

LEGO® MRI SCANNER
Program Manual



The Story Behind the LEGO MRI Scanner

In an effort to make magnetic resonance imaging (MRI) scans less scary and more playful for pediatric patients, three separate teams developed their own versions of a LEGO MRI model.

2014

- ▶ The LEGO Group employees Seb Blair and Ian Moore produced a LEGO model MRI machine for a local hospital in the United Kingdom after being approached to help reduce anxiety of younger patients.
- ▶ Pediatric radiologist Dr. Benjamin Taragin, radiologist Erik Ranschaert, and LEGO Certified Professional Dirk Denoyelle created a model that sold globally from 2014 to 2016.



2015

- ▶ At Odense University Hospital in Denmark, children's welfare coordinator Mette Sorang Kjær, radiographer Ulla Jensen, and their team, collaborated with LEGO employee and volunteer Erik Ullerlund Staehr to create a model to help children prepare for MRI scans.

These three teams have provided LEGO MRI models to hundreds of hospitals around the world. In response to growing demand from hospitals, the LEGO Group partnered with the original innovators to create a model exclusively for donation purposes. This is the set currently in circulation.

The Purpose of the LEGO MRI Scanner

MRI scans are an important tool in the clinical care of pediatric patients. However, because the procedure requires the patient to remain completely still for an extended period, it can be challenging for children. To reduce anxiety and minimize movement, anesthesia is often used, but this approach comes with drawbacks, including increased costs and potential health risks.

When preparing for an MRI scan, the LEGO MRI Scanner serves as a valuable tool for children, caregivers, play specialists, and other team members to walk through the procedure in a developmentally appropriate manner. By making the unknown

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The LEGO MRI Scanner is a good tool in preparing children for MRI scans. It has sometimes reduced the amount of children that need an anesthetic as they are willing to undergo the procedure awake after playing with the model.

Play Specialist, University Hospitals of Leicester

known, the model helps reduce stress and anxiety and fosters a sense of safety and understanding.

Children can ask questions and gain confidence before the scan begins, with the goal of reducing the need for anesthesia. Observing how the child responds during play and discussion can help a play specialist make an informed recommendation to the care team about whether anesthesia should be used. Even if anesthesia is necessary, the model can still be used to help children understand what will happen during the MRI, including what their body will experience while they are asleep.



This is a wonderful resource for us as a play team. It can make the difference between the child needing an anesthetic or not.

Play Specialist,
Poole Hospital



Clinical Implementation Toolkit

Along with this program manual and the LEGO MRI Scanner, your clinical team has access to the following educational materials to support integration of the LEGO MRI Scanner into daily clinical care. These resources were designed by the [Weitzman Institute](#) with input from clinical teams successfully using the model in day to day work. The use of these materials are recommended, but not required.

- ▶ **Program Startup Checklist:** This checklist outlines the key steps for successfully integrating the LEGO model into your practice, from identifying a Program Champion to holding routine touchpoints in order to discuss best practices.
- ▶ **Play Log:** The log can be used to track usage of the model, as this data is valuable when sharing information with internal and external stakeholders. Printed and electronic versions are available based on your team's preferences.
- ▶ **Preparing for an MRI scan - Play Specialist Guide:** This resource is for play specialists to use when guiding children and caregivers through the model. It includes images of the model, practical tips, and discussion prompts. While this resource is designed for play specialists, it is applicable to anyone who prepares pediatric patients for MRI scans, such as MRI technologists, nurses and psychologists.
- ▶ **Preparing for an MRI scan - Caregiver Guide:** This resource is intended for caregivers and helps them prepare for what to expect before, during, and after their child's MRI. It can be printed by your clinical team or used as an electronic resource for caregivers.
- ▶ **Educational Videos:** The website includes videos that serve as an additional resource to help guide your team in how to use the model with children and their caregivers.



The LEGO MRI Scanner in Action

The play specialist's role is to facilitate meaningful play that inspires curiosity and exploration to support the child's understanding of the MRI process. When using the LEGO MRI model, staff should balance open-ended play with guided explanation, allowing the child to first explore the model and then connecting their discoveries to the procedure.



To help guide these interactions, refer to the *Preparing for an MRI Scan – Play Specialist Guide*. This resource is designed for play specialists and includes images of the model, scripts, and practical tips for walking children and caregivers through the MRI process in a developmentally appropriate way. The resource is also applicable to anyone who prepares pediatric patients for MRI scans, such as MRI technologists, nurses, and psychologists.

Caring for the LEGO MRI Scanner Model

Proper maintenance of the LEGO MRI Scanner Model helps ensure it can be used safely and effectively with many children over time.

STORING YOUR MODEL

The LEGO model should be stored with other educational materials and tools rather than with general playroom toys. This helps maintain the model's integrity and keeps all pieces together.

CLEANING YOUR MODEL

After each use, clean all surfaces of the LEGO model with your facility-approved disinfectant wipes, following the recommended contact time on the packaging. If a deeper clean is needed, wash by hand with lukewarm water and a mild detergent and then air dry completely. Avoid soaking pieces in liquid cleaners or using high heat to dry them, as this can warp or damage the bricks.

REPLACING PIECES

If your team has received more than one kit, consider storing one as a backup in case a piece goes missing or breaks. If you need a replacement piece, contact [LEGO Customer Service](#) to request a replacement. International support numbers are available; select your country for appropriate contact information.



Frequently Asked Questions

Q: Why doesn't the kit already come assembled?

A: The kit is shipped unassembled to prevent damage in transit. Some teams build the kit together as a fun team building activity, while others assign it to a few LEGO-enthusiastic staff members, delegate it to interns or volunteers, or complete the build alongside patients.

Q: Can I glue the pieces together?

A: It's not recommended to glue the LEGO MRI Scanner pieces. If the model is handled with care and stored appropriately, it should remain intact without the need for adhesives. Since this model is designed for repeated educational use in a hospital or clinical setting, we recommend keeping the pieces unglued to allow for proper cleaning, replacement of parts, and long-term durability.

Q: What age group is this model appropriate for?

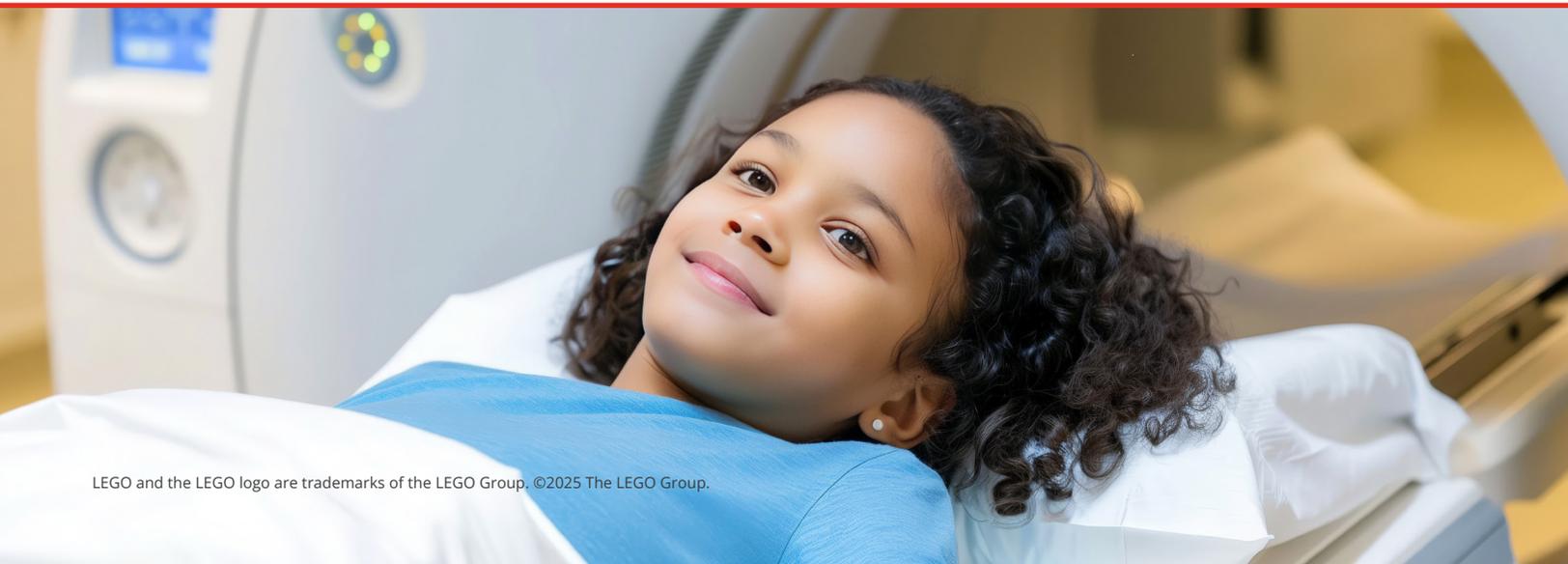
A: The LEGO MRI Scanner can be used with a wide range of ages. Older children are often better able to engage in hands-on exploration of the model, while younger children may benefit more from guided demonstration. For safety reasons, it is not recommended for children under the age of 3 due to the choking hazard of small parts.

Q: Can the child bring the model home?

A: No. The LEGO MRI Scanner is intended as a shared educational resource for all patients. To support learning at home, provide the Caregiver Guide to families, which reinforces the information covered during the initial consultation with the play specialist or team member.

Q: Is this model safe for individuals with latex allergies?

A: LEGO bricks are primarily made from acrylonitrile butadiene styrene (ABS) plastic. LEGO does not guarantee that all parts are completely free of natural rubber latex, though latex is not a standard material used in production. If a child has a known latex allergy, follow your facility's standard precautions for potential allergen exposure and monitor for any reactions during play.





MRI Scanner Program Startup Checklist



Hospital Unit/Facility Name: _____

Program Champion Name: _____

To support a smooth and successful rollout of the LEGO® MRI Scanner, use the following electronic checklist as a step-by-step guide. These steps are designed to help your team confidently integrate the LEGO model into your practice and maximize its impact on pediatric imaging experiences.

Check if complete	Implementation Step
	<p>Identify a Program Champion <i>The Program Champion should be someone who will regularly use the model, such as a play specialist, MRI technologist, nurse, or psychologist. The Program Champion will oversee supply maintenance, promote staff engagement, support consistent use of the model, and lead the remaining implementation steps.</i></p> <p>Notes:</p>
	<p>Identify the core implementation team <i>This team should include staff members that support pediatric patients during MRI scans, such as play specialists, MRI technologists, nurses, and psychologists.</i></p> <p>Notes:</p>
	<p>Assemble LEGO MRI Scanner <i>The model typically takes 2–3 hours to assemble, depending on the number of people involved. Determine who should assemble the model based on time and resources. The assembly process can serve as a team-building activity for the entire team, be assigned to a few LEGO-enthusiastic staff members, delegated to interns or volunteers, or completed alongside patients.</i></p> <p>Notes:</p>
	<p>Review educational materials as a team <i>The core implementation team should review the educational videos on the LEGO MRI Scanner website along with the Program Manual, Play Log, and Preparing for an MRI Scan: Play Specialist and Caregiver Guides. As a group, explore the assembled model and practice using both the model and educational materials together.</i></p> <p>Notes:</p>
	<p>Store model and Play Log <i>The model and Play Log should be easily accessible. The location should be communicated to the core implementation team to support consistent use and cleaning.</i></p> <p>Notes:</p>
	<p>Hold routine touchpoints <i>The Program Champion should schedule routine check-ins (bimonthly or quarterly) with the core implementation team to share feedback, discuss challenges, exchange best practices, and orient new team members as needed.</i></p> <p>Notes:</p>

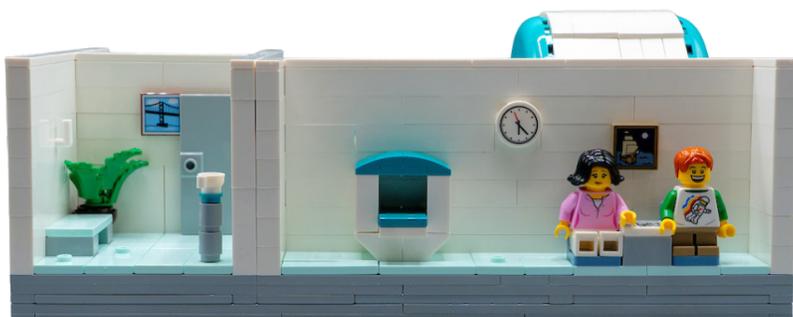


PREPARING FOR AN MRI SCAN Caregiver Guide

Review this guide with your child to prepare for what to expect before, during, and after your child's MRI. If your child has questions that you can't answer, make a list to bring with you and ask your child's team together.

Waiting Area

After checking in, you and your child will wait for a member of your child's team to call them. Talk with your child about bringing something, such as a book, toy, or stuffed animal, to help pass the time.



Caregiver tip

- ▶ **Set a calm tone:** Keep your language about the procedure steady and reassuring. Children often pick up on caregiver anxiety, which can make the procedure more difficult. Reassuring them that they're safe and cared for will help them feel more comfortable.

Holding Room

The MRI scanner uses really strong magnets to take pictures. That means you and your child can't have any metal on your clothes or bodies. Before entering the MRI scanner room, the MRI technologist or another team member will check to make sure this is the case.

Depending on the facility, your child may be asked to change into scrubs. Check with your child's team to confirm the facility's policy.



Caregiver tips

- ▶ **Remove metal:** Anyone entering the scanner room should take off or store away anything that is metal. Be sure to keep items such as glasses, jewelry, watches, cell phones, and wallets at home or stored away.
- ▶ **Talk about coping strategies:** Share with your child's team what helps your child feel calm, such as a comfort item, show, or song. They can work with you and let you know what amenities are available to set your child up for success.
- ▶ **Be flexible:** Not all MRI facilities are exactly the same, and some situations may require more urgency or allow for fewer accommodations. Your child's team will always do what is in the best interest of your child's health.



MRI Scanner Room

Scan Preparation

Your child's team will help them lie down on a comfortably padded table that smoothly slides in and out of the MRI scanner. Sometimes, children receive a contrast agent intravenously (IV) through a vein in their arm to make the pictures clearer. If needed, your child's team will place the IV at this point.

To protect their hearing during the scan, your child will be provided with earplugs or headphones. Depending on the facility, your child may be given a squeeze ball or shown how to use a call button to get the MRI technologist's attention if needed. If your child uses the squeeze ball or call button, the MRI technologist will pause the scan and help your child with whatever they need.



During Your Child's Scan

Once you, your child, and the MRI technologists are ready, the scan will begin.

Caregiver tips

- ▶ **Be prepared for how long it will take:** Ask your child's team beforehand how long they expect the scan to take. If the scan takes more time, try to stay relaxed knowing your child is in safe hands. This usually just means the technologist needs extra images to get the clearest pictures, not that anything is wrong.
- ▶ **Expect loud sounds:** The MRI machine makes banging and tapping noises while taking pictures. Ear protection will be provided for your child and these sounds are a standard part of the scan.

Caregiver tips

- ▶ **Practice staying still:** During the MRI scan, your child will be asked to lie still to ensure clear and accurate images. If your child will be awake during the procedure, try these fun ways to practice and explain why staying still is important:
 - ▶ **Show the difference:** Take one picture of your child's hand holding still and another of it waving. Compare the two and talk about why stillness matters.
 - ▶ **Make it a game:** Play freeze tag or "statue," where you both stay still and quiet like statues. Turning it into play can make the idea less intimidating.
- ▶ **Ask where you'll be:** Ask your child's team where you should be located during the scan. Sometimes caregivers can stay in the MRI scanner room with their child. In some facilities, caregivers can be in the viewing room with the technologists, where they can see and communicate with their child during the scan.

After the MRI Scan

The MRI technologist cannot share any results with you. After the scan, a radiologist will interpret the images and prepare a report for your child's doctor, who will be in touch to discuss the results. The timing of this follow-up depends on a variety of factors, such as the urgency of your child's case and the complexity of the scan.



Caregiver tip

- **Celebrate:** After your child has completed the MRI, celebrate by saying something like, "We're so proud of you for being able to hold still for your MRI pictures," and/or "We're so proud of you for being brave!"



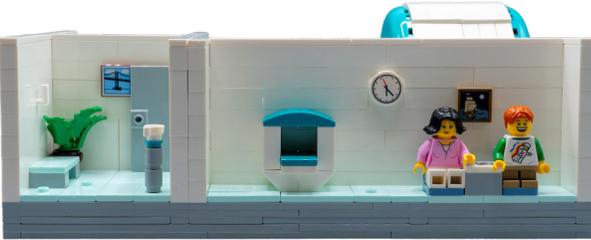


Preparing for an MRI Scan: Play Specialist Guide



This resource is designed for play specialists, but is applicable to anyone who prepares pediatric patients for MRI scans, such as MRI technologists, nurses, and psychologists.

When you first introduce the LEGO® MRI Scanner to patients, encourage them to explore and interact with the model freely. This hands-on experience helps build familiarity and comfort. Afterward, guide patients through the steps they will experience before and during their MRI. As you go, use the discussion prompts as relevant to your facility to make the session meaningful and engaging.

Explain	Ask
<p>Show the patient the Waiting Room on the model and explain, <i>"After you check in, you may need to wait for your turn."</i></p> 	<p><i>"Would you like to bring something, such as a book, toy, or stuffed animal, to help pass the time?"</i></p>
<p>Show the patient the Holding Room on the model and explain, <i>"The MRI scanner uses really strong magnets to take pictures. That means we can't have any metal on our clothes or bodies. Before we go in, we'll use a metal detector to make sure you're all set."</i></p>	<p><i>"Does that make sense to you?"</i></p>
<p>Show the patient the MRI Room on the model and explain, <i>"You will go into the MRI machine either head first or feet first, depending on the part of your body that needs pictures taken. Nothing will touch you and this is a safe procedure that your team does every day."</i></p> 	<p><i>"Can you show me which part of your body we're taking pictures of today?"</i></p>
<p>Show the patient the head coil on the LEGO figure and explain, <i>"Depending on which part of your body we're taking pictures of, you might wear something special like a helmet to help us get clear pictures."</i></p>	<p><i>"How does that make you feel?"</i></p>

Explain	Ask
<p>Show the patient the Tech Room on the model and explain, <i>"While you are in the MRI room, the MRI technologists will be in a nearby room controlling the machine and taking pictures. They will be able to see you the whole time and talk to you through the speaker."</i></p>	<p><i>"Would you like to say hello through the speaker before the scan starts?"</i></p>
<p>Show the patient the squeeze ball on the model and explain, <i>"You can talk to the MRI technologists while you are in the machine by squeezing the ball/pushing the call button."</i></p>	<p><i>"Do you want to practice squeezing the ball/pushing the call button before we start?"</i></p>
<p><i>"The MRI machine will make loud noises, that is normal and we will give you headphones to wear to block out some of the noise. We can play the noises for you now so you'll know what to expect."</i></p>	<p><i>"What does this sound like to you – construction workers, robots, rocket ship, microwave?"</i></p>
<p><i>"You'll need to stay very still while your pictures are taken, like a statue."</i></p>	<p><i>"Have you ever had to stay still for a long time before?" or "How do you feel about staying still?"</i></p>
<p><i>"The MRI scan will take about [insert length of time]."</i></p>	<p><i>"Let's figure out how many episodes of your favorite show that would be. What's your favorite show?"</i></p>



Now that you have walked through the procedure with the patient, ask them if they have any questions or concerns about what will happen. Then, invite them to tell or show you what they think will happen during the MRI scan, so you can make sure they understand and feel ready.

