# Suspended Shielding

## Femoral and Radial Access Protective Shield

Modern X-ray protection for today's applications, particularly for the increase of radial access and longer interventional procedures:

Recent studies have shown that a significant amount of radiation is emitted not only through the gap between the patient and shield, but also from the patient itself.

Even if the shield sits directly on top of the patient, radiation travels under the shield through the patient and is then released. To combat this, flexible strips were added to the bottom of the shield. The special design and the flexibility of the curtain allows it to perfectly adapt to the patient's body without producing gaps between the strips, reducing the scatter radiation emitting from the patient's body in the direction of the user.

Additionally, the second patient cut-out in combination with the flexible strips ensures optimal radiation protection during femoral, as well as radial access procedures.

**MVG-OT54001 / MVG-OT94001 – Radiation protective shield with two patient cut-outs and X-ray protective strips:**
- Lead Acrylic Shield Size: 78 x 90 cm (W x H)
- Lead Equivalent: 0.50 mm Pb
- Centrally guided by connecting element
- Weight includes X-ray protective strips: 15.0 kg
- Accessories: Specially designed sterile covers MVG-STEA-OT4 to meet the strict hygienic regulations of hospitals

**X-Ray Protective Strips**
- Flexible X-Ray Protection
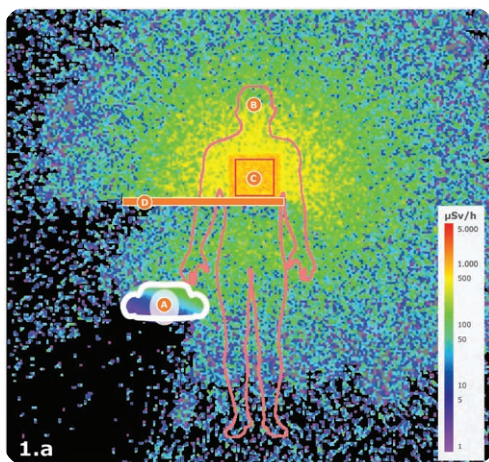- Lead equivalent 0.5 mm Pb

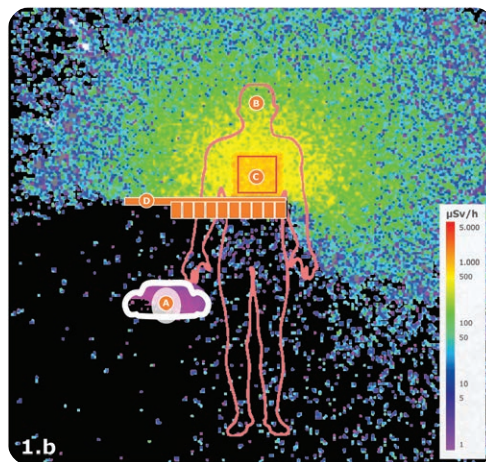| Description | Product Code |
| --- | --- |
| Laterally Guided Shield W/ Cutout | MVG-OT54001 |

## Challenge



## Solution



In order to test the efficiency of a shielding curtain, the scattered radiation distribution was simulated using the Monte Carlo method for the new radiation protective shield both with and without a curtain. See fig. 1.a and 1.b

The protection for the examiner's upper body has increased 85% compared with the shield without a curtain.

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**Transparent Acrylic Shield (With Patient Contour Cutout)**
Centrally guided via connecting element. Features a patient contour cutout for more flexible usage and positioning over the patient.

- Shield size: 61 x 76 cm (W x H)
- Lead equivalent: 0.50 mm Pb

| Description | Product Code |
|---|---|
| Lead Acrylic Shield W/ Cutout | MVG-OT50001 |



**Transparent Acrylic Shield MVG-OT50002**
Centrally guided by connecting element without protective strips.

- Shield size: 50 x 39 cm (W x H)
- Lead equivalent: 0.50 mm Pb

| Description | Product Code |
|---|---|
| Lead Acrylic Shield | MVG-OT50002 |



**Transparent Acrylic Shield MVG-OT50011**
Centrally guided by connecting element with flexible radiation protective strips in hygienic PVC cover.

- Shield size: 50 x 39 cm (W x H)
- Strip size: 50 x 35 cm (W x H)
- Lead equivalent: 0.50 mm Pb

| Description | Product Code |
|---|---|
| Lead Acrylic Shield | MVG-OT50011 |



**Transparent Acrylic Shield MVG-OT80001,-02,-03**
Transparent acrylic shield, 0.50 mm Pb, laterally guided with 350mm flexible lead rubber panels in hygienic PVC cover. Includes a preset Portegra2 suspension arm OT50U040, 750/910 mm, non-electrical.

| Description | Product Code |
|---|---|
| Transparent acrylic shield MVG-OT40B01, dimensions: 400 x 300 mm | MVG-OT80001 |
| Transparent acrylic shield MVG-OT40B02, dimensions: 500 x 380 mm | MVG-OT80002 |
| Transparent acrylic shield MVG-OT40B02, dimensions: 760 x 350 mm | MVG-OT80003 |



**Transparent Acrylic Shield MVG-OT50003**
Laterally guided with cut-out for positioning over the patient.

- Shield size: 76 x 60 cm (W x H)
- Lead equivalent: 0.50 mm Pb

| Description | Product Code |
|---|---|
| Lead Acrylic Shield | MVG-OT50003 |

## Urological Intervention Procedure Head Protection

Until now, the necessity of appropriate radiation protective measures for urological interventions in the lithotomy position has not been of a peculiar interest. However a new study has shown that the scattered radiation coming out of the patient's body leads to a high exposure to the doctor during urology interventions. Common radiation protective shields are seldomly used due to the special positioning of the patient and the confined space it creates.

The newly developed design is ideally suited for the urological workflow. The shield offers optimal protection against scattered radiation for the operator in a highly restricted workspace during urologic interventions carried out in lithotomy position. The high quality shield made of lead acrylic allows for an excellent transmittance and hence an unimpeded view.

- Shield size: 78 x 90 cm (W x H)
- Lead equivalent: 0.50 mm Pb



| Description | Product Code |
|---|---|
| Urological Interventional Procedure Shield | MVG-OT81001 |
| Urological Interventional Procedure Shield | MVG-OT91001 |



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# Suspended Shielding

## Kenex's comprehensive range of x-ray shielding equipment significantly reduces secondary radiation exposure to staff during all applications.

The installation of ceiling suspended lead acrylic or lead glass shields minimise dose to the head, lens of the eye and upper body, and importantly provide instant access to the patient in an emergency. Tableside mounted shields protect the lower body and extremities and when combined, provide a safe and effective zone of occupancy. Mobile over-table and alongside table versions are also available.

## Stationary installation

Protective shields for static installation on the ceiling are supplied with a suspension arm and an 80 cm long ceiling column as standard, with other lengths of 40 cm, 60 cm and 100 cm available. The suspension arm comprises an extension and spring arm combination with a combined reach of 186 cm. The ceiling column has a spare pivot, equipped with an internal electrical connector, for mounting a second suspension arm and another device; such as the lamp illustrated.

## Movable installation

Shields for flexible positioning across the ceiling are additionally supplied with a 250 cm long heavy duty aluminium ceiling track with a movable carriage. Track mounted devices can be moved and positioned in the working area or parked up to 5.9 meters away. An optional second carriage provides independent movement of further attached devices, such as injectors, monitors, lamps or extra shields.





## Upper body radiation shields - 354

- Material: transparent lead acrylic, lead equivalent 0.5 mm.
- Portrait orientation, but central ball and socket joint provides rotational and tilting movement.

**With a patient contour corner cut-out**
**Dimensions:**
- 76 cm high x 61 cm wide

| | |
|---|---|
| **354 - 76x61 Cut-out Shield w/ Stationary** | KNX-354/P/76-001 |
| **354 - 76x61 Cut-out Shield w/ Mobile** | KNX-354/P/76-0031 |
| **354 - 76x61 Flexible 0.5 mm lead panels** | KNX-354/P/LR |

**Without a corner cut-out**
**Dimensions:**
- 76 cm high x 61 cm wide
- 40 cm high x 50 cm wide

| | |
|---|---|
| **354 - 76x61 Shield w/ Stationary** | KNX-354/76-001 |
| **354 - 76x61 Shield w/ Mobile** | KNX-354/76-0031 |
| **354 - 76x61 Flexible 0.5 mm lead panels** | KNX-354/LR/61 |
| **354 - 40x50 Shield w/ Stationary** | KNX-354/45-001 |
| **354 - 40x50 Shield w/ Mobile** | KNX-354/45-0031 |
| **354 - 40x50 Flexible 0.5 mm lead panels** | KNX-354/LR/50 |

## Upper body radiation shields - 351

- Material: transparent lead acrylic, lead equivalent 0.5 mm.
- Landscape orientation only.

**With a patient contour corner cut-out**
**Dimensions:**
- 60 cm high x 80 cm wide

| | |
|---|---|
| **351 - 60x80 Cut-out Shield w/ Stationary** | KNX-351/P/68-001 |
| **351 - 60x80 Cut-out Shield w/ Mobile** | KNX-351/P/68-0031 |
| **351 - 60x80 Flexible 0.5 mm lead panels** | KNX-351/P/LR |

**Without a corner cut-out**
**Dimensions:**
- 60 cm high x 80 cm wide
- 40 cm high x 50 cm wide

| | |
|---|---|
| **351 - 60x80 Shield w/ Stationary** | KNX-351/68-001 |
| **351 - 60x80 Shield w/ Mobile** | KNX-351/68-0031 |
| **351 - 60x80 Flexible 0.5 mm lead panels** | KNX-351/LR/80 |
| **351 - 40x50 Shield w/ Stationary** | KNX-351/45-001 |
| **351 - 40x50 Shield w/ Mobile** | KNX-351/45-0031 |
| **351 - 40x50 Flexible 0.5 mm lead panels** | KNX-351/LR/50 |

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## Eyes and thyroid radiation shields - 350

- Material: Lead glass, with minimum 2.2 mm lead equivalent.
- Fitted flexible lower curtain: lead equivalent 0.5 mm.

**Dimensions:**
- 40 cm high x 50 cm wide
- 30 cm high x 40 cm wide

| | |
|---|---|
| **350 - 40x50 Shield w/ Stationary** | KNX-350/45-001 |
| **350 - 40x50 Shield w/ Mobile** | KNX-350/45-0031 |
| **350 - 30x40 Shield w/ Stationary** | KNX-350/45-001 |
| **350 - 30x40 Shield w/ Mobile** | KNX-350/45-0031 |

## Overhead flexible lead shield - 308

Overlapping panels with a fold-up centre section retained by a press stud.

- Material: flexible 0.5 mm Pb equivalent lead vinyl.
- Size: 50 cm high x 100 cm wide.
- Ceiling model has an 80 cm long ceiling column. 60 & 100 cm lengths are optional.

Other sizes available on request.

| | |
|---|---|
| **Shield w/ arm, ceiling column** | 308/50100-001 |
| **Shield w/ arm, wall mounting bracket** | 308/50100-005 |

## Ceiling Mounted Shield and Lamp - 354/351/350

All lamps have daylight characteristics, light field focussing, dimming with on/off switch, sterilisable handle, power supply unit and a 950/910 mm suspension arm.

| | |
|---|---|
| **354 - 76x61 Shield, w/ Stationary and lamp: LED 130F** | KNX-354/P76/LED130F-001 |
| **354 - 76x61 Shield, w/ Stationary and lamp: LED 150F** | KNX-354/P76/LED150F-001 |
| **354 - 76x61 Shield, w/ Stationary and lamp: LED 300DF SC** | KNX-354/P76/LED3DF-001 |
| **354 - 76x61 Shield, w/ Mobile and lamp: LED 130F** | KNX-354/P76/LED130F-0031 |
| **354 - 76x61 Shield, w/ Mobile and lamp: LED 150F** | KNX-354/P76/LED150F-0031 |
| **354 - 76x61 Shield, w/ Mobile and lamp: LED 300DF SC** | KNX-354/P76/LED3DF-0031 |
| **351 - 60x80 Shield, w/ Stationary and lamp: LED 130F** | KNX-351/P68/LED130F-001 |
| **351 - 60x80 Shield, w/ Stationary and lamp: LED 150F** | KNX-351/P68/LED150F-001 |
| **351 - 60x80 Shield, w/ Stationary and lamp: LED 300DF SC** | KNX-351/P68/LED3DF-001 |
| **351 - 60x80 Shield, w/ Mobile and lamp: LED 130F** | KNX-351/P68/LED130F-0031 |
| **351 - 60x80 Shield, w/ Mobile and lamp: LED 150F** | KNX-351/P68/LED150F-0031 |
| **351 - 60x80 Shield, w/ Mobile and lamp: LED 300DF SC** | KNX-351/P68/LED3DF-0031 |
| **350 - 40x50 Shield, w/ Stationary and lamp: LED 130F** | KNX-350/45/LED130F-001 |
| **350 - 40x50 Shield, w/ Stationary and lamp: LED 150F** | KNX-350/45/LED150F-001 |
| **350 - 40x50 Shield, w/ Stationary and lamp: LED 300DF SC** | KNX-350/45/LED3DF-001 |
| **350 - 40x50 Shield, w/ Mobile and lamp: LED 130F** | KNX-350/45/LED130F-0031 |
| **350 - 40x50 Shield, w/ Mobile and lamp: LED 150F** | KNX-350/45/LED150F-0031 |
| **350 - 40x50 Shield, w/ Mobile and lamp: LED 300DF SC** | KNX-350/45/LED3DF-0031 |