

GE Healthcare

# EMBRACING COILS. CRAFTED WITH CARE.

GEM Suite



# IT STARTS WITH EMPATHY.

There's no questioning the clinical value coils bring to MR imaging. But what if they could do more than that? For example, how do your patients and technologists see them? To understand their needs better, we changed our perspective. What we discovered is traditional coil design cannot be tailored to the needs of each individual patient and sometimes emphasizes function over comfort. And an uncomfortable patient may lead to poor image quality and time-consuming re-scans for you and your technologists.

Not any more. The Geometry Embracing Method (GEM) Suite is designed with a renewed sense of empathy to bring an enhanced level of comfort to patients, minimizing anxiety and motion during the exam. Crafted to embrace the unique geometry of each patient by adapting its size and shape for a closer fit to the desired anatomy, this suite of coils makes for a relaxed scan experience and superior image quality. We've also reduced the overall number of coils and made them more lightweight to make it easier for technologists to position their patients without strain or difficulty.

With the GEM Suite, it's simple. Comfortable patients, plus satisfied technologists, equals better results you can see.

## **GEM express patient table and posterior array**

The GEM express patient table is a mobile patient transport with an embedded high-density, posterior RF coil array. The integrated posterior array, with uniquely sized elements, helps optimize spine image quality without compromise. It also supports both head-first and feet-first imaging for all anatomies and can help eliminate the need to reposition patients within an exam, as well as the need for coil exchanges.





# EMBRACE THE PATIENT.

What happens when you make your patients more comfortable during their scan? They're less likely to move, allowing you to get the images you need without time-consuming rescans. That's exactly what the GEM Suite was designed to do. We started by making the coils flexible to embrace any patient size or shape including a child's wrist or an athlete's shoulder. We then added variable density foam padding on the table to minimize pressure points, helping to reduce a patient's tendency to shift their weight.

We also enabled feet-first scanning for all anatomies so patients can see comfortably outside the scanner and maintain eye contact with the technologist. Just imagine what your patients will say when you can now offer all of these features to help make their MR scan more enjoyable. They'll probably thank you.

- ▶ FLEXIBLE COILS
- ▶ VARIABLE DENSITY FOAM PADDING
- ▶ FEET-FIRST IMAGING

## **GEM anterior array and small anterior array**

The GEM anterior array and small anterior array facilitate extended coverage of chest, abdomen, pelvis and cardiac imaging. They are lightweight, flexible, thin and pre-formed to conform to the patient's size and shape. The elements in each array are optimized to match the geometry of the patient, maximizing both clinical performance and comfort.



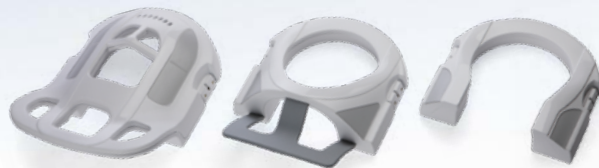




# SETUP WITH EASE.

Over the course of a full day, patient setup for an MR exam can become a tedious process for technologists due to the weight and sheer number of coils that are required with most MR systems. With the GEM Suite, we've minimized the overall amount of coils and made them lightweight to cause less strain for the technologist. This helps reduce both exam times and the number of coil exchanges required. For example, using the open-face design of the GEM head and neck unit with comfort tilt makes it faster and easier for technologists to help patients feel more relaxed during their scan. And if those patients are more relaxed, that means tranquil workflow for the technologists.

- ▶ FEWER COILS
- ▶ LIGHTWEIGHT DESIGN
- ▶ COMFORT TILT



## **GEM head and neck unit**

The GEM head and neck unit (HNU) can support head-first or feet-first imaging. The open-face design provides an unobstructed view for patients. GEM comfort tilt helps improve patient comfort by elevating the superior end of the coil. This enhances image quality by positioning the coil elements closer to the anatomy.







# RESULTS YOU CAN SEE.

The breakthroughs made by the GEM Suite in patient comfort and technologist workflow wouldn't mean anything if they didn't give you the images you need to make a confident diagnosis. By providing a closer fit of the coil elements to the patient, making it easy to position for the technologists and providing parallel imaging capability in all planes, you'll yield higher resolution, high-SNR images from the top of the head down to the feet. This, above all other considerations, enables the GEM Suite to take full advantage of your advanced MR capabilities and harness them into generating insightful clinical images. Images that instill confidence and results you can see.

- ▶ HIGH-SNR IMAGING
- ▶ WHOLE BODY COVERAGE
- ▶ CONFIDENT RESULTS

## **GEM Flex Suite**

The GEM Flex Suite is a set of lightweight and flexible arrays that accommodate a wide range of patient sizes and shapes. The suite consists of three high-density 16-channel arrays, knee support with a fixation device and a coil fixation pad for high-resolution imaging of the hips, knees, ankles, feet, wrists, elbows and shoulders. These coils remove the need for the patient to fit into a hard-shell array that is not designed for their particular body type.



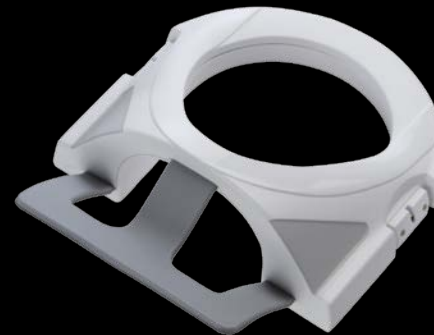
# GEM SUITE



GEM head and neck unit



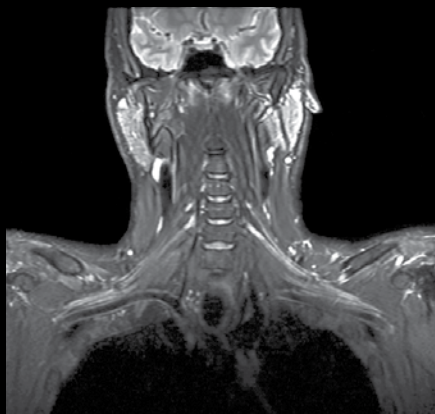
GEM head and neck unit  
open face adapter



GEM head and neck unit cervical



GEM head and neck unit  
with comfort tilt



Brachial Plexus

<b>Length</b>	49.5 cm (19.5 in)
<b>Width</b>	38.8 cm (15.3 in)
<b>Height</b>	36.8 cm (14.5 in)
<b>Weight</b>	9.5 kg (21.0 lb)
<b>S/I coverage</b>	50 cm combined with PA + AA
<b>R/L coverage</b>	24 cm
<b>Elements</b>	Up to 28 in FOV combined with PA + AA



C-Spine

<b>Length</b>	49.5 cm (19.5 in)
<b>Width</b>	38.8 cm (15.3 in)
<b>Height</b>	25.7 cm (10.1 in)
<b>Weight</b>	7.7 kg (16.9 lb)
<b>S/I coverage</b>	28 cm
<b>R/L coverage</b>	24 cm
<b>Elements</b>	Up to 12 in FOV combined with PA



C-Spine

<b>Length</b>	49.5 cm (19.5 in)
<b>Width</b>	38.8 cm (15.3 in)
<b>Height</b>	33.6 cm (13.2 in)
<b>Weight</b>	8.2 kg (18.0 lb)
<b>S/I coverage</b>	28 cm
<b>R/L coverage</b>	24 cm
<b>Elements</b>	Up to 13 in FOV combined with PA



Spine



Spine



GEM anterior array



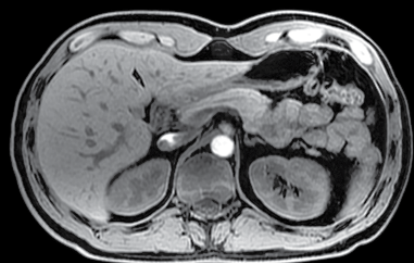
GEM Flex Suite



GEM posterior array



GEM peripheral/vascular array



Abdomen



Knee



L-Spine



Peripheral Vascular

<b>Length</b>	54.7 cm (22.6 in)
<b>Width</b>	70.2 cm (27.6 in)
<b>Height</b>	3.6 cm (1.4 in)
<b>Weight</b>	2.4 kg (5.3 lb) resting on patient 3.9 kg (8.5 lb) with cable
<b>S/I coverage</b>	54 cm
<b>R/L coverage</b>	50 cm FOV for head or feet-first imaging
<b>Elements</b>	Up to 36 in FOV combined with PA

<b>Dimensions (L x W)</b>	Large: 70 cm x 23 cm Medium: 48 cm x 23 cm Small: 38 cm x 23 cm
<b>Weight</b>	1.0 kg
<b>Channels</b>	16

Head or feet-first imaging.  
Completely transparent.  
Never needs removing.

<b>S/I coverage</b>	100 cm (39.4 in)
<b>Elements</b>	40

<b>Length</b>	105.0 cm (41.3 in)
<b>Width</b>	2nd station - 51.6 cm (20.3 in) 3rd station - 64.2 cm (25.3 in)
<b>Height</b>	24.8 cm (9.8 in)
<b>Weight</b>	9.1 kg (20 lb)
<b>S/I coverage</b>	Overall - 104 cm 2nd station - 52 cm 3rd station - 52 cm
<b>R/L coverage</b>	50 cm FOV for head or feet-first imaging
<b>Elements</b>	Up to 35 in FOV combined with PA

# DESIGNED TO HUMANIZE RADIO

“We’ve completely changed how we think about coil design. With the GEM Suite, patients can expect a more comfortable exam with open, flexible coils that naturally follow the contours of the human body.”

– GEM Suite [lead coil engineer](#)

## **GEM lower extremity array**

The GEM lower extremity array facilitates imaging of the thighs and lower legs. The coil incorporates an innovative, self-supporting hinge design between the upper and lower elements to accommodate various patient sizes and simplify patient setup.



**LOGY.**



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## About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at [www.gehealthcare.com](http://www.gehealthcare.com)

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imagination at work