	A. B. C.	Forward Backward Sideward	264 265 266
2.	Back o	and Forth Lunging	267
	A. B.	Backward and Forward Side to Side	267 268

HORIZONTAL DESCENTS

See Horizontal Arm and Body Swings, Exercise 5, pages 177 - 180.

DEEP KNEE BENDS





Deep knee bend position (page 19) with relaxed body hanging forward over knees, hands on floor...

Lifting hips up off heels, unbend knees slightly then immediately drop back to starting position... the drop will naturally be followed by rebound, creating bouncing movement... continue to drop and rebound in regular succession of short easy bounces...



2. Bending and Unbending

Deep knee bend position with relaxed body hanging forward over knees, hands on floor...

Letting body hang forward and keeping finger tips (or as much of hands as possible) on floor, unbend knees, coming to standing position...

Bend knees again, returning to starting position...

Continue to unbend and bend knees in this way...

This exercise combines Deep Knee Spring with Standing Downward Body Stretch (Exercise 1, page 42).





3	Drop

٨	Two-	Roat
Α.	I WO-	- Dear

Basic standing position (page 20)...

Drop down into deep knee bend position with body hanging forward over knees and hands on floor (as in preceding exercise)...

Return to starting position...

Repeat drop and return several times...

This is two-beat movement

drop	return

B. One-Beat

Drop down into deep knee bend position with body hanging forward (as in preceding exercise) and immediately spring back to starting position...

Continue to bounce down and up, giving slight push with hands as they meet floor, to increase feeling of elasticity...

Down and up movements are combined in single bounce (single beat)

down-up	down-up

4. Balance

Deep knee bend position with relaxed body hanging forward over knees and hands on floor...

Take hands off floor and sit upright with arms in raised position (page 21)...

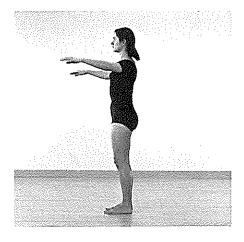
Keep hips in erect position (see Hip Swings, pages 556 – 557), weight back on heels, back straight.

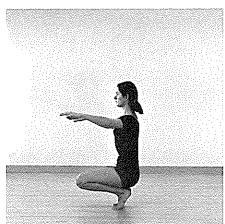
After balancing in this position for a moment, drop forward again into starting position...

Repeat movement several times...









5. Straight-Back Bend

Basic standing position, with arms raised...

Keeping back straight with hips in erect position (see Hip Swings, pages 556 - 557) descend into deep knee bend position...

Return to starting position...

During both descent and return, try to keep hips in erect position and back as straight as possible.

Repeat movement several times...

This movement may be done slowly or fast, as long as back is straight throughout.

6. Slow Motion

Basic standing position, with arms raised...

Keeping back straight with hips in erect position, slowly and continuously:

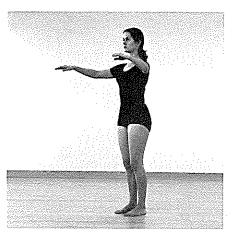
rise to toes...
sink back to starting
position...
descend with straight
back into deep knee
bend position...
return to standing
position...
rise to toes...
sink back to starting
position...

Movement should proceed uninterruptedly from position to position in one continuous flow.

This exercise utilizes to fullest, in slow motion, natural spring-like action of entire leg and foot.

Repeat movement several times...







7. Straight-Back Bounce

Basic standing position, with arms raised...

Keeping back straight with hips in erect position (as in preceding exercise), bounce down into deep knee bend position and immediately up again...

This is two-beat movement: one beat for bounce (down and up) and one beat for standing position

bounce down-up	stand	bounce down-up	stand	

Continue to bounce down and up in regular succession of elastic springing movements...

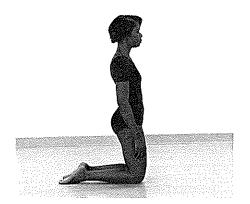
KNEELING KNEE BENDS

1. Sit Back

Basic kneeling position (page 19)...

Keeping hips in forward position (see Hip Swings, pages 556 - 557) and back straight, sit back on heels, then rise again to starting position...

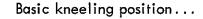
Repeat several times...





2. Side Sit





Keeping hips in forward position, sit back on heels then sideward on floor...

Relaxed trunk moves in opposition to hips: as hips move backward, trunk hangs forward; as hips move sideward, relaxed trunk bends (with slight twist) to opposite side.



Return to starting position...

Repeat to opposite side...

3. Oblique Sway

Basic kneeling position, with knees apart...

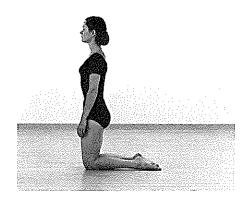
Maintaining straight body position (straight line from knees to head), sway backward as far as possible, gradually lowering body toward floor...

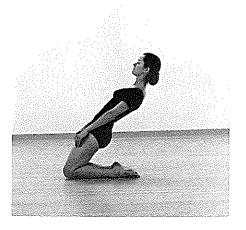
Do not bend at hips or arch spine. Keep hips in forward position, arms in line with body, chin lowered.

Return to starting position...

Repeat movement several times...

As thigh muscles grow stronger and knees more flexible, and as general coordination improves, it may be possible for advanced students to lower body all the way to floor.





OBLIQUE KNEE BEND

1. With Support





A. Part Way to Floor

Basic standing position, with one hand touching wall or piece of furniture for support...

Rise to toes then, keeping body straight, as in preceding exercise, gradually bend knees until you have descended part way to floor...

Spring back to basic position...

B. To Floor

Same as preceding exercise, descending all the way to floor until body is in oblique kneeling position...

Control movement, keeping weight back, so that you let yourself down very gently. Do not endanger knees by dropping onto them.

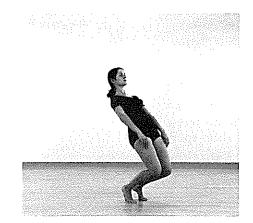


Return as follows: sit back on heels (knees off floor) in deep knee bend position, then spring up to basic standing position...



2. Without Support

Same as Exercises 1–A and 1–B (preceding two pages), without support...





OBLIQUE KNEE BEND FALLS

See Falling, pages 320 - 323.

DEEP LUNGE

1. Forward Drop

Basic standing position (page 20)...

Letting weight of body fall forward, take big step forward bending forward knee until it is almost to floor, relaxed body hanging forward over knee, hands on floor...

> Weight of body is almost entirely on forward foot. Backward leg is relaxed, with very little weight on backward foot.



Push back into starting position...

Repeat movement with other leg...

2. Drop in Place

Same as preceding exercise, with this difference:

Instead of dropping forward, drop down in place into same deep lunge position, bending one knee under you and extending other leg backward...

Be sure that weight is as far forward as possible, forward knee almost to floor. Position is exactly the same as in preceding exercise.

Return to starting position by standing up on forward foot...

3. With Locomotion

A. Forward

Same as Exercise 1 (preceding page) with this difference:

Lunge forward onto right foot... stand up on right foot... now lunge forward onto left foot...

In this way, continue to progress forward...

As a beginner, you may need to stand for a moment with weight on both feet before every lunge. With experience, this is no longer necessary.

B. Backward

Same as Exercise 2 (preceding page) with this difference:

Drop down in place on right foot, with left leg extended backward... push back onto left foot... now drop down in place onto left foot, with right leg extended backward... push back onto right foot...

In this way, continue to progress backward...

This exercise is valuable for developing feeling for weight transference in backward walk (see Active Walk, Exercise 2, page 379).

SIDEWARD KNEE BEND

Astride standing position (page 20) with arms in raised position (page 21)...

Shifting weight to ball of right foot and pushing hips forward, bend both knees until inside of left knee and foot rest on floor...

Avoid twisting hips.

Rise to starting position...

Repeat movement to other side...



LITTLE LUNGES

1. Lunge with Leg Stretch

A. Forward

Basic standing position with right leg stretched forward, foot just above floor...

Lunge forward onto right leg with knee bent, left leg straight, both feet on floor and straight ahead...





Stretch right leg, pushing foot off floor and transferring weight back to left foot...

Continue to alternate forward lunge with leg stretch...

Repeat movement with other leg...

B. Backward

Basic standing position with left leg stretched backward, foot just above floor...

Lunge backward onto left leg with knee bent, right leg straight, both feet on floor and straight ahead...





Stretch left leg, pushing off floor and transferring weight forward to right foot...

Continue to alternate backward lunge with leg stretch...

Repeat movement with other leg...

C. Sideward





Astride standing position with weight on left foot and right leg stretched sideward, foot just above floor, both legs rotated outward...

Lunge sideward onto right leg with knee bent, left leg straight, both feet on floor...

Stretch right leg, pushing foot off floor and transferring weight to left foot...

Continue to alternate sideward lunge with leg stretch...

Repeat movement with other leg...

2. Back and Forth Lunging

A. Backward and Forward





Forward lunge position (as in Exercise 1-A, page 264)...

Keeping soles of feet on floor, shift weight backward bending back knee and straightening forward leg so that you are in backward lunge position (as in Exercise 1-B, page 265)...

Shift weight forward again so that you are in forward lunge position...

In this way, continue to alternate forward and backward lunge positions...

Keep hips firm and body erect.

B. Side to Side

Sideward lunge position right (as in Exercise 1-C, page 266)...

Keeping soles of feet on floor, shift weight left, bending left knee and straightening right leg so that you are in sideward lunge position left...





In this way, continue to alternate right and left sideward lunge positions...

Keep thighs rotated outward so that knees point out over feet and arches are pulled up.

HORIZONTAL DESCENTS

See Horizontal Arm and Body Swings, Exercise 5, pages 177 - 180.

TWISTING

269



TWISTING

Our terminology is different from that used by anatomists and other scientists because creative dance is concerned with the whole body and with movement feeling, with psychological as well as physical occurrences.

The scientist is looking at the body from the outside. We are experiencing movement from within.

Terms like flexion, extension and rotation, used by scientists, describe the mechanical action of joints. More useful to us in our study are words taken from everyday language, such as bending, stretching and twisting.

Twisting movements can be created by trunk, hips, shoulders, legs and arms, moving separately or together.

The best possible experience of twisting can come through free improvisation of twisting movement, following individual imagination in discovering twisting movements all our own.

Here in this chapter we offer just a few twisting exercises to help develop awareness and control.

OUTLINE OF TWISTING EXERCISES

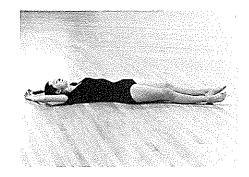
TWISTING	G ROLL	274
1.	Back Lying	274
2.	Front Lying	275
3.	Complete Roll	276
trunk t	TWIST	277
1.	Hip Twist	277
2.	Hip-Shoulder Opposition	277

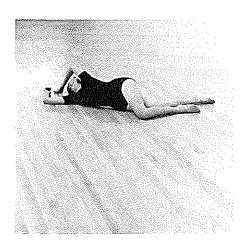
HORIZONTAL ARM AND BODY SWING

See Exercises 1 and 2-A, page 168.

TWISTING ROLL

The purpose of this exercise is to further relaxation, as well as to provide experience in twisting movement.





1. Back Lying

Lie on back, arms on floor over head, entire body completely relaxed...

Roll slowly to one side, arching back and leading with hips... remain on side in twisted position with lower body going forward, upper body and head hanging back, top leg on floor in front of you (knee bent)...

When presenting this exercise for first time, teacher should first make sure that student achieves correct position. Afterwards, attention should be put on movement into position.

Flop loosely back to starting position...

Repeat same movement to other side...

This is trunk movement. Do not push with foot. Arms and legs remain relaxed throughout exercise.

2. Front Lying

Lie on front, completely relaxed, arms on floor over head, face down...

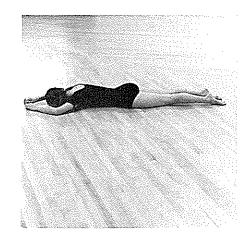
Students should not be squeamish about putting face on floor. Teacher should see that floor is clean.

Roll slowly to one side, leading with upper body and letting lower body hang back until you are in exactly the same twisted position as in preceding exercise...

Return to front lying position...

Repeat same movement to other side...

As in preceding exercise, keep entire body as relaxed as possible throughout movement.





3. Complete Roll

Combine two preceding exercises (1 and 2), rolling continuously in one direction, as follows:

Lie on back, as in Exercise 1...

Leading with lower body, roll to right side, as in Exercise 1...

Instead of returning to back, as in Exercise 1, roll to front lying position, as in Exercise 2...

Now, continuing in same direction and leading with upper body, as in Exercise 2, roll to left side...

Continue to roll in same direction until you are on back again...

In this way you have made one complete roll.

Make one complete roll in opposite direction: leading with lower body from back to front, then leading with upper body from front to back...

TRUNK TWIST

1. Hip Twist

Basic standing position, with arms raised in any symmetrical position...

Without changing position of feet or upper body, twist hips first in one direction then in the other as far as possible...

> Keep hips in erect position (see Hip Swings, Exercise 3-A, pages 560 -561). Do not let them swing backward.



2. Hip-Shoulder Opposition

Same as preceding exercise, with this difference:

While twisting hips in one direction, twist shoulders in opposite direction...

HORIZONTAL ARM AND BODY SWING

See Exercises 1 and 2-A, page 168.

TURNING



TURNING

A turning movement is a rotation of the body around its own axis.

Turning is one of the few body movements which can be measured spatially: it may be a full turn, a three-quarter turn, a half turn, a quarter turn, or a one-eighth turn.

A turn may be to the left or to the right. It may have a forward or backward direction if the front or the back of the body is leading. Otherwise it has no directional feeling.

A turn may be in place, or it may be from place to place, along a straight or a curved path.

It may be a plastic or a pivot turn.

OUTLINE OF TURNING EXERCISES

MEASUREMENT	284
DIRECTION	284
TURNS FROM PLACE TO PLACE	
See Horizontal Arm and Body Swings, Exercise 3, pages 170 – 175.	
TURNS IN PLACE	
See Horizontal Arm and Body Swings, Exercise 4, pages 175 – 176.	
PLASTIC TURNS	285
PIVOT TURNS	285

MEASUREMENT

Stand, or sit on floor, with front of body facing wall or some object which can serve as directional reference point...

Revolving around own axis, make following turns:

```
quarter turn left... right...
half turn left... right...
full turn left... right...
three-quarter turn left... right...
one-eighth turn left... right...
```

DIRECTION

A turn may be right (clockwise) or left (counter-clockwise). It may have forward feeling if front of body is leading, or backward feeling if back of body is leading:

Forward

```
Turning left, bend body slightly forward and twist slightly to left...

Turning right, bend body slightly forward and twist slightly to right...
```

Backward

```
Turning left, bend body slightly backward and twist slightly to left...
```

Turning right, bend body slightly backward and twist slightly to right...

TURNS FROM PLACE TO PLACE

See Horizontal Arm and Body Swings, Exercise 3, pages 170 - 175.

TURNS IN PLACE

See Horizontal Arm and Body Swings, Exercise 4, pages 175 - 176.

PLASTIC TURNS

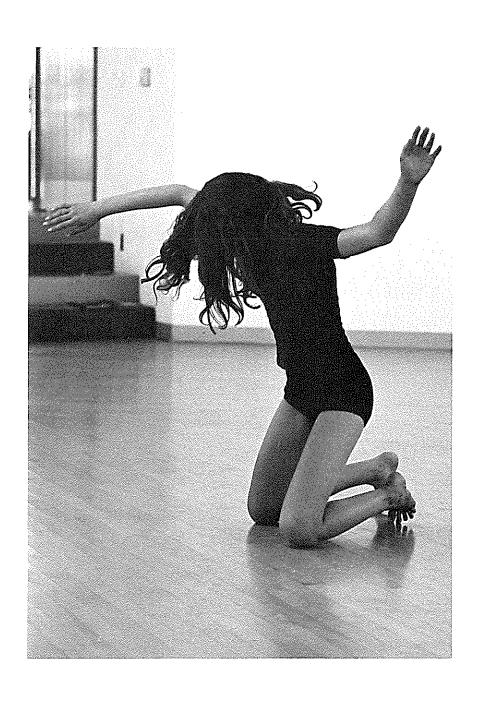
A plastic turn is one in which the position of the body conforms to the shape of the movement. See Horizontal Arm and Body Swings, Exercises 3 and 4, pages 170 – 176.

PIVOT TURNS

A pivot turn is made by pivoting on ball of foot, or on some other part of body (as in Horizontal Descents, Exercise 5, pages 177 - 180).

UNDULATING

287



UNDULATING

Undulating means moving in a wave-like manner in which a single movement impulse is passed along from one part of the body to another in uninterrupted flow.

The spine, which is segmented, undulates continually. Arms can undulate, so can hands. Although, like many of our basic movements, it is characteristic of only certain parts of the body, undulating can be felt throughout the body as a whole.

OUTLINE OF UNDULATING EXERCISES

SPINE WAVES				
	1.	Kneeling		292
		A. B. C.	Backward and Forward Body Drop Continuous Motion With Arm Circle	292 292 293
	2.	Stan	nding	294
		A. B. C.	Backward and Forward Body Drop Continuous Motion With Arm Circle	294 294 295
	3,	Lyin	ng	296
		A. B.	Spine Arch Arching and Rounding	296 297
	4.	Begi	inning with Vertical Hip Circles	298
	5.		low–Round Circle Spine Exercise, page 489.	
	6.		ow-Round Down-Up Spine Exercise, page 490.	

ARM WAVES

See Arm Exercises, pages 524 - 527.

HAND WAVES

See Hand Exercises, page 548.

SPINE WAVES

1. Kneeling





A. Backward and Forward Body Drop

Starting position: kneeling, with body relaxed forward over knees, head on floor, hips back on heels, feet flat, arms relaxed forward on floor...

Lift hips up off heels and, gradually pushing them forward, let spine uncurl until body drops backward into relaxed hanging position, head hanging, arms dangling...

Impulse begins at base of spine and travels upward to head in wave-like motion.

Moving hips backward, let body drop forward into starting position...

Uncurling movement with backward body drop is slow, forward body drop is fast.

Let entire body be as relaxed as possible throughout exercise.

Exhale as body drops backward, and exhale as it drops forward.

Rest a moment in starting position before repeating movement...

B. Continuous Motion

Same as preceding exercise, with this difference:

Let backward body drop and forward body drop flow together in one continuous wave-like movement...

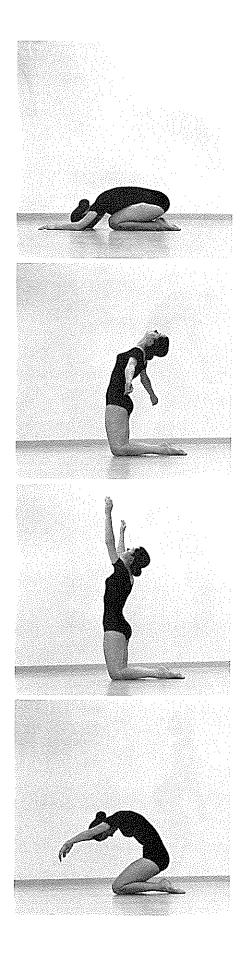
Movement begins slowly, gaining momentum as it proceeds.

C. With Arm Circle

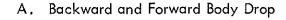
Same as preceding exercise, with this difference:

Add backward arm circle (see Backward Arm Circle Swing, Exercise 4–B, page 127) as follows:

As hips move forward, arms hang down... as body drops backward, arms move backward (rotating outward)... as body drops forward arms continue in circular movement upward over head and forward again into starting position...



2. Standing



Basic standing position with entire upper body hanging forward from hips, head hanging, arms dangling, knees loose...

Bending knees a little more, push hips forward and let spine gradually uncurl until trunk, head and arms drop backward into relaxed hanging position (as in Forward and Backward Upper Body Relaxation, Exercise 2, page 83)...

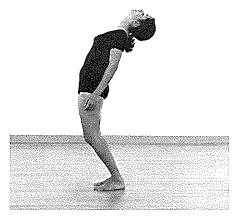
To avoid straining lower back, emphasize arching of upper, rather than lower, spine: keep abdominal muscles contracted and hips in forward position as body drops backward. (See Hip Swings, pages 560 - 561).

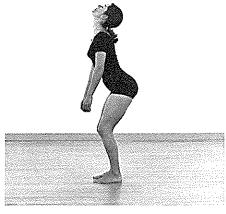
Moving hips backward, let body drop forward again into starting position...

Backward drop is slow, forward drop is fast.

Exhale on both backward and forward body drop.







B. Continuous Motion

Same as preceding exercise, with this difference:

Let backward body drop and forward body drop flow together in one continuous wave-like movement...

Movement begins slowly, gaining momentum as it proceeds.

C. With Arm Circle

Same as preceding exercise, with addition of backward arm circle, as in Exercise 1–C (page 293)...

This exercise may be done as four-beat, two-beat or one-beat movement, as follows.

Four Beats

- 1. Bend knees...
- 2. Hips move forward, spine begins to uncurl...
- 3. Trunk, head and arms drop backward then arms swing in circular motion up over head while trunk comes to erect position...
- 4. Entire body drops forward into starting position...

Two Beats

- Bend knees, move hips forward and let spine uncurl until trunk, head and arms drop backward...
- 2. Arms swing in circular motion up over head and entire body drops forward into starting position...

One Beat

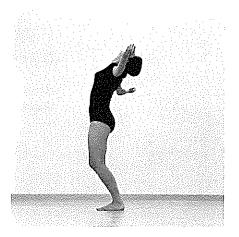
Entire movement has only one beat. Beat is felt in forward thrust of hips which starts wave-like motion traveling along spine.

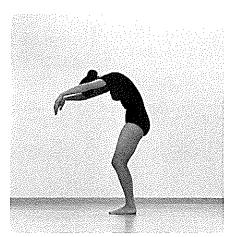
Movement is now faster and smaller. Instead of dropping body all the way down from hips, let only head and upper spine drop forward.

Work for continuous, uninterrupted, flowing motion.

This spine movement is same as that in Vertical Hip Circles, Exercise 1-A, page 564.

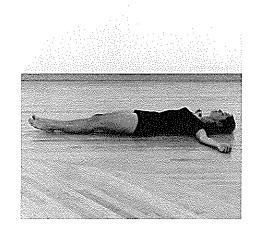


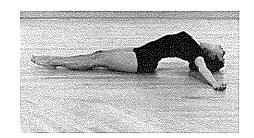




3. Lying

A. Spine Arch





Basic lying position (page 18)...

Arching back, lifting chest and resting on forearms, relax head and upper spine backward until top of head touches floor...

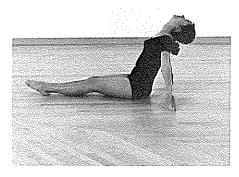
Keep lips open to further relaxation of face and neck.

Exhale as you make the movement.

Return to starting position...

Before repeating movement, to prevent strain in lower back, curl lower spine under and hold it in this position for a moment, then relax.

B. Arching and Rounding







Beginning with spine arch, as in preceding exercise, push up with forearms to sitting position with chest leading, relaxed head hanging backward...

After coming as far forward as possible with chest leading, relax and round back, letting head and arms hang forward...

Now, keeping back rounded, gradually lie down again, letting spine uncurl on floor, laying head down last of all and sliding arms out to side into starting position...

This uncurling movement is same as uncurling in Spine Exercise 1, page 492.

Repeat these two movements, going from one to the other in uninterrupted succession...

Feel wave-like quality of movement as it begins in lower back and travels along spine to head. 4. Beginning with Vertical Hip Circles

See Vertical Hip Circles, Exercises 1-A, 1-B, 1-C, page 564.

Beginning with any vertical hip circle, let movement impulse which begins in hips travel upward along spine to head in wave-like motion, as follows:

As hips move backward, let spine arch; as hips move forward, let spine round...

As hips move sideward, let spine curve so that head falls sideward in direction of hip movement...

As in all spine waves, entire trunk must be as relaxed as possible throughout exercise.

5. Hollow-Round Circle

See Spine Exercise, page 489.

6. Hollow-Round Down-Up

See Spine Exercise, page 490.

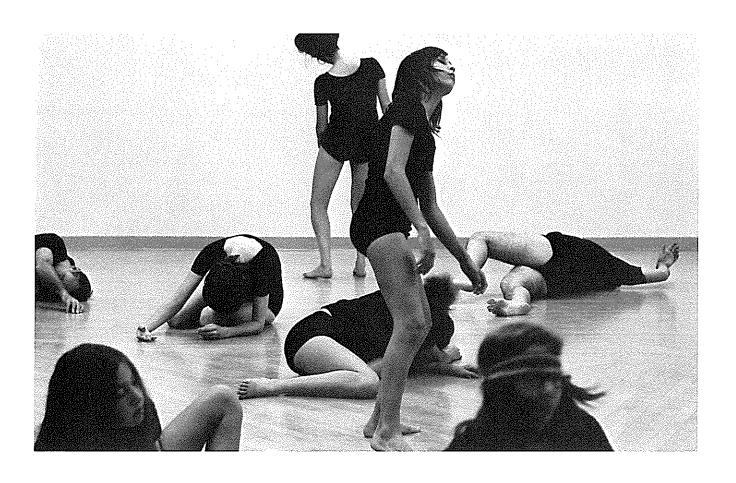
ARM WAVES

See Arm Exercises, pages 524 - 527.

HAND WAVES

See Hand Exercises, page 548.

FALLING



FALLING

There are innumerable ways of falling, depending on the movement imagination and capabilities of the one who falls so, like all our movement exercises, the forms presented here are intended only to cover some basic elements.

A fall may be relaxed or tense. It may be a drop in place or it may have a directional emphasis: forward, backward, sideward. Although primarily vertical, a fall may have a horizontal quality.

Freely improvised falling movements are very satisfying when practiced out of doors on grass.

OUTLINE OF FALLING EXERCISES

BACKWARD FALL			304
	1. 2. 3. 4.	Preparation Slow Motion Fast With Arm Swing and Hop	304 304 306 307
SIDEV	VARD	FALL	308
	1. 2. 3. 4. 5.	Kneeling Side Sit Kneeling Side Fall Standing Side Fall Kneeling Side Fall Circle Standing Side Fall Circle	308 308 310 312 314
FORW	/ARD	FALL	316
	1.	Basic Fall With Hop	316 318
FALL	IN PI	LACE	319

HORIZONTAL FALL

See Horizontal Arm and Body Swings, Exercise 5-D, page 180.

OBLIQUE	KNEE-BEND FALLS	320
1. 2. 3. 4.	To Hand To Forearm To Shoulders Backward–Forward Fall	320 321 322 323
ONE-LEG	BACKWARD FALL	324
1.	Preparation	324
	A. With Partner B. Alone	324 325
2.	Fall	326

1

ļ.,

1. Preparation

Same as Spine Curling and Uncurling, Exercise 1, page 492.

2. Slow Motion

This is same movement as Spine Curling, extended into standing position, as follows:

Lie on back, relaxed, arms beside body...

With head leading, curl up to sitting position... as you curl up, bend right knee (turned out) and put it on floor (right foot crossed over in back of left foot)... put weight first on right knee then on left foot (both knees and feet turned out)... keeping back rounded, stand up (using hands to help you, if necessary)... stand with feet straight ahead; head, arms and trunk hanging relaxed from hips...

Now, uncurling spine, come to erect standing position...

This is backward fall in reverse.

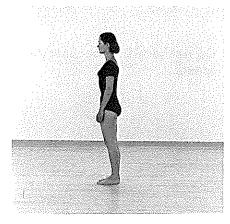
Movement has two parts: spine curling as you stand, then uncurling as you come to erect position.

Reverse movement, as follows:

Rounding back, let trunk, arms and head hang forward from hips... bending both knees, put right knee on floor (knee turned out with right foot crossed over in back of left foot)... using hands for support if necessary, sit down behind right foot...

Extend legs forward and, with back rounded, let spine uncurl on floor, putting head down last...

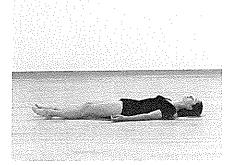
Repeat movement, putting weight on left knee...











3. Fast

Same as preceding exercise, beginning with fall and ending with standup...

Gradually increase speed of fall (speed of stand-up may also be increased, but this is not necessary) until fall is fast as possible...

Both fall and stand-up have two distinct parts which flow together into single movement:

- 1. spine curling
- 2. spine uncurling

Do not sacrifice accuracy for speed.

4. With Arm Swing and Hop

Preparatory Exercise: Spine Curling and Uncurling, Exercise 3, page 494.

Basic standing position (page 20)...

Step backward on right foot, raising left foot off floor and raising arms sideward in relaxed position with palms forward...

Swinging arms downward-forward-and-upward (as in Preparatory Exercise), hop forward onto left foot then, swinging arms downward-backward-and-out-to-sides, continue backward falling movement (using right knee for support) as in preceding exercise, ending in back-lying position with arms out to sides on floor, palms up...

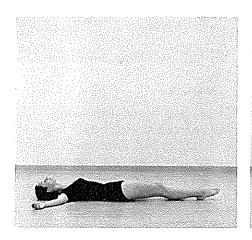
Return to standing position, as in preceding exercise...

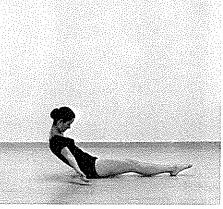
Repeat to other side, stepping backward on left foot, hopping forward on right foot and using left knee for support in backward fall...

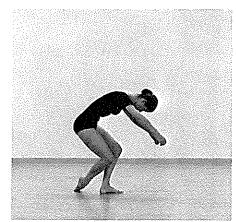
This exercise may be combined with Backward-Forward Arm and Body Swing (see Exercise 3–B–3, page 155).











SIDEWARD FALL

1. Kneeling Side Sit

Same as Knee Bending, Exercise 2, page 256.

2. Kneeling Side Fall

Basic kneeling position (page 19)...

Beginning with Kneeling Side Sit (above), continue sideward-downward movement, letting spine uncurl on floor until you are in side-lying position (arms move sideward in direction of fall, hands remaining on floor)...



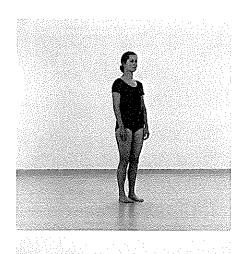


Final position: side-lying, lower knee bent, upper leg and lower arm extended, upper arm bent with hand on floor.

This movement should be done slowly at first, later fast.

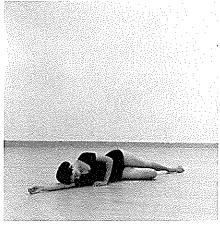
Return to basic kneeling position...

Repeat to other side...









3. Standing Side Fall

Same as preceding exercise, developed in standing position, as follows:

Basic standing position...

Fall to right: putting weight on left foot and bending both knees, lower right knee to floor (relaxed body bends forward and to left with slight twist to left)... descend to sitting position, letting outside of right thigh, rather than knee cap or hip bone, receive body weight... uncurl into side-lying position (right), sliding hands and arms out on floor in same direction (same as in preceding exercise)...

Return to standing position, as follows: draw body up from floor, putting weight first on right knee then on left foot... stand up on both feet and return to basic standing position...

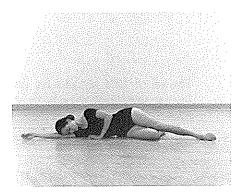
Repeat to opposite side...

Speed of fall should be gradually increased, but return to standing position may remain slow.









4. Kneeling Side Fall Circle

Same as Exercise 2 (page 308) with this difference:

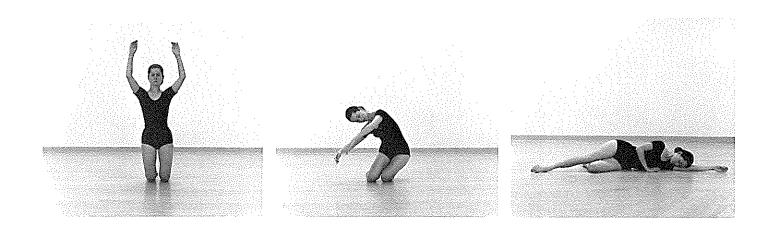
Basic kneeling position with arms raised loosely over head, palms forward...

Fall to right: as body bends left in opposition to hip movement (right), arms are lowered (left) until hands touch floor... then, as body uncurls into side-lying position (right), hands and arms move out along floor into final position...

This movement should be practiced slowly and gradually at first. Later it should be done fast.



Now return gradually to kneeling position and fall to opposite side, making circular movement with arms which move sideward left (body bends left) then upward over head (body erect) then downward right (body bends right) and, finally out along floor to left as body uncurls into side-lying position left...



Repeat movement to opposite side...







5. Standing Side Fall Circle

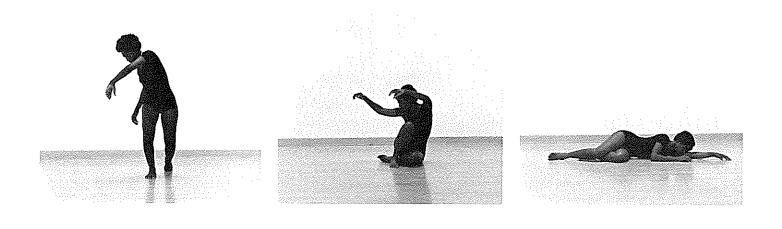
Same as Standing Side Fall (Exercise 3, page 310) with addition of arm circle as in Kneeling Side Fall Circle (preceding exercise):

Basic standing position with arms raised loosely over head, palms forward...

Fall to right: as body bends left in opposition to hip movement (right), arms are lowered left... then, as body descends to floor and uncurls into side-lying position (right), hands and arms move out along floor with body...

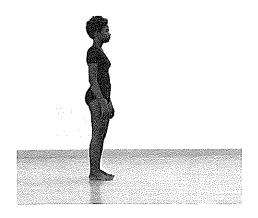


Return slowly to standing position and fall to opposite side, making circular movement with arms which move sideward left (body bends left) then upward over head (body erect) then downward right (body bends right) and, finally, out along floor as body uncurls into side-lying position left...



Repeat movement to opposite side...

FORWARD FALL



1. Basic Fall

This movement is development of Deep Lunge (Exercise 1, page 261).

Basic standing position...

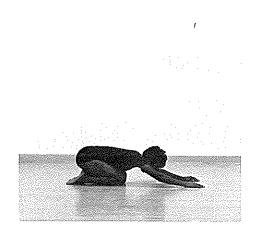
Lunge forward onto right foot (as in Deep Lunge) and continue forward motion of whole body along floor, as follows: turning right knee out, push yourself forward with hands until you are lying on front, legs extended, feet flat, arms beside body...

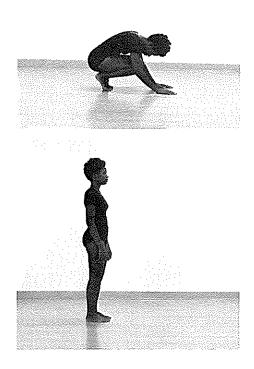






Return to starting position by using both hands to push yourself back into kneeling position, then squatting position (knees off floor, sitting on heels, toes tucked under) and, finally, standing position...





Repeat to other side, lunging forward onto left foot...



With Hop

Same as preceding exercise, with this addition:

Basic standing position with arms raised...

Step forward and hop on left foot, then lunge forward on right foot, continuing forward fall, at same time sliding right hand and arm straight forward on floor...



Return to starting position as in preceding exercise.

Repeat to other side, hopping on left foot and lunging onto left...

> This movement may be preceded by several running steps, intensifying feeling of forward fall.





FALL IN PLACE

Basic standing position...

Drop down into deep knee bend position with body hanging forward... push hips forward and lower knees toward floor... just before knees touch floor, make quarter turn right, pivoting on balls of feet, and descend to sitting position on floor to left of feet (letting ouside of thigh receive weight of body rather than knee-cap or hip bone)... then twisting right and bending upper body forward, lay back of left shoulder on floor as close to knees as possible, arms over head on floor...

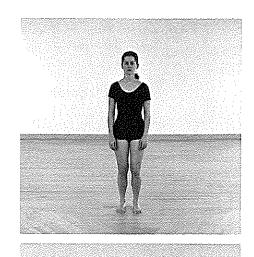
> Movement should be done at first slowly, with great care in executing each of its separate phases. Later it should be done quickly.

In final lying position, body is compact unit, occupying little space on floor.

Return to starting position as follows: kneel, with head and arms on floor... push back into squatting position (knees off floor)... then stand...

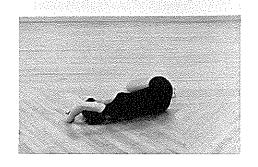
Repeat to other side...

Although it requires much control, this fall should have relaxed quality.





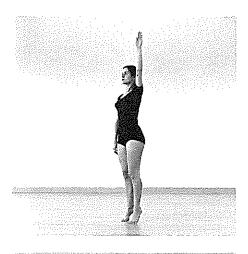




HORIZONTAL FALL

See Horizontal Arm and Body Swings, Exercise 5-D, page 180.

OBLIQUE KNEE-BEND FALLS





1. To Hand

Basic standing position...

Rise to toes, raising left arm forwardupward to vertical position over head...

Drop quickly to oblique kneeling position (as in Oblique Knee Bend, Exercise 2, page 260), at same time lowering left arm backward until left hand rests on floor (body in slightly twisted position)...

Return: sit back on heels (knees off floor) in deep knee-bend position, then rise to basic standing position...

These two movements, done in rapid succession, become one.

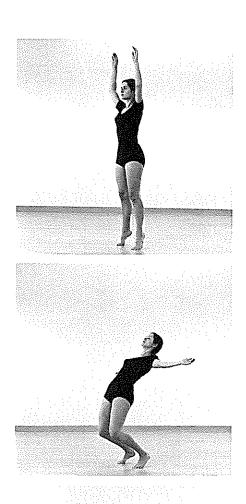
Repeat to other side...

2. To Forearm

Same as preceding exercise, with this difference:

Let body drop a little lower, so that forearm rests on floor...









3. To Shoulders

Astride standing position (page 20)...

Rise to toes, raising both arms forward-upward to vertical position over head...

Slowly descend in oblique kneebend position, at same time lowering arms backward until hands touch floor... now, pushing with feet, slide backward on outer edge of hands, then on shoulders until entire body rests on floor in back-lying position, arms sideward on floor...

Return: come to sitting position with knees bent and together, feet on floor... push over into kneeling position... sit back on heels with knees off floor... rise to basic standing position...

4. Backward-Forward Fall

Basic standing position...

Rise to toes, raising right arm forward-upward to vertical position over head, as in Exercise 1 (page 320)...

Slowly descend in oblique kneebend position, lowering arm backward, as in Exercise 1... just before knees and hands touch floor, make quarter turn right, pivoting on balls of feet, and descend to sitting position (letting outside of left thigh receive weight rather than knee cap or hip bone)... now lie forward on floor, legs backward, sliding right hand and arm forward...

> Final position: frontlying, right arm straight forward on floor, left arm beside body, legs extended backward.

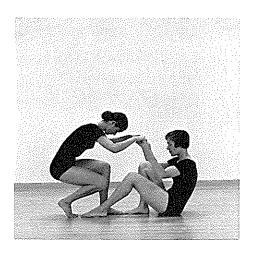
Return: push back to kneeling position, then squatting position (knees off floor), then rise to basic standing position...

Repeat to other side . . .

ONE-LEG BACKWARD FALL

1. Preparation

A. With Partner



Two people sit on floor facing each other, with knees bent and feet on floor, holding hands... right foot of each partner is as close to body as possible, other foot is at distance...

One partner puts weight on right foot and, with other's help, rises to standing position, keeping knees bent and back rounded...

Standing partner now sits down and helps other one to rise...

Alternately standing and sitting, couple creates slow back-and-forth rocking movement...

Repeat movement, starting with weight on left foot...

With practice it is possible to rise with very little (or no) help from partner. Keep weight-bearing foot very close to body. As you round back, move hips into forward position (see Hip Swings, pages 560 - 561) and use thigh muscles.

B. Alone

Lie on back, legs on floor, arms beside body...

Bending knees, rock back until hips are off floor... then, rocking forward, with back rounded, stand up on right foot, as in preceding exercise... now sit down and rock backward and forward again, standing up on left foot...





Continue to alternate rocking movement with stand-up first on one leg then on the other...

With practice it is possible to stand up on one leg from the sitting position without the rock-back.





2. Fall

Basic standing position...

Rounding back, bend right knee and, with left leg extended forward, sit down on floor behind right foot, then lie down on back with both legs extended, arms beside body...



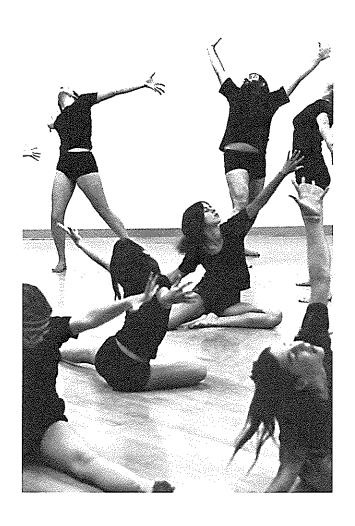


Return to standing position as follows: sit up with back rounded and, bending right knee and putting weight on right foot, stand up...

Repeat fall, using other leg...

Movement should be practiced slowly at first, then as quickly as possible.

CONTRACTING AND EXPANDING





CONTRACTING AND EXPANDING

Contracting and expanding, as we practice it in these exercises, begins in the abdominal muscles and spine, gradually involving the entire body including the extremities. It has a unique quality of inwardness, which can unify and deepen feeling for all body movement. It both depends on, and furthers, relaxation.

All of our movement exercises in this book are derived from natural body movements. The exercises in this section are derived from movements of breathing.

In normal healthy breathing, the rib cage expands and contracts. This provides us with feelings of expansion and contraction which can be experienced and expressed through the body as a whole.

In the following exercises we use breathing at first to help develop feelings of contraction but we soon learn to contract and expand without depending on breathing.

OUTLINE OF CONTRACTING AND EXPANDING EXERCISES

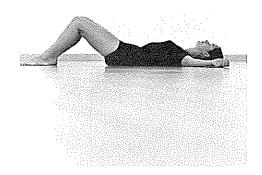
CONTRA	332		
1.	Trur	332	
	Α.	Knees Bent	332
		 Preparation With Exhaling Single Movement 	332 333 333
	В.	Legs on Floor	334
2.	Trur	nk, Arms and Legs	334
CONTRAC	CTING	AND EXPANDING	335
1.	Lyin	ng	335
		Arms Over Head Arms and Legs Wide Arms Beside Body	335 336 337
2.	Stan	nding	338
	А. В. С.	Arms Over Head Arms and Legs Wide Arms Beside Body	338 339 340

CONTRACTING

1. Trunk

A. Knees Bent

Lie on back with knees bent, soles of feet on floor, upper body relaxed, arms wide with palms up, eyes closed...



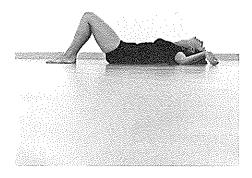
1) Preparation

Same as Hip Swing, Exercise 1, page 558.

2) With Exhaling

As in preceding exercise (Hip Swing, Exercise 1, page 558), press lower back down to floor, curling lower spine under, contracting abdominal muscles and swinging hips up and under...

Hold hips in tucked under position, then exhale deeply as possible, letting entire trunk be drawn into movement of contraction: chest caves in, spine seems to shorten, shoulders come forward, head drops back...



Position which results from this movement is same as that of short back in Tall and Short Back (Exercise 1, page 482) except that short back is relaxed while contraction is tense.

Return to relaxed starting position, letting air flow easily back into lungs...

Breathe in and out naturally for few moments before repeating movement...

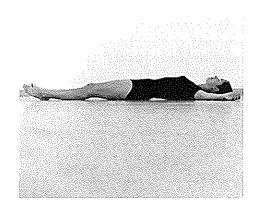
3) Single Movement

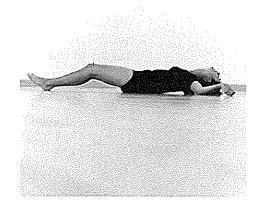
Same as preceding exercise, with this difference:

Exhale as you do hip swing, so that complete contraction is single movement...

B. Legs on Floor

Same as preceding exercise (1-A-3), with legs resting on floor instead of in bent-knee position...



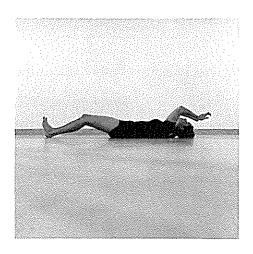


2. Trunk, Arms and Legs

Same as preceding exercise, with this development:

Lie relaxed on back with arms over head on floor...

Arms and legs are now drawn into movement of contraction, as follows:



Arms rotate outward, remaining parallel... elbows, wrists and fingers bend slightly... knees and ankles bend slightly... let entire body express feeling of contraction (shortening) which originates in abdominal muscles and travels outward to extremities...

Relax and return to starting position...

CONTRACTING AND EXPANDING

1. Lying

A. Arms Over Head

Relaxed lying position with arms relaxed on floor over head...

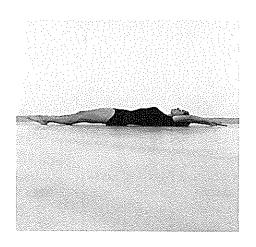
Bring entire body into stretched position, as in Lying Body Stretch (Exercise 2-B, page 35)...

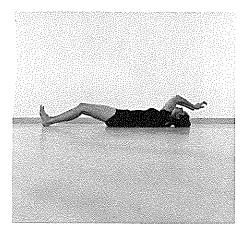
Relax and return to starting position...

Now contract entire body, as in preceding exercise...

Relax and return to starting position...

Continue to alternately stretch (expand) and to contract entire body, going gradually from one extreme to other through relaxation...

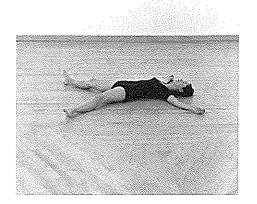




At first relaxation should be separate movement, later it should be merely transition from one movement to other.

Do not restrict yourself to any fixed breathing pattern: let breath come and go freely throughout exercise. After movement of contraction has been mastered, it can be disassociated from breathing.

В. Arms and Legs Wide

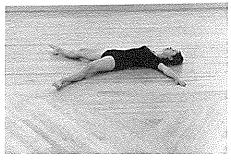


Lie relaxed on back with arms and legs wide, palms up...

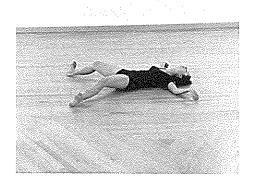


Stretch entire body, including arms, legs, feet and hands, in outward expanding motion...

> Arms are rotated inward, palms down.



Relax and return to starting position...



Now contract entire body, arms and legs wide and rotated outward, with elbows, wrists, fingers, knees and ankles slightly bent, as in preceding exercise...

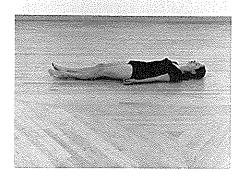
Relax and return to starting position...

Continue to alternate stretching and contracting...

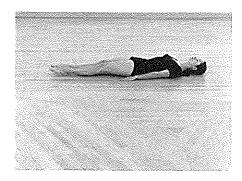
As in preceding exercise, relaxation should cease to be separate movement and become merely transition from one movement to the other.

C. Arms Beside Body

Lie relaxed on back with arms beside body...

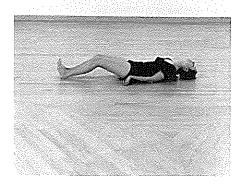


Stretch legs and feet and entire spine through neck to top of head (as in Lying Body Stretch, Exercise 2-C, page 35)...



Relax...

Contract entire body, arms rotated outward with elbows, wrists, fingers, knees and ankles slightly bent...

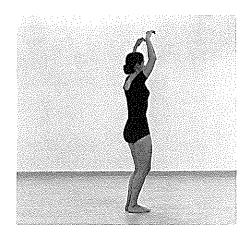


Relax...

Continue to alternate stretching and contracting, as in preceding exercise...

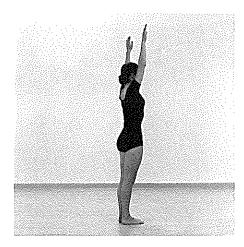
2. Standing

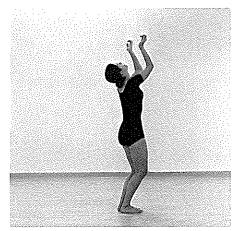
A. Arms Over Head



Basic standing position with arms raised in relaxed position over head...

Same as Exercise 1-A (page 335) except that feet, being on floor, do not change position...





B. Arms and Legs Wide

Astride standing position with arms raised sideward in relaxed position at shoulder height, palms down...

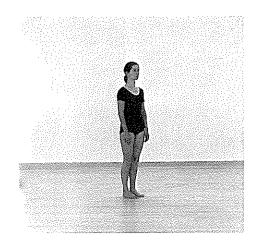
Same as Exercise 1-B (page 336) except that legs are not spread as wide apart and feet, being on floor, do not change position...







C. Arms Beside Body



Basic standing position (page 20)...

Same as Exercise 1-C (page 337) except that feet, being on floor, do not change position...





POUNDING,
PULLING,
PUNCHING,
THROWING



POUNDING, PULLING, PUNCHING, THROWING

The purpose of these exercises is to provide experience in the use of the abdominal muscles as the main source of power in body movements requiring strength.

In order to use these muscles effectively, not only as a source of power but also as a coordinating factor among all the muscles of the body, the practice of exhaling while contracting is essential. The prescribed body position (knees bent, hips in forward position, back rounded) furthers exhaling, abdominal contraction and utilization of thigh muscles, which are potentially the strongest muscles in the body.

It will be observed that all the movements in this chapter are based on swings. As has been discussed in the introduction to Swinging (page 119), swings are our most efficient kind of movement because, in utilizing to the fullest the force of gravity, they can achieve desired results with minimum muscular exertion.

OUTLINE OF POUNDING, PULLING, PUNCHING, THROWING EXERCISES

POUNDING			346	
	1. 2. 3.	Preparation Hands Clasped Pounding	346 346 347	
PULL	ING		348	
	1. 2. 3. 4.	Preparation Sideward Downward Upward	348 348 349 350	
PUN	CHIN	G		
	See (Cross-Arm Swing, Exercise 2-E, page 135.		
THRC	OWING	G	351	
	1. 2. 3.	Preparation Under-Arm Over-Arm	351 351 352	

POUNDING

1. Preparation

Backward-Forward Arm and Body Swing, Exercise 1-B-2, page 151.

2. Hands Clasped



This exercise is same as Backward-Forward Arm and Body Swing (see above), with this difference:

Stand in astride position (page 20) with arms held loosely over head, hands clasped...

Swing arms alternately downwardbackward through legs and up over head...

Maintain relaxed, regular, pendular swing, with knee spring.



3. Pounding

Same as preceding exercise, with this difference:

As you swing downward, when arms are at about waist level, break off swing with forceful pounding movement, exhaling and contracting abdominal muscles...



Pounding position is as follows: knees bent, hips in forward position, entire spine rounded (as in Curved and Straight Back, Exercise 3, page 488).

Force of movement should come from contraction of abdominal muscles. Upper back and arms need not be tight. Keep shoulders down.

On upward swing, avoid making back hollow: keep it straight.

PULLING

1. Preparation

Sideward-Downward Arm and Body Swing, Exercise 3, page 161.

2. Sideward

Astride standing position (page 20)...

Swing relaxed arms and body downward and to one side, then pull horizontally to other side...





As you pull, bend knees, move hips into forward position, exhale and contract abdominal muscles. Force of movement should come from abdominal contraction.

Continue to alternate swing to one side and pull to opposite side...

This movement can become basis of group study in which members of group, standing side by side, pull together in same direction; or in which two groups, facing each other, pull in opposite directions.

3. Downward

Astride standing position...

Alternately swing arms upward and pull downward, using abdominal contraction for force, as in preceding exercise...

Maintain regular pulse and swinging quality.





4. Upward

Astride standing position...

Let arms and upper body alternately drop downward and pull upward, using abdominal contraction for force, as in preceding exercise...

Maintain regular pulse and swinging quality.





PUNCHING

See Cross-Arm Swing, Exercise 2-E, page 135.

THROWING

1. Preparation

Arm Circle Swing, Exercises 4-A and 4-B, pages 126 - 127.

2. Under-Arm

Basic standing position...

Swing one arm in circular motion forward-upward-backward-downward and forward again, ending in strong forward throwing movement...







Entire swing is build-up of forceful throwing movement. At moment of throw, abdominal muscles contract, hips swing into forward position and breath is exhaled.

Body twists as arm moves backward in preparation for forward throw.

Let knees spring as you throw.

Repeat several times with one arm, then with other...

3. Over-Arm

Basic standing position...

Swing one arm backward-upward and forward in strong forward throwing movement...

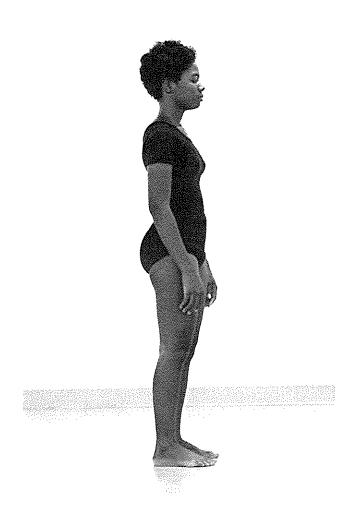


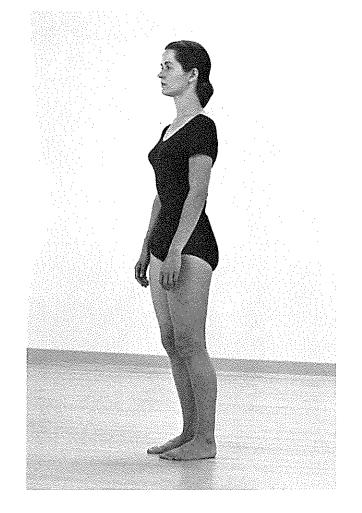
Entire swing is build-up of forceful throwing movement. At moment of throw, abdominal muscles contract, hips swing into forward position and breath is exhaled, as in preceding exercise.

Body twists as arm moves backward in preparation for forward throw, and knees spring as you throw.

Repeat several times with one arm, then with other...

STANDING





STANDING

Standing may be considered a movement as well as a position. In order to maintain an upright body position, there must be a balancing of bone on bone, requiring a continuous interplay of muscular action, with tension being relayed from one muscle to another.

Like every movement and position of the human body, standing is an expression of feeling and personality. It can express wholeness, uprightness, balance and wellbeing, or it can express just the opposite.

Good posture, as an expression of the best in ourselves, requires well-developed coordination and kinesthetic awareness throughout the whole body. It is not easy to achieve and takes time and effort. We must work on it continuously from the beginning to the end of our basic movement exercise program.

Every exercise in this book tends to further good posture by developing general coordination and awareness. The exercises given in this section have a direct relationship to the problem.

OUTLINE OF STANDING EXERCISES

TALL AND	:	358		
CURVED AND STRAIGHT BACK				
FORWARD	BODY DROP	;	358	
HIP SWING	;	358		
FOOT EXERCISES				
FEET IN RELATION TO FLOOR				
LEG ROTATION				
KNEE SPRING			359	
SHOULDERS OPEN-CLOSE				
ARM ROTATION				
HEAD PUSH AND PULL				
LYING-STANDING POSITION			360	
BALANCIN	G	3	361	
1. 2. 3.	Weight Shift Toe Rise and Toe Stand Standing on One Leg	3	361 361 361	

I ALL AND SHORT BACK

See Spine, Exercises 3 and 4, page page 485.

This exercise and the following one (Curved and Straight Back) are our most important posture exercises.

CURVED AND STRAIGHT BACK

See Spine, Exercise 3, page 488.

FORWARD BODY DROP

See Relaxing, Exercise 1, page 81.

This is an exercise for posture as well as for relaxation.

HIP SWINGS

See Hips, Exercise 3-A, pages 560 - 561.

Hips are important as foundation for spine.

FOOT EXERCISES

See Feet, pages 610 - 615.

Feet must be strong and sensitive to provide good base for standing.

FEET IN RELATION TO FLOOR

See Feet, page 618.

LEG ROTATION

See Legs, Exercise 1, page 575.

This exercise can further alignment of knees and feet.

KNEE SPRING

See Springing, Exercise 1-A, page 98.

This exercise can prevent stiffness of knees, which often destroys good posture.

SHOULDERS OPEN-CLOSE

See Shoulders Open-Close, page 514.

In good posture, shoulders should be closed and well knit to spine.

ARM ROTATION

See Arms, Exercise 1, page 522.

In good posture, arms, hanging at sides, are rolled slightly inward.

HEAD PUSH AND PULL

See Head Push and Pull, page 502.

In good posture, head should not be thrust forward but held erect as upward extension of spine.

LYING-STANDING POSITION

See Stretching, Exercise 2-C, page 35.

BALANCING

1. Weight Shift

Basic standing position (page 20)...

Keeping body erect and soles of feet on floor, shift weight alternately forward onto balls of feet and backward over heels...

In same way, shift weight of body from side to side, with weight first on one foot then on other...

In same way, shift weight forward then to one side then backward then to other side in continuous, smooth, circular motion... after circling several times in one direction, reverse direction of circle...

Throughout exercise, body should remain erect. Do not bend at waist or otherwise destroy feeling of being "all in one piece".

2. Toe Rise and Toe Stand

See Feet, Exercise 1, page 619.

3. Standing on One Leg

Basic standing position, with arms raised...

Keeping body erect, shift weight to left foot and gradually take right foot off floor, bending right knee slightly... supporting knee should be slightly bent, supporting foot well arched and gripping floor with toes...

Stand on left leg, letting knee spring a little...

Be sure that supporting knee does not turn inward but points forward directly in line with foot.

Return left foot to floor and relax legs by shaking them...

Repeat to other side . . .

BREATHING



BREATHING

Breathing is the most basic of all the body movements which we study. Not only is it necessary for life itself, but also it has unique psychological significance. Being both voluntary and involuntary, it establishes a vital link between the conscious and the unconscious, between the feelings and the intellect, between the laws of nature and the will of man.

Breathing is intimately bound up with all body movement. Every movement we make is accompanied by breathing motions which affect and are affected by the movement of the body as a whole. It is a sensitive index of the state of neuro-muscular tension throughout the body and our way of breathing can either further or inhibit creative movement expression.

Breathing is such a flexible movement that it can be patterned in any number of ways, and it is easy for us to distort its natural quality. Like all body movement, it expresses personality and we must be careful not to superimpose artificial breathing patterns but rather awaken and develop feeling for natural breathing rhythms.

In our study of breathing we are very careful to avoid fixed movement patterns and to offer ample opportunity for individual expression. Especially the time element of movement must be approached as freely as possible. Inhaling and exhaling may or may not be of the same duration, and a strictly dictated pace can frustrate a student whose natural pace is either faster or slower.

Breathing is a two-part movement consisting of inhaling and exhaling. When the body is relaxed and resting, inhaling occurs as a result of tension of rib cage muscles, and exhaling as a result of relaxation of these same muscles. In some of our exercises we cultivate this passive function of exhaling to further relaxation. On the other hand, when the body is exerting itself in forceful movements, exhaling occurs as a result of contraction (tension) of abdominal and rib cage muscles. We make use of this active function of exhaling to further forceful movements.

Many creative problems concerned with breathing are to be found in the book MATERIALS OF DANCE AS A CREATIVE ART ACTIVITY (Chapter 6). These emphasize the role of breathing as rhythmic coordinator in all body movement, and our study of breathing would not be complete without them.

The exercises given in this chapter are intended to further the natural function of breathing as a basic body movement.

OUTLINE OF BREATHING EXERCISES

G,F	NIFR	ΔΙ	DIRE	CTIC	2116

368

ABDOMINAL CONTRACTION

Exercises 1-A and 1-B, pages 332 - 334.

DEEP BREATHING

368

GENERAL DIRECTIONS

Avoid holding breath at any time. While practising any exercises in this book, make sure that you continue to breathe in and out as naturally as possible. Especially when learning a new exercise, there is a tendency to hold the breath. Check yourself to make sure that you do not do this.

Let your breathing be as relaxed as possible. Tension inhibits natural breathing.

Learn to exhale consciously at these times:

When releasing tension in movements of relaxation.

On major beat of all swinging movements.

When contracting abdominal muscles in forceful movements.

ABDOMINAL CONTRACTION

Exercises 1-A and 1-B, pages 332 - 334.

DEEP BREATHING

This exercise is for advanced students whose feeling for relaxation is well developed.

Lie on back, completely relaxed, as in Complete Relaxation, (page 64)...

Breathe easily, freely, quietly, naturally... let breath come and go as it will, making no effort to control it...

Put your attention on your breathing... follow breathing movements with your mind...

Breathing is an expansion and contraction of rib cage. Lungs fill with air and are emptied as result of this movement. Gradually extend range of your breathing movements, making effort to expand rib cage when inhaling and to contract it when exhaling...

Keep mouth and throat relaxed so that breath flows easily in and out.

Put hands at sides of lower ribs... when inhaling, try to push hands apart in sideward expansion of rib cage... when exhaling, contract rib cage, moving hands toward each other...

Put one hand on top of waist and other on floor beneath it... when inhaling, try to push hands apart and, when exhaling, move them together...

Put one hand at side of rib cage, other on top of waist... when inhaling, try to expand rib cage in all directions, pushing hands apart... when exhaling, contract rib cage, moving hands together...

Rest one hand on chest, other on top of waist or at side of lower ribs... as you inhale and exhale, expand and contract lower rib cage in all directions, keeping chest as quiet as possible...

Practice slow, full, deep breathing as follows: begin by expanding lower rib cage in all directions... gradually, as lungs fill, chest also rises... when exhaling, first lower chest then contract lower rib cage...

Lungs are largest in lower rib cage and smallest up under chin.
Relaxed, natural breathing emphasizes movement of lower rib cage. The fact that many people breathe by raising and lowering chest without expanding and contracting lower rib cage is a distortion of natural movement.
This can result from nervous tension.