

REF 13-1520

BASILINE[®] EVALUATION
INSTRUMENTS

The Monitor[®] exercise feedback

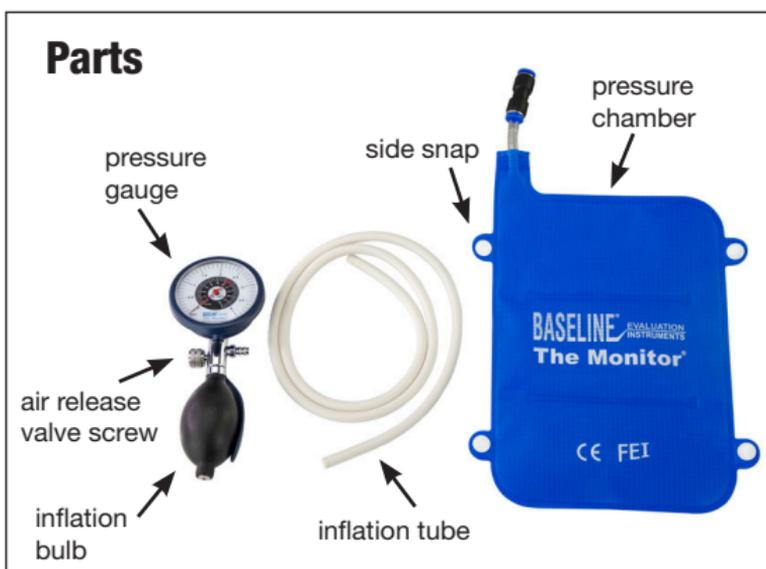
instructions for use



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Introduction

Introducing Baseline® Monitor® exercise feedback device – the perfect way for physical therapists, athletic trainers, and their patients to precisely measure and monitor body movement. This simple device makes it easy to detect changes in air pressure during exercise. It is composed of a combination gauge/inflation bulb connected to a pressure chamber, making it both easy to use and highly accurate.

Baseline® Monitor® is specially designed for Core Stabilization training – an effective exercise which can help improve lumbar spine health and functionality. This involves having the transverse abdominis and lumbar multifidus muscles work together to increase tension on the thoracolumbar fascia, adding stability to the lower back.

Exercise is a key ingredient for the prevention and treatment of lower back and neck pain. This instruction manual outlines techniques which involve slow movements so that your body can be monitored using the Baseline® Monitor® exercise feedback device. With this device, you can perform effective exercises to help reduce pains in your lower back and neck.

Using the Baseline® Monitor® couldn't be simpler as your patients get real-time viability of their progress when performing exercises correctly.

Baseline® Monitor® helps people perform simple, easy-to-follow stability exercises by providing precise exercise feedback. This comprehensive guide offers a series of stabilization exercises which target the lumbo-pelvic and cervical regions of the body. With this device, you can easily track your progress and adjust your exercise routine as necessary to maximize the results you're looking for.

Setup Instructions

Baseline® Monitor® uses a three-chamber pressure cell to ensure accurate monitoring. This pressure chamber can be inserted between the part of your body requiring tracking and a flat surface like a floor, chair back, wall, etc.

1. Gently twist and tighten the air release valve screw at the left side of the pressure gauge. Then, squeeze the inflation bulb to pump air into the pressure chamber so that the chamber contours around the body and flat surface. Pump until the resting pressure reads around 0.77 PSI (40 mmHg) on the pressure gauge



2. Before starting an exercise routine, the initial pressure may decrease due to air flowing back in the tube. Look at the pressure gauge and reinflate the pressure chamber as needed before exercise
3. When body weight shifts between any of the three pressure cell chambers, it will affect the reading on the pressure gauge
4. Depending on the exercise, pressure readings on the gauge should increase, decrease, or stay the same

5. Upon exercise completion, loosen the air release valve screw and push down on the pressure chamber to release air

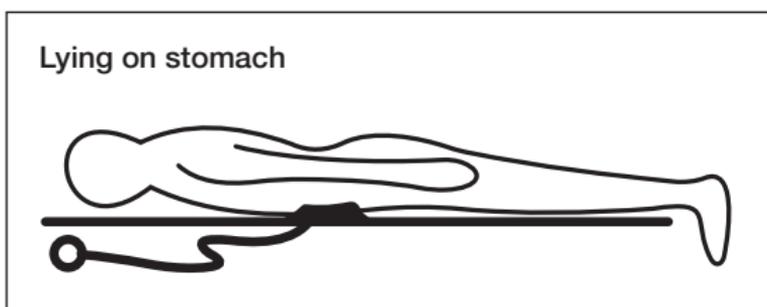


Precision in Specific Muscle Testing

To keep your lumbar spine and pelvic region stable and strong, you need to pay attention to both the deep muscle system and the larger superficial muscles. The deeper muscles provide stability for vertebral segments and sacro-iliac joints - if these are under active it can lead to lower back pain. Meanwhile, superficial muscles move the trunk of the body and are often overactive. This is why we recommend these specific exercises to target and test those areas with a Baseline® Monitor® exercise feedback device.

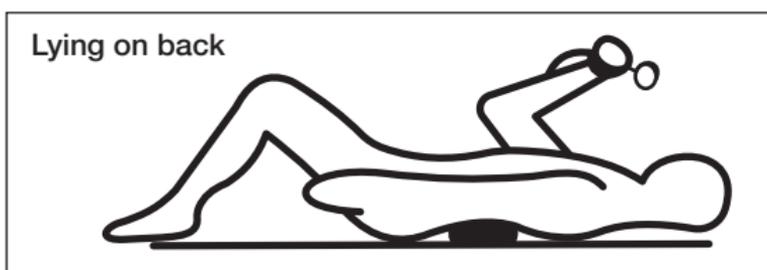
1. The Prone Test for Transversus Abdominis and Internal Oblique

1. Put the pressure chamber under the abdomen and inflate it to 1.4 PSI (70 mmHg)
2. Bring the abdominal muscles in without moving the spine or pelvis. The pressure gauge reading should decrease 0.12 to 0.19 PSI (6-10 mmHg)
3. While breathing normally, hold this position for 10-15 seconds
4. Relax the muscles and repeat this exercise 10 times



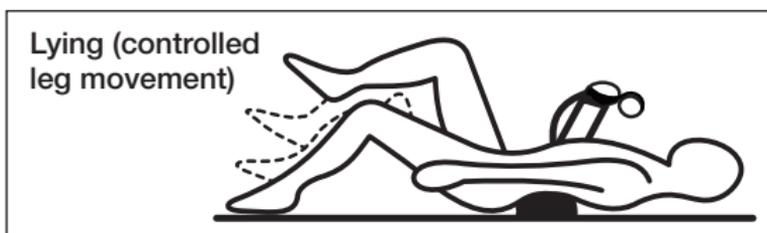
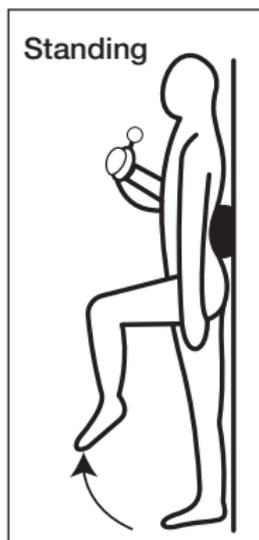
2. Training the Corset Action of Transversus Abdominis in Supine

1. Put the pressure chamber under the back (lumbar spine) and inflate it to 0.77 PSI (40 mmHg)
2. Without moving the pelvis or the spine, bring the abdominal muscles in. Pressure should not change, and remain at 0.77 PSI (40mmHg)
3. While breathing normally, hold for 10-15 seconds
4. Relax the muscles and repeat this exercise 10 times



3. Training the Corset Action of Transversus Abdominis with Leg Loading

1. Put the pressure chamber behind the back (lumbar spine) while standing against a wall, or lying on the floor. Inflate the chamber to 0.77 PSI (40 mmHg)
2. Without moving the pelvis or the spine, bring the abdominal muscles in and lift up one leg. Pressure should not change, and remain at 0.77 PSI (40mmHg)
3. While breathing normally, hold for 10-15 seconds
4. Relax the muscles and repeat this exercise 10 times



4. Lumbar Stabilization During Stretching Techniques

Baseline[®] Monitor[®] exercise feedback device is designed to help stabilize your spine, allowing you to easily and effectively stretch the muscles around it for improved flexibility.

To Test/Stretch:

- Hip Flexors (Thomas Test)
 - Rectus Femoris
 - Latissimus Dorsi and Pectoralis Major
1. While lying on a treatment table (or raised surface), put the pressure chamber under the back (lumbar spine) and inflate it to 0.77 PSI (40 mmHg)
 2. Practice the stretch indicated in the images below. Pressure should remain at 0.77 PSI (40mmHg) as the stretch is performed
 3. While breathing normally, hold stretch for 10-15 seconds
 4. Relax the muscles and repeat this exercise 10 times. Repeat on both sides

Test/stretch for tight hip flexors (Thomas Test)



Test/stretch for tight Rectus Femoris

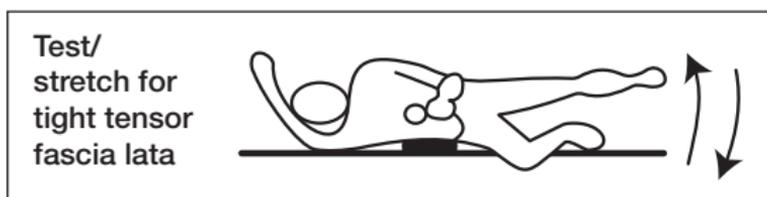


Test/stretch for tight Latissimus Dorsi and Pectoralis Major



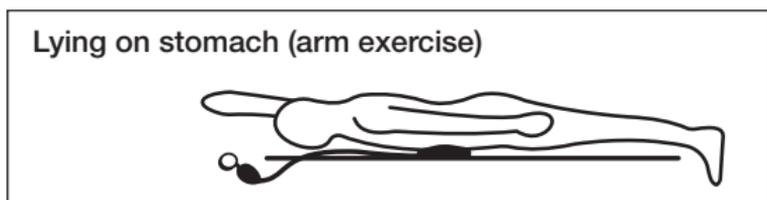
To Test/Stretch: Tensor Fascia lata

- While lying on your side, place the pressure chamber between the lateral trunk (lumbar spine level) and flat surface and inflate pressure to 0.77 PSI (40 mmHg)
1. Practice the stretch indicated in the image below. Hold your body so that pressure remains the same at 0.77 PSI (40mmHg)
 2. While breathing normally, practice the stretching movement 10 times. Repeat on both sides



5. Lower Trapezius

1. Put the pressure chamber under the abdomen and inflate it to 1.4 PSI (70 mmHg)
2. While bringing the abdominal muscles in, lift up one arm and keep the other arm down at the side.
3. Pressure should not change and hold at 1.4 PSI (70 mmHg) as the exercise is performed
4. Hold this position for 5 seconds and repeat this exercise 10 times. Repeat with both arms



Baseline[®] Monitor[®] exercise feedback device is designed to observe and analyze proximal trunk stability, helping clinicians accurately detect muscle strength imbalances.

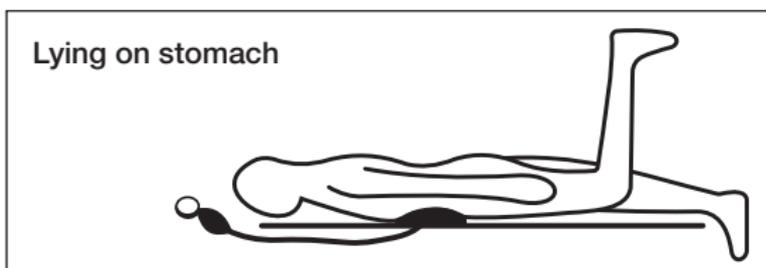
6. Iliopsoas

1. Put the pressure chamber behind the back (lumbar spine) while sitting against a wall or flat surface. Inflate the chamber to 0.77 PSI (40 mmHg)
2. Without moving the thoracic or pelvic body parts, bring in the abdominal muscles. The pressure should increase 0.15 to 0.19 PSI (8-10 mmHg)
3. Slowly raise one leg up while the other leg is lifted slightly off the ground.
4. Hold this position for 5 seconds. The pressure should hold at 0.93 to 0.97 PSI (48-50 mmHg)
5. Practice this exercise 10 times. Repeat with both legs



7. Gluteus Maximus

1. Lie on the stomach and put the pressure chamber under the abdomen and inflate it to 1.4 PSI (70 mmHg)
2. While bringing the abdominal muscles in, curl one of your legs up and raise your knee about 2 in (5 cm) off the surface to extend your hip
3. Pressure should not change and remain at 1.4 PSI (70 mmHg)
4. Hold this position for 5 seconds and repeat 10 times
5. Repeat with both legs



8. Training of the Deep Cervical Flexors

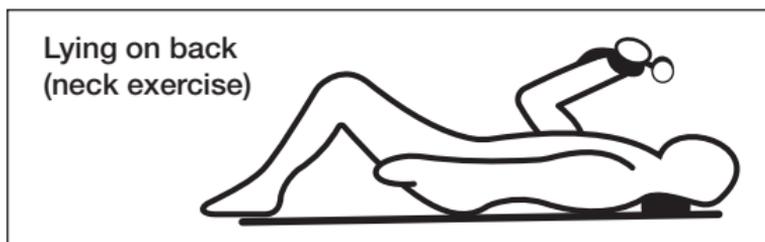
1. Fold the uninflated pressure chamber in half and secure in place using the side snaps



2. While lying down on your back, put the pressure chamber under the neck (against the occiput) and inflate it to 0.4 PSI (20 mmHg)

Note: Do not inflate the pressure chamber until the device is placed behind the neck. Air may escape the chamber back into the air tube. Reinflate chamber two or three times until reading consistently shows 0.4 PSI (20 mmHg)

3. To perform the exercise, slowly move the head up and down in a “yes” motion. Do this while keeping the tongue on the roof of the mouth, keeping the lips together and teeth separated
4. While nodding the head up and back, try to get the pressure gauge to read 0.43 PSI (22 mmHg). Hold this position for 10 seconds. If this position can be comfortably held, repeat this nodding movement, nodding the head further back, until the pressure gauge reads 0.46 PSI (24 mmHg). Practice this exercise until the pressure gauge reads 0.58 PSI (30 mmHg)
5. Repeat this exercise 10 times.



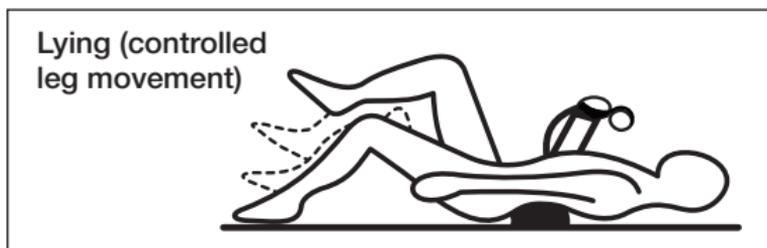
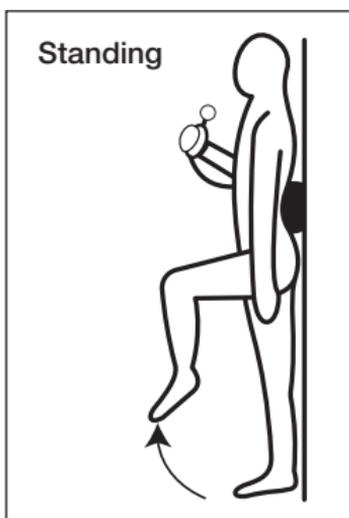
MONITORING OF LUMBAR SPINE STABILIZATION FOR SAFETY AND PRECISION OF EXERCISE AND PROTECTION OF LUMBAR SPINE

Limb Loading

- Baseline® Monitor® exercise feedback device is an invaluable tool in helping protect the lumbar spine while performing lower and upper limb exercises. It ensures that muscles are utilized properly, thereby providing increased safety during exercise.

Stabilization Procedure

1. Put the pressure chamber vertically under the back side of the spine (opposite to the side that leg is being lifted to exercise) and inflate to 0.77 PSI (40 mmHg)
2. Keep the back steady and lift up one leg.
3. Practicing this exercise standing against a wall should increase pressure from 0.15 to 0.19 PSI (8 to 10 mmHg). Hold the position to hold the pressure reading
4. Practicing this exercise while lying on the floor should increase pressure 0.39 to 0.97 PSI (20 to 50 mmHg.) Hold the position to hold the pressure reading



Specifications

MEASURING RANGE	Analog 0 - 4 PSI (0-200 mmHg) pressure
ACCURACY	±0.06 PSI (±3 mmHg) pressure
INFLATE	Tighten air release valve screw and squeeze bulb
DEFLATE	Twist the air release valve screw loose

Recommendations

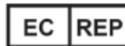
- Properly disconnect the connector tube from your dial gauge/inflation bulb before storing the device
- When not in use, make sure to keep the pressure chamber either flat or folded along its seams for optimal storage conditions
- Clean device with a damp cloth only

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