



GRAYSHIELD PATIENT PROTECTION EYE & THYROID SHIELDS

DISTRIBUTOR INFORMATION

The GrayShield Eye and Thyroid Protection Shields are the result of an extensive development to produce the most technically and cost effective shielding for patients undergoing CT or X-Ray procedures. The shields and material have been independently tested by the Radiation Protection Service, at the Department of Medical Physics & Clinical Engineering at Singleton Hospital in the UK. The performance of the materials has also been certified by the Health Protection Agency, which is a department of the National Radiological Protection Board in the UK.

GRAYSHIELD EYE PROTECTION

Head CT and general X-ray examinations can result in significant and unnecessary exposure to the lens of the eye. The International Commission of Radiological Protection has estimated that the threshold for detectable opacities in the lens from a single brief exposure to be 0.5 - 2Gy and the threshold for visual impairment (cataract) to be 5Gy. The ICRP have recently suggested that the lens of the eye may be more radiosensitive than previously considered and have recommended particular emphasis on optimisation. The GrayShield Eye Protector has been designed to provide superficial anterior and lateral coverage of the eye, to significantly reduce and optimise the dose received by the lens during CT and general X-ray procedures. The built-in standoff ensures that image artefacts created by shielding are reduced to an absolute minimum.

Lens dose reduction provides approximately 40% attenuation in all CT scan configurations. Independent Xray transmission testing on the material shows a 40%+ dose reduction throughout the range of 50kV to 150kV.

GrayShield Eye Protectors have hypoallergenic adhesive tabs to ensure that the shield is fitted properly and the standoff is maintained consistently. They are designed for one-time use to prevent possible biological contamination between patients. The shields are made from Barium Sulphate and can safely be disposed of through normal waste procedures.

SAMPLE DATA

Dose* Measured Beneath Barium GrayShield

Barium Vinyl Thickness (mm)	Dose (uGy)		
	0.0*	1.0	2.0
100kV	6909	2387	1112
110kV	8452	3072	1454
120kV	9831	3839	1939

* Air Kerma

GRAYSHIELD THYROID PROTECTION

Grayshield Thyroid Protectors are shaped to fit comfortably over the Adam's Apple and are designed to provide a significant dose reduction to the radiosensitive thyroid gland. The shields have a Lead Equivalency (LE) of 0.125mm. The dose reduction through the shield has been independently tested and verified in clinical studies, showing a practical dose reduction of up to 60% during CT or general X-ray examinations and 80%+ dose reduction in independent transmission testing throughout the range of 50kV to 150kV. Grayshield Thyroid Protectors are designed for one-time use to prevent possible biological contamination between patients. The shields are made from Barium Sulphate and can safely be disposed of through normal waste procedures.

