

## Longtail Full-Spine Filters

### Introduction

Based on the work by John Nolan, ATX manufacture collimator-based filters that provide two significant benefits to spinal x-ray digital imaging. These filters, when used with the Longtail full spine digital panel enable spinal studies to be completed with the lowest possible x-ray dose and improve the image quality.

The Longtail allows full-spine images with the equivalent dose of one chest x-ray. Unlike the stitched full spine studies where the patient may receive up to three times the skin dose, Longtail's single exposure substantially reduces this unwanted exposure.

### FILTER PLACEMENT FOR FULL-SPINE AP EXPOSURE

1. Para Spinal Blocker, lower till base is just above iliac crest. NOTE: If you want the Para Spinal Blocker to shield even closer to the spine, move the filter to a groove closer to the patient.



2. A-P Cervico-Thoracic wedge, Lower until top is just below occiput, the bottom at about Xiphoid process.



3. Placing '3' Point filter, in this example. Lower till it is opposite bottom of the thicker part of Cervico-Thoracic wedge filter.

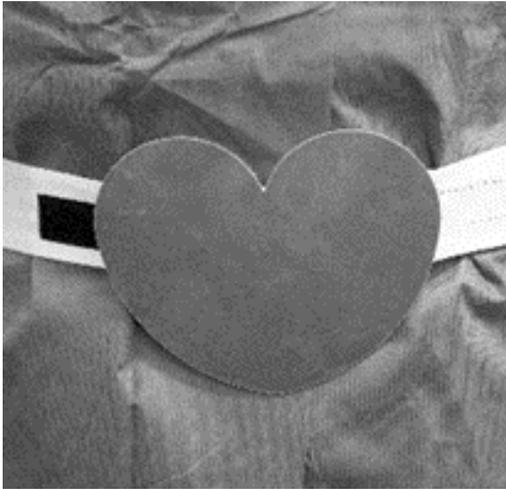


The dose is substantially reduced (up to 85%) with the application of these filters with the gonad and ovarian shields.

Male	Dose Reduction
Skin	85%
Bone Marrow	35%
Testes	85%
Female	
Skin	85%
Bone Marrow	45%
Ovaries	60%



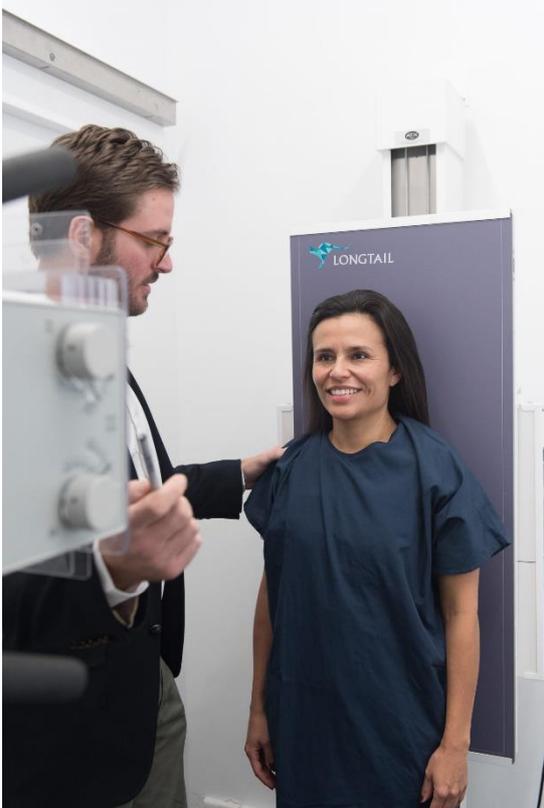
- Using Velcro Belt provided, place the A-P Ovarian Shield, curved top of shield should be about 80mm below the anterior superior iliac spine.



Using Velcro Belt provided, place the A-P Gonad Shield, with upper edge just below the pubic symphysis.

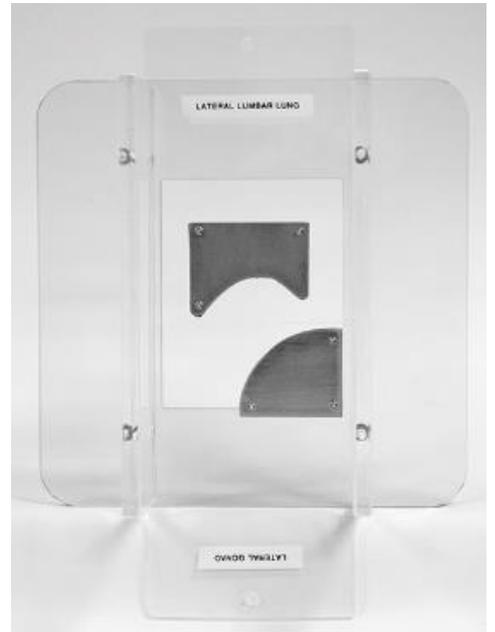


Patient should stand with heels about 6 inches apart, and at the time of the exposure, trying to keep the knees 'locked back'. This procedure helps in diagnosing true 'short leg' problems.



FILTER PLACEMENT FOR LATERAL FULL-SPINE EXPOSURE

1. Lateral Gonad Shield, raise until it is anterior inferior of sacrum in female.
2. Lower Lumbar lung filter until inferior border matched rib cage.



3. Position Spinous filter to match lumbar curve, use groove closest to the patient. Place this filter from below.



4. Placing Lateral Thoracic wedge, raise until it touches base of the Cervical Filter.

5. Lower 3 Point Filter until base is opposite top of the curve of the lateral Cervical Filter.



Option: Position Lateral Sternum and Breast Filter, to match Thoracic Kypnosis.



Male	Dose Reduction
Skin	95%
Bone Marrow	65%
Testes	85%
Female	
Skin	85%
Bone Marrow	65%
Ovaries	75%