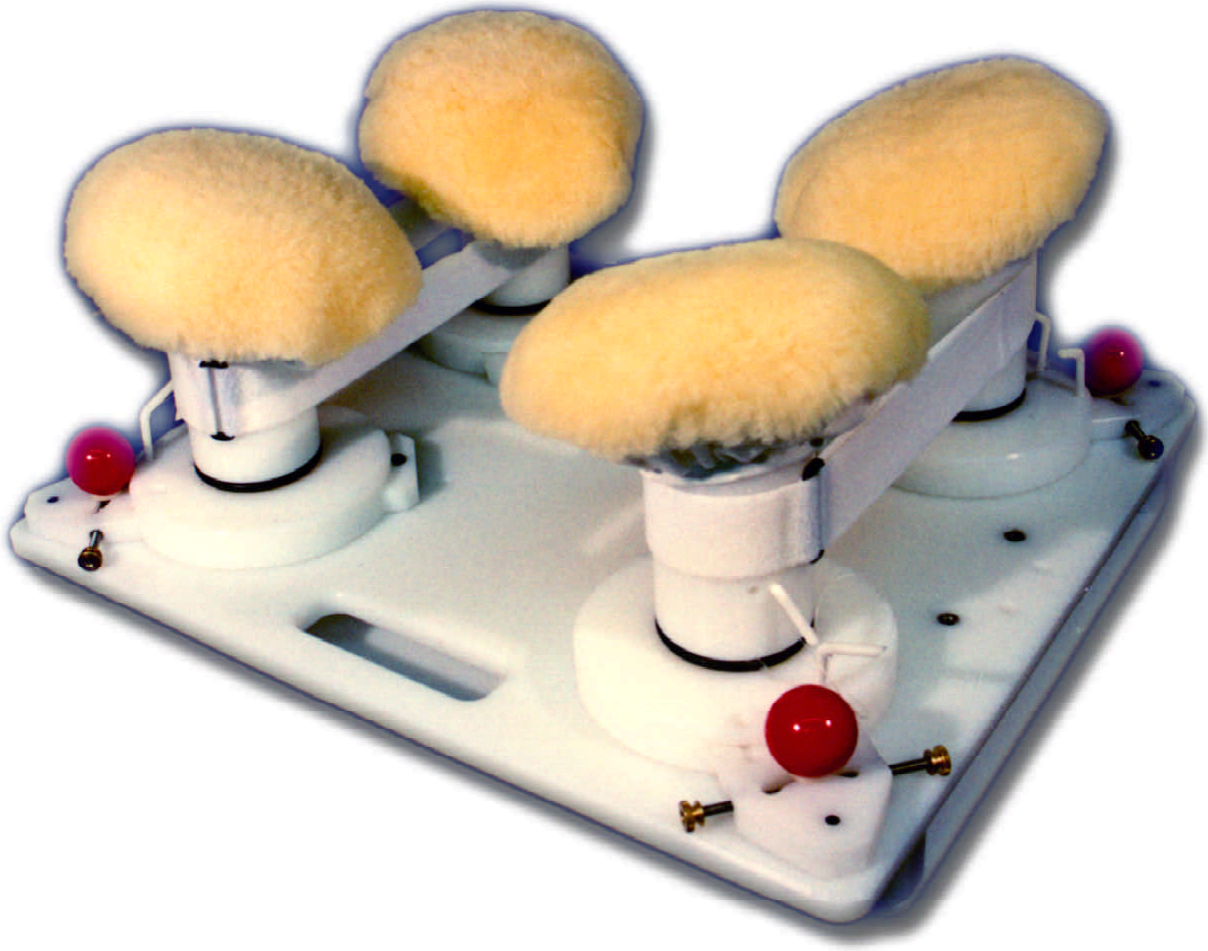
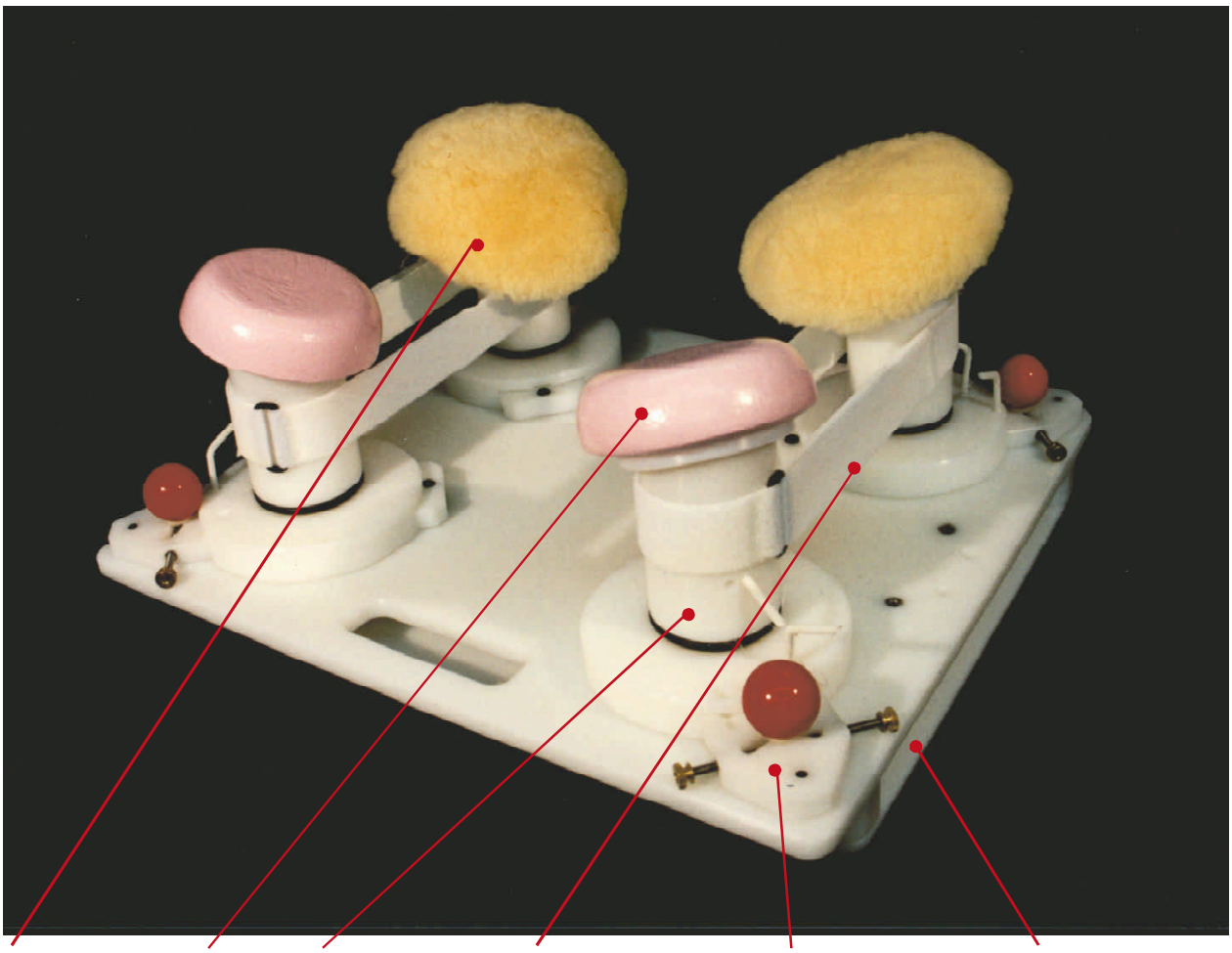
CF-94 SPINE FRAME



USER'S GUIDE



WOOL GEL PAD COVER

GEL PAD

SWIVEL COLUMN WITH LOCKING PIN

STABILIZING STRAP

EXPANSION TROLLEY WITH RED BALL LOCK

REMOVABLE TRAY WITH X-RAY CASSETTE LOCKS

The CF-94 Spine Frame was developed by Denis Drummond, M.D., a Philadelphia orthopedic surgeon, to address optomol lordosis and the specific need for intra abdominal venous pressure and hence reduced blood loss during scoliosis surgery and other lengthy spinal cases. The CF-94 is designed for positioning patients in the prone position.

1. Each frame includes two stabilizing straps, four gel pads, and four wool gel pad covers. When preparing the frame for surgery, screw the gel pads over each angled support column.

2. In addition to these accessories, the CF-94 also has adjustable parts. There are four swivel columns and locking pins, four expansion trolleys with red ball locks plus locking pins, and four x-ray cassette locks on one removable tray. Each adjustment and accessory must be in position and locked prior to surgery. The cassette should remain in place if radiographs will be needed to identify segment L-4. Remove the cassette tray if a C-arm is to be used.

3. Place frame on top of the surgical table mattress. position the frame so that the carrying handles are to the left and right sides of the OR table. Because the patient will be slightly elevated from the OR table, the patient's head and legs must be supported firmly and with sufficient access to suit the anesthesiologist. The placement of the head support arrangement will determine the placement of the frame base on the table. Correct placement and support of arms, head and legs is essential to avoid any complication resulting from pressure on nerves or vessels. Electronic monitoring of the brachial plexus is also recommended.

4. To protect the brachial plexus, special care must be taken to optimally position and monitor the arms during surgery. Also, the positioning of the upper support columns is critical. The arms should be positioned to avoid extreme abduction and extention at the shoulder. Spacing of the frames is usually established by measuring the patient at frame contact points.

Special thanks to Denis S. Drummond, M.D., Philadelphia, PA; Parviz Kambin, M.D., Philadelphia, PA and Baylor University Medical Center – Surgical Services, Dallas, TX

5. The pressure points* of the prone position which need special care to avoid complications are usually the eyes, cheeks, ear, achromium process, breasts, male genitalia, anterior iliac spine, patella and toes. Each of these areas is carefully checked for contact with equipment and metal surfaces. Once these columns are correctly positioned install the two Velcro® stabilizing straps around the two columns supporting shoulders and the two columns supporting the pelvis and tighten. The straps will secure the columns from lateral movement once the patient is in position.

6. Only after all components are securely positioned or locked in place is the CF-94 ready to receive the patient. As in most procedures requiring a prone position, the patient is anesthetized prior to placement upon the frame. Accepted patient handling techniques are used to transfer the patient to and from the surgical bed to the OR table and then to the spinal frame. Slight adjustments can still be made to the support columns of the frame for an optimum centered fit. The proper adjustment centers the gel pads adjacent and distal to the left and right achromial clavicular joints and the left and right anterior iliac spines. If needed, fine column rotation and stabilizing adjustments can be made with the patient on the frame to insure best fit. Any final adjustments should include the Velcro® stabilizing straps. The frame can accommodate patient weights up to 250 pounds and be adjusted for pelvic obliquity or deformity. It is completely radiograph friendly.

7. Thrombic pumps or elastic stockings may be applied to decrease peripheral pooling and increase vascular return.

** See pressure point graphics from the demonstration video "Patient Management: Intraoperative Positioning" available from Baylor University Medical Center.*

8. A minimum of four people is needed to safely and smoothly move the patient into the prone position. Using the log roll technique helps maintain body alignment. As the patient is moved to the prone position all body parts are supported. It is essential that normal range of motion is used, particularly on placement of the arms. The anesthetist is responsible for moving the patient's head and keeping it in proper alignment with the rest of the body.

9. Gel-covered columns supporting the achromial clavicular joint and iliac crest elevate the upper body. Absence of pressure on viscera will facilitate chest and lung expansion and venuous return through the inferior vena cava. The frame is specifically designed to minimize abdominal pressure and hence reduce venous pressure at the operative sight. The surgeon can also adjust the head or leg angle using the table position adjustments to optimize lordosis prior to surgery.

Heavy pendulous breasts are positioned laterally. Foley catheters should hang freely and without compression.

Place padding under the lower legs and ankles to prevent pressure on the toes, knees and feet which could cause planter flexion or foot drop. Secure the safety belt two inches above the poplyleal space.

Patients with a history of thoracic outlet syndrome may need to have arms tucked at the sides.

10. Document information related to all patient positioning according to hospital protocol. For a thorough inservice course on accepted patient handling techniques, USA Medical, Inc. recommends Baylor University Medical Center's video "Patient Management: Intraoperative Positioning". For further information or to order call (214) 820-3540.

11. When cleaning the CF-94 Spine Frame use a 10% bleach solution on all plexiglass parts. Do not use straight bleach or heavy abrasives. The wool gel covers may be laundered but the gel pads require only wiping down. Do not immerse or autoclave the gel pads. Gamma radiation will discolor plastic over time. To facilitate frame set up many ORs use a dust cover and store on a stainless steel back table.

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