



Sophisticated Positioning Aids for MRI



Challenges in MRI



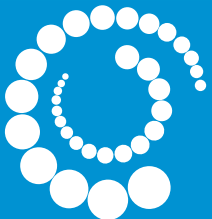
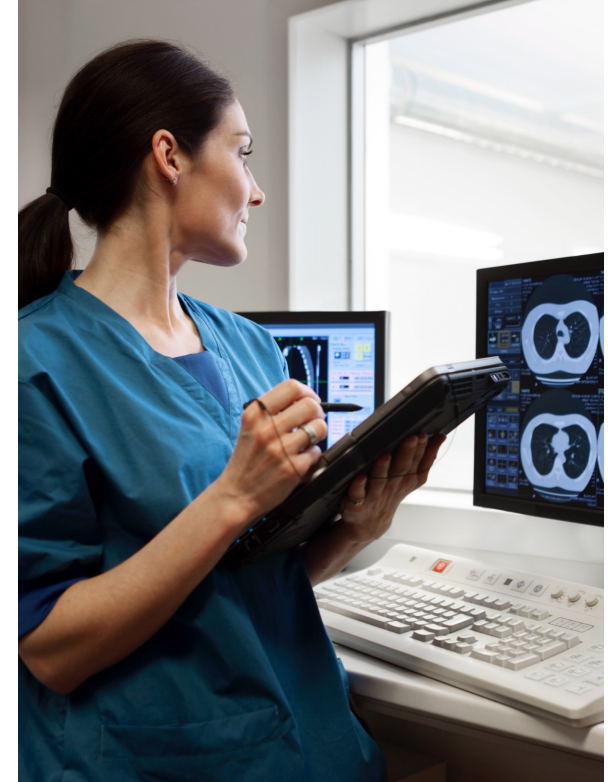
Increasing patient throughput leads to **time pressure** – before, during and after the examination.



Anxiety, claustrophobia, difficult pathology and long examination time lead to **insufficient results**.

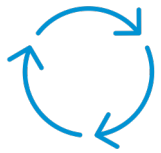


Challenging patient positions for patients with **limited mobility** take time and require improvisation.



Our Solution

A comprehensive range of positioning aids for the modern MRI department.



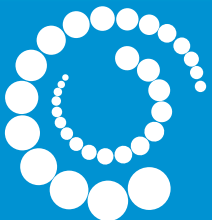
Simple, standardised positioning speeds up both frequent and infrequent examinations – and thus alleviates time pressure.



Comfortably positioned patients undergo examinations calmly and satisfied without complications.



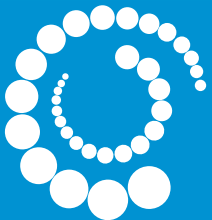
Improved image quality and fewer motion artifacts thanks to effective immobilization.



What our Customers say

„We opted to work with Pearl Technology in sourcing our positioning aids as a flexible alternative across our MRI locations. The products are **good quality**, with patients finding them **comfortable**, as well as helping us further support **patient safety**. Our staff also love working with them as they are **easy to clean** and **durable**.“

Dr. Darren Hudson, MRI Clinical Lead at Inhealth

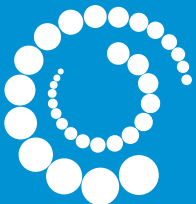


Pearltec Positioning Inspiration

Application, Pictures & Tips:

Dorina Petersen

Application Specialist and Lecturer for MRI & CT
www.dorina-petersen.de

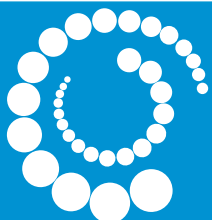


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Find product information
to order here!



Example:

- 1012 MULTIPAD Standard or 1071 MULTIPAD Slim or 1022 MULTIPAD Plus
- 1248 ProFoam Plate 100x25x1 DSR
- 1132 PearlFit Wedge 56x50x25 beneath legs

Head



Dorina's Expert-Tip

- A head MRI is the examination that causes the most claustrophobia – the resulting restlessness leads to unwanted movements.
- Some coils are so tight that there is no room for headphones and earplugs unfortunately keep falling out. Then it can get very loud.
- The Multipad can be inflated just the way the patient likes it – this minimizes unwanted movement. It also prevents the earplugs from falling out and additionally suppresses noise.



- Picture left: 1012 MULTIPAD Standard or 1071 MULTIPAD Slim
- Picture right: 1132 PearlFit Wedge 56x50x25 beneath legs; 1248 ProFoam Plate 100x25x1 DSR (spacer between patient and gantry)

Head



Inflatable Pads inside coil
Multipad

Blue protection mat
MR Safety Pad

White wedge beneath legs
PearlFit Wedge



- Many patients, especially obese ones, touch the gantry. This can lead to burns.
- The sides of the protective mat fold up when table is moved into gantry. A perfect solution that does not require any additional work.
- The white wedge is loved by many patients, and there have been some who have wished for it at home.
- It adapts to the anatomy without pressure points and makes lying down comfortable and painless.



- 1012 MULTIPAD Standard or 1071 MULTIPAD Slim or 1022 MULTIPAD Plus
- 1248 ProFoam Plate 100x25x1 DSR (Spacer between patient and gantry)
- 1132 PearlFit Wedge 56x50x25 beneath legs

Hand/Wrist



Cushion beneath feet
PearlFit Cushion

- The wrist is always a difficult examination.
- The patient is positioned in prone /superman position, the arm is stretched out in front and positioned in the appropriate coil.
- Motion artifacts and/or fat saturation problems are quite common
- Occasionally, patients have to interrupt the examination due to pain in the shoulder or the like



- 1116 PearlFit Cushion 50x30x10

Hand/Wrist



Inflatable pad inside coil

Multipad

Shoulder/forearm padding

ProFoam Wedge and PearlFit Cushion

- With the help of the wedge, forearm and upper arm can be well positioned and brought to the same height.
- The Multipad reduces motion artifacts caused by finger movement without squeezing the patient.
- The Pearlfit Cushion under the feet (see picture on page 10) is perfect to avoid pressure points on the edge of the table, as the patient usually has to move to the end of the table.



- 1071 MULTIPAD Slim
- 1154 ProFoam Wedge 36x25x12
- 1115 PearlFit Cushion 50x30x7 or 1116 PearlFit Cushion 50x30x10

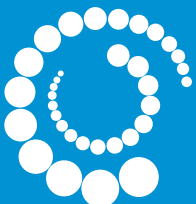
Elbow in Flex Coil

- Patients are examined in the prone position/Superman position.
- If the patient lies slightly on his side, the external rotation of the elbow is easier.
- Shoulders and feet should be well padded to prevent pressure points and additional tensions.
- For examinations with flex coils, the straps of different widths without Velcro are suitable for positioning the coil closely to the anatomy.



Fixation strap
ProBelt

Cushions under feet
PearlFit Cushion



- 1213 ProBelt 200 Extension or ProBelt Wrap 70
- 1115 PearlFit Cushion 50x30x7 or 1116 PearlFit Cushion 50x30x10

Elbow in Flex Coil



Sandbag
Sandbag

Strap around coil
ProBelt

Pad beneath shoulder
FoamFit Plate

- Sandbags can help patients to avoid moving their fingers
- However, it must be considered that these are too heavy and lead to the hand and fingers going numb.
- Patients should therefore be asked whether the sandbag is comfortable.



- 1262 Sandbag 30x20, 2 kg
- 1213 ProBelt 200 Extension or ProBelt Wrap 70
- 1223 FoamFit Plate 28x18x1

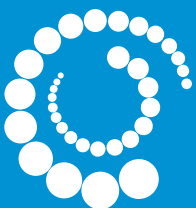
Elbow in Knee Coil



- Elbows in the knee coil are also positioned in the prone position/Superman position.
- If the patient is not too obese, you can position them almost sideways and position the arm in the knee coil. This trick has been commonly used for a few years now.



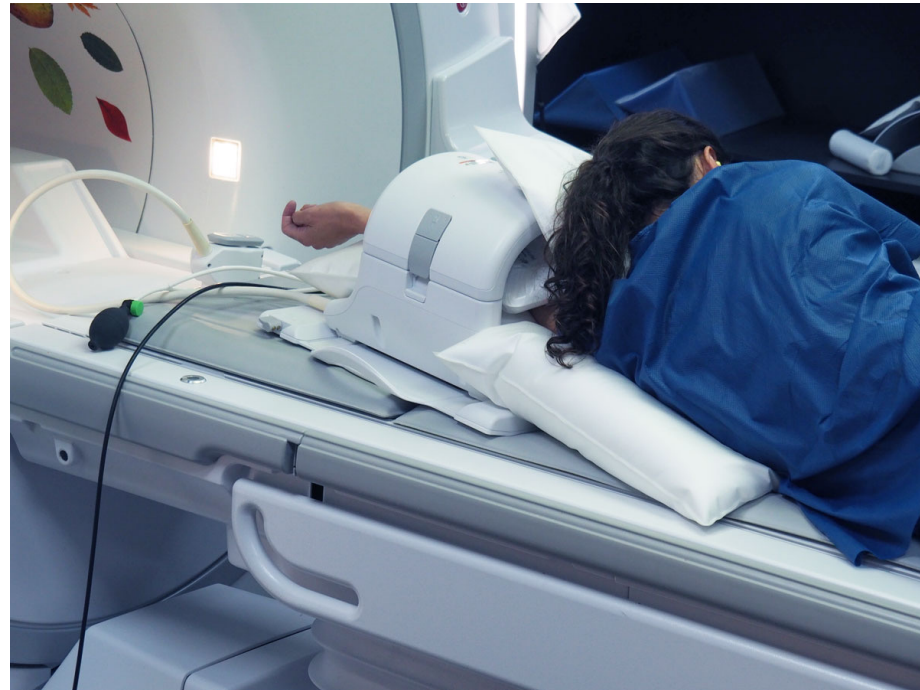
White Cushions
PearlFit Cushion



- 1115 PearlFit Cushion 50x30x7
- 1116 PearlFit Cushion 50x30x10

Elbow in Knee Coil

- It is important that the elbow is isocentric in the coil, especially in y-axis.
- Armpits and body should be padded accordingly.
- The head is the biggest problem for many, as some patients cannot bend the head forward. If it is placed on the coil, the height of the gantry often becomes a limiting factor.
- The MULTIPAD helps to immobilize the elbow in the iso-centre of the coil.
- Cushions around the head and shoulder help to avoid pressure points.



Inflatable pads in coil
Multipad

White cushions
PearlFit Cushion



- 1022 MULTIPAD Plus
- 1115 PearlFit Cushion 50x30x7
- 1116 PearlFit Cushion 50x30x10

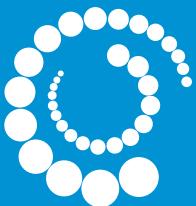
Extra – Prone Position with Headphones



- The PearlFit Forehead is very suitable for prone and lateral positions
- The patient can breathe through the opening and the headphones do not create pressure when the head is on its side



Headrest (both parts)
PearlFit Forehead

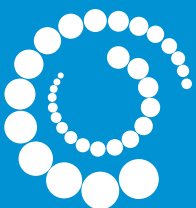


- 5005 PearlFit Forehead

Shoulder



- The shoulder is a common MRI examination.
- Ideally, the patient's arm should be positioned in supination, which is very challenging for many patients.
- To do this, the contralateral side is tilted, and the arm is stabilized in the correct position by means of a sandbag.
- Patient should be asked whether it is comfortable, otherwise the hand could go numb.
- The breathing movement in the chest can lead to movement artifacts. These can be reduced by pads inside the coil.
- More on this topic can be found in the article on [MRI of the shoulder](#).



Shoulder

Sandbag
Sandbag

Inflatable pads inside coil
Multipad

White cushion beneath elbow
PearlFit Cushion

White wedge beneath legs
PearlFit Wedge



- 1262 Sandbag 30x20, 2kg
- 1022 MULTIPAD Plus or 1071 MULTIPAD Slim
- 1124 Pearl Cushion 50x20x4
- 1132 PearlFit Wedge 56x50x25

Ankle in Dedicated Coil



Inflatable pads inside
coil
Multipad

Cushion for unexamined
leg
PearlFit Cushion



- 1022 MULTIPAD Plus or 1071 MULTIPAD Slim
- Leg positioning: 1115 PearlFit Cushion 50x30x7 or 1116 PearlFit Cushion 50x30x10

Ankle in Head Coil



- Examining foot / ankle in the head coil is an alternative approach when a dedicated coil is not available.
- The challenge is to bring the foot comfortably and stably into the right position despite the large size of the coil.
- The inflatable MULTIPADs help to fill in the large empty spaces in the head coil and reduce movement in the foot.

Inflatable pads inside coil
MULTIPAD

White pads
PearlFit Cushion



- 1022 MULTIPAD Plus
- Head pillow, 1116 PearlFit Cushion 50x30x10 or 1132 PearlFit Wedge 56x50x25
- Leg positioning: 1116 PearlFit Cushion 50x30x10 or 1138 PearlFit Wedge 30x50x15

Ankle in Head Coil



Blue pad on sole
ProFoam Wedge

Stabilisation leg with belt or sandbag
ProBelt or Sandbag



- Comfortable padding on the lower leg and knee prevents pressure points and movement
- The ProBelt or the sandbag are helpful for fixing the lower leg.



- 1197 ProFoam Wedge 18x23x10
- 1261 Sandbag 40x20, 3kg or 1170 ProBelt 200 R2 (for GE MRI)
- Head pillow, 1116 PearlFit Cushion 50x30x10 or 1132 PearlFit Wedge 56x50x25
- Leg positioning: 1116 PearlFit Cushion 50x30x10 or 1138 PearlFit Wedge 30x50x15

Ankle in Head Coil with Flex Reinforcement



Fixation strap around flex coil
ProBelt

- As an additional reinforcement for better image quality, I like to additionally use a flex coil in the head coil, wrapped around the foot
- This improves fat saturation and positioning. The patient is additionally stabilised inside the flex coil.
- The positioning is similar to the positioning of the ankle without flex coil. The flex coil can be tightly tied to the anatomy with the blue fixation strap.



- 1213 ProBelt 200 Extension or 1220 ProBelt Wrap 70

Knee in Dedicated Coil



- The Multipad is used to immobilise the knee inside the coil
- The large wedge is also a very comfortable as a head pillow.
- When patient's head/back is slightly lifted, patients are less affected by claustrophobia

Inflatable pads inside coil
Multipad

Blue pad beneath elbow
FoamFit Plate

Large white cushion
PearlFit Wedge

White cushion beneath leg
PearlFit Cushion



- 1108 MULTIPAD Bendy or 1012 MULTIPAD Standard
- 1235 FoamFit Plate 30x10x2
- 1132 PearlFit Wedge 56x50x25
- 1115 PearlFit Cushion 50x30x7 or 1116 PearlFit Cushion 50x30x10

Knee in Flex Coil



Sandbag
Sandbag

Blue strap
ProBelt

White cushion
PearlFit Cushion

- If the patient does not fit into the knee coil, the flex coil can be used as an alternative.
- The patient is positioned in the same way as in the knee coil.
- The flex coil can be wrapped tightly around the knee by means of a fixation strap.



- 1261 Sandbag 40x20, 3 kg
- 1220 ProBelt Wrap 70
- 1116 PearlFit Cushion 50x30x10 or PearlFit Wedge 56x50x25

Hip



- For MRIs of the hip, the patient can be positioned head-first or feet-first in supine position.
- I like to hold the feet with a short strap in position to avoid them rotating outwards.
- A small cushion under the knees and a thin cushion under the coil optimises patient positioning and image quality.
- The MR Safety Pad is used to protect obese patients from burns.

White cushion beneath knee
PearlFit Cushion

Cushion between flex coil and body
PearlFit Cushion



- 1115 PearlFit Cushion 50x30x7
- 1142 PearlFit Cushion 50x50x5

Hip

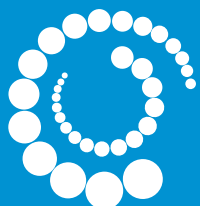


White cushion
PearlFit Cushion

Blue protection mat
MR Safety Pad

Blue straps with buttons
ProBelt

Feet positioning
Tourniquet or ProBelt
FoamFit Plate



- Head pillow: 1116 PearlFit Cushion 50x30x10
- MR Safety Pad: 1248 ProFoam Plate 100x25x1 DSR
- 1170 ProBelt 200 R2 (for GE MRI)
- 1236 FoamFit Plate 18x8x2 and ProBelt Wrap 70

Abdomen



White cushion under upper body
PearlFit Wedge

Blue strap around coil
ProBelt

Cushion under knee
PearlFit Cushion

- The positioning during examinations in the abdominal area is largely identical for cardio, liver, spleen, intestines, thorax, aorta, plexus, etc.
- For abdominal examinations, I like to have patients raise their arms.
- The advantage of this position is that patient is stretched, so you have significantly fewer artifacts. Risk of phase-wrap/aliasing can also be reduced
- Patients can hold their breath longer because they can breathe better due to the positioning; like athletes when they breathe deeply with their arms up after a sprint.
- The large wedge cushion is perfect for this, as it adapts to the shape of the arms and thus optimally cushions them.



- 1132 PearlFit Wedge 56x50x25
- 1170 ProBelt 200 R2 (for GE MRI)
- 1115 PearlFit Cushion 50x30x7

Abdomen



Cushion for arms/head
PearlFit Cushion

Blue protection mat
MR Safety Pad

Blue strap
ProBelt



- 1116 PearlFit Cushion 50x30x10
- 1248 ProFoam Plate 100x25x1 DSR
- 1170 ProBelt 200 R2 (for GE MRI)



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