



Hughston Health Alert

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Patient Reported Outcomes

We are living during an era of exciting discovery and innovation in the fields of technology as well as in medicine. With such rapid advancements in healthcare, it is fundamental to keep the patient, who is the recipient of such progress at the center of focus. Injured athletes seek pain-free restoration of performance as quickly as possible. Patients with arthritis are living longer and desire to remain active. How we apply technology to improve an individual's outcome is called patient reported outcomes.

The US Food and Drug Administration defines patient reported outcomes (PROs) as any report of the status of a patient's health condition that comes directly from the patient without any interpretation of the patient's response by a clinician or anyone else. Some examples include a patient's report of their symptoms, physical abilities, function, or satisfaction with treatment.

History of using patient reported outcomes

We have used PROs in medicine for decades. In fact, Jack C. Hughston, MD, used a type of patient-reported outcomes during the 1970s. He developed a questionnaire that asked a patient about their function and pain level. The patient completed the questionnaire during each clinic visit so it provided insight before, during, and after treatment. The patient completed Dr. Hughston's preprinted-paper questionnaire with a pen, then the completed survey became a part of the patient's medical record.

Today, patients are sharing their physical well-being and treatment outcomes more than ever. The patient can report symptoms, function, activity limitations, health-related quality of life satisfaction, side effects,



WHAT YOU SAY & HOW YOU FEEL MATTERS



PATIENTIQ IS SIMPLE TO USE:

- 1 | We send you an invitation to enroll by email or text message.
- 2 | You click the link, Patient IQ prompts you to complete some simple tasks, like telling us your pain level or answering a short survey.

Your responses are confidential and sent to your medical team to assist with your care.



treatment experience, work productivity, impairments, adherence to treatment, and much more. Patient goals and the goals set by their physician are more in line when the patient specifically documents their treatment experience. This means physicians can use the data to make effective changes that improve treatment plans for your medical condition. Since the patient gives the information directly to the clinician through a survey or questionnaire, the physician is able to review it sooner. Providing patient experiences and outcomes can lead to treatment plans that improve function, quality of life, and overall better outcomes for a patient. The feedback does not fall on deaf ears either. Researchers pull together the information with that of other patients so they can study and compare the data.

Why does it matter?

We are increasing the use of PROs for clinical care and research. The outcomes are important because they reflect the reason that a patient seeks healthcare services in the first place. There are many measurement tools, which we refer to as patient reported outcome measures (PROMs). By using a direct unfiltered inquiry, PROMs measure what patients are able to do and how they feel. They reflect the patient's direct voice throughout the course of treatment. Therefore, using the details you provide, researchers can study and assess various outcomes. We collect and study the data to help providers with formulating better treatment methods in the future.

How it works

It is easy to participate in PROs and it is simple to use. As a patient, we log your signs and symptoms into your health record and invite you to enroll by email or text message in our new program called Patient IQ®. Once you click the link, Patient IQ® will prompt you to complete some simple tasks, such as telling us your pain level or answering a 3- to 5-minute survey specific to your diagnosis.

Your responses are confidential and sent directly to your medical team, who then plans the best possible care for you. As you continue your treatment, we will check with you occasionally for an update on how you are feeling. Our goals with using this new technology are better patient experiences and healthier outcomes for you.

It's as simple as answering a few questions that come to you in an email or by using a computer or tablet during your clinic visit. In fact, it is easier than when Dr. Hughston years ago asked his patients to complete a paper survey. Nevertheless, just as you are reaping the benefits of those patients and their outcomes, tomorrow's patients, as well as you, will reap the rewards for your efforts today. And for that, your doctors thank you for helping us better serve you.

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Joint Replacement: PREPARING FOR YOUR SURGERY



The time has come—you can no longer bear the joint pain or the detriment it has had on your life. You and your surgeon have decided that it is time to have your joint replaced. It is a huge decision, and you are not sure how to prepare for it. This article can help you prepare for the procedure and help make the process as smooth as possible.

Timeline to prepare for surgery

Optimize your health for surgery by visiting your primary care physician first. Within 2 months of the scheduled joint replacement, you should visit your primary care doctor and follow the recommendations to receive clearance for surgery. Clearance is important for lowering the risk of intraoperative or postoperative complications. The physician may schedule an electrocardiogram, or EKG (recording of the heart's electrical rhythms), chest x-ray, and bloodwork. Once the doctor reviews the results, he or she will send them to the surgeon for review as well. Some patients are asked to complete a CT or MRI a few weeks prior to the surgery date. The surgeon may order the scan if you choose to have computer navigated or robotic assisted surgery.

Around 1 month before surgery, you should attend your hospital's joint replacement class (if offered), and begin presurgery exercises. If you smoke, stop. Do not smoke 4 weeks before and after your surgery. Smoking slows healing, so avoid second hand smoke as well. If you need help with smoking cessation, your primary care provider should be able to provide additional support.



Helpful equipment

The surgeon often recommends adaptive equipment for patients to have on hand for their return home. For example, most doctors recommend a 2-wheeled walker—2 wheels in the front and 2 posts in the back—for hip and knee replacement patients. A 3-in-1 commode can be beneficial to place on top of the toilet or at bedside. It sits much higher than most household toilets and makes rising up easier with side handles. A bench, shower-chair, or the 3-in-1 commode can be used for sitting in the shower. The hospital usually provides a total joint kit to patients with some additional items, such as a reacher, sock-aid, long-handled shoehorn, or long-handled bath sponge. If recommended, obtain these items and communicate with your surgeon that you have these at your preoperative visit. Without this home equipment, you may have to stay unnecessarily in the hospital longer.

The preop visit

A preoperative appointment with your surgeon is required within 30 days of the surgery. This visit serves as a final checkup and a time for you to ask any remaining questions. At this visit, the surgeon may discuss any problems with bloodwork results and medical clearance notes; therefore, it is important that you have completed your preoperative clearance in plenty of time before this clinic appointment. After this visit, the medical team will send you to the hospital for a preadmission testing (PAT) appointment.



Medications

Be sure to tell your medical team about all medications you take, prescribed and over-the-counter. Supplements and vitamins count as medication too. Be sure to follow the surgeon's specific instructions regarding your medications. For example, the surgeon may instruct you to stop taking certain medications before surgery, such as blood thinning medication. The surgeon may also ask that you stop taking

any vitamins, supplements, herbal medication, aspirin, and nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac, naproxen, Naprosyn®, Motrin®, Advil®, Aleve®, Mobic®, or Voltaren®.



Get your house in order

Prepare the house for your return before you go to the hospital. To help ease your return back home, it's a good idea to do those household chores before surgery. Have all the cleaning and laundering complete. It is also helpful to have meals prepared and stored in the freezer for easy preparation when you get home.

Think about the safety aspects of your home, especially if you will be moving around with a walker. Remove throw rugs and tack down loose carpeting. Remove electrical cords and other obstructions from walkways. Install nightlights in bathrooms, bedrooms, and hallways. If necessary, arrange to have someone take care of your pets. Additionally, some patients find it helpful to set up a recovery area. In this area, place a bed, phone, TV remote, books, table for drinks, snacks, tissues, a wastebasket, and other items that you may need within a close distance.



What to bring to the hospital

The hospital will need a copy of your driver's license or state-issued ID, a copy of your Advance Directives and insurance information. Also, bring your CPAP machine if you use one, and personal hygiene items, such as toothbrush, powder, deodorant, and glasses. Pack loose comfortable clothing to wear after surgery and gym-type

clothes with athletic or closed back shoes for physical therapy. If the surgeon or hospital provided a medical information packet, bring that as well. Please be sure to leave valuables at home. There is no secure place to keep them at the hospital.

A day before surgery

The day before the surgery, shower using the antibacterial soap that the hospital gave you at the PAT appointment. You also need to pack your supplies for the hospital to alleviate the stress of leaving something behind. **DO NOT EAT ANY FOOD** after midnight. This is important because when the anaesthetic is used your body's reflexes are temporary stopped. If you have food or drink in your stomach, there is a risk of vomiting. If this happens, the food could block your airway or it can enter your lungs causing damage.

The day of surgery

On the morning of the surgery, if your physician has told you to take specific medications, take it with a small sip of water. Wash the surgical site with the antibacterial soap for a second time, but **DO NOT** shave the surgical area. Brush your teeth and apply deodorant, but do not wear any makeup, perfume, lotions, powders, or oils on your chest, legs, or arms. If provided, drink the carbohydrate presurgery supplement at least 2 hours before the planned surgery. Arrive at the hospital 2 hours prior to your surgery time. The doctor and anesthesiologist will see you in the preoperative area before the surgery begins.

Going home

Most patients stay in the hospital between 1 to 2 days; however, depending on your type of surgery and mobility, you can be discharged home the same day as surgery. You must achieve several goals set by your medical team before you leave the hospital. Most patients go home directly after discharge; however, some patients may transfer to an inpatient rehabilitation center to help with recovery. Usually, a stay at an inpatient rehabilitation center is no longer than 2 weeks.

The first postoperative visit is usually 8 to 15 days after discharge, but can be longer if you are in a rehabilitation facility. The surgical dressing is usually changed for the first time at this appointment. The frequency of follow-up visits will depend on your progress. Most patients return to the clinic for x-rays and a check-up at 6 weeks, 12 weeks, 6 months, and at the 1-year anniversary of their procedure.

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Exercising For Bone Health

Exercise is an essential part of a healthy lifestyle and it provides numerous benefits. One advantage is keeping our bones strong and healthy. As we age, bone mass decreases and muscle is lost.^{1,2} Typically after the age of 30, most adults have reached their peak bone mass.^{2,3} Exercise not only increases bone and muscle strength, it also prevents loss of bone mass and aids in improving balance.^{3,4} When it comes to bone health, weight-bearing exercises and resistance training are the best choices.^{3,5} Weight-bearing exercises are those that get you on your feet and allow your body to move against gravity, thus stressing the bones and increasing their strength.^{2,3,6} Resistance training involves using weights to strengthen muscles and aid in maintaining bone density.⁷



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What kind of exercises should I do?

Physicians recommend that we exercise for at least half an hour each day. Some enjoyable options for weight-bearing exercises include jumping rope, walking, jogging, running, climbing stairs, hiking, dancing, jumping jacks, tennis, and other sports that keep you on your feet. You can incorporate resistance training by completing body weight-exercises, such as squats and lunges, or lifting weights. For patients with heart problems, osteoporosis, and other health conditions, you should consult with your physician before participating in activities that may be strenuous or include higher impact movements (**Box**).

Exercise is not the only factor

Our bones and muscles keep our bodies moving; therefore, we need to keep them healthy and in motion. Exercise, however, is not the only factor involved in



Box. Exercises

30-minute low-impact exercise regimen

- 5 minute walk to warm-up
- 3 sets of 10 squats (add 1-pound weight or a water bottle in each hand for extra resistance)
- 5 minutes on the stair climber
- 3 sets of 10 lunges (add 1-pound weight for extra resistance)
- 5 minutes on the elliptical
- 3 sets of 10 calf raises (add 1-pound weight for extra resistance)
- 5 minute walk to cool down

30-minute high-impact exercise regimen

- 5 minute walk to warm-up
- 1 minute jump rope
- 3 sets of 10 bicep curls
- 1 minute jump rope
- 3 sets of 10 triceps presses
- 1 minute jump rope
- 3 sets of 10 chest flies
- 1 minute jump rope
- 3 sets of 10 pushups
- 1 minute jump rope
- 5 minute walk to cool down

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maintaining good bone health. Adequate calcium and vitamin D consumption, decreasing tobacco and alcohol use, and lower stress levels can be helpful as well. Age, hormone levels, and other factors also play a role in bone health.² The first step to good bone health is to speak with your physician about exercise and any risk factors that can affect your bone and muscle strength.

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Lower Extremity Basketball Injuries

Basketball, a popular sport worldwide, is played domestically and internationally by over 2 billion athletes of all ages and abilities. The sport involves agility with quick changes in speed, pivoting, and diverse jumping, which is why basketball injuries tend to affect the lower extremity and involve the knee and ankle.¹ Most of these lower extremity musculoskeletal injuries are noncontact and often are overuse injuries, strains, sprains, or ruptures of the soft tissues.

Knee injuries

With sports and fitness activities, there is always a chance of injury and basketball is no exception. The knee, the largest joint in the human body, is composed of the distal femur (thighbone), patella (kneecap), and the proximal tibia (shinbone). Ligaments are tough connective tissue that connects bones to each other and allow structural support while maintaining slight elasticity for movement; and tendons are tough, white fibrous tissues that connect muscle to bone (**Fig. 1**). When a muscle contracts, it pulls on its associated tendon which then moves the bone. An overuse injury occurs when you subject a muscle, tendon, ligament, or joint to constant stress. The severity of these injuries varies from mild strains (injury to a muscle or its tendon), or sprains (injury to a ligament), to complete tears of the ligaments and other soft tissue structures of the knee.

Patellar tendinitis, also called “jumper’s knee,” is a common basketball strain of the patellar tendon that attaches the patella to the shinbone. When a person has jumper’s knee, there is inflammation of the patellar tendon, which can lead to pain in the anterior (front) compartment of the knee. The inflammation can cause the patient to feel sore after physical activity, and if left untreated can lead to

swelling, microtears, and eventual degeneration of the anterior compartment of the knee.

Another common injury in basketball that occurs inside the knee joint is a torn meniscus. There are 2 menisci inside the knee joint, the medial meniscus (C-shaped) and the lateral meniscus (U-shaped). These serve as knee “shock absorbers,” transferring weight and force from the thigh to the lower leg. In basketball, quick explosive movements can lead to twisting and turning of the knee joint, which is a common mechanism of injury for a torn meniscus.² Patients who suffer from this injury usually describe a clicking sensation accompanied with pain, swelling, and stiffness. While some meniscal tears can heal by conservative measures, others may need a procedure to include meniscal repair or partial meniscectomy. During the procedure, the surgeon repairs or removes the damaged cartilage. Research has shown that this surgery has minimal effect on physical performance in professional athletes upon full recovery.²

Ankle injuries

The ankle is composed of the distal tibia (shinbone), the fibula (smaller bone of the lower leg), and the talus, which is between the leg and foot bones (**Fig. 2**). Although the ankle undergoes tremendous amounts of stress, ligaments on both sides help to stabilize it. Ankle injuries are considered to be the most common basketball injury.^{1,2} Many basketball maneuvers such as pivoting, make ankle injuries common; in fact, it is the leading cause of injury (13.2%) for NBA players in a 17-year research study.¹ Another study reports that basketball ankle injuries occur at a rate of 3.5 out of 1000 instances, with most of the injuries occurring while landing from a vertical jump.³ Lateral ankle sprains are the most common, especially to the anterior talofibular ligament. An injury to this particular

ligament is often caused by an inversion injury, where the foot rolls inward causing damage to the ligaments on the outside of the foot. Ankle injuries are not usually a single occurrence, data shows that a basketball player that develops an ankle sprain is 5 times more likely to develop another one.³ Due to the increased risk of injury after an initial ankle sprain, players try to lower their risk by stabilizing the ankle joint with an ankle brace or with taping.

Achilles injuries

The Achilles tendon is the strongest tendon in the human body. It connects the calf muscles (gastrocnemius and soleus) to the posterior side of the calcaneus bone (heel bone). This tendon allows calf muscles to exert force and dorsiflex the foot (push the foot and toes downward). Basketball players are always moving and exerting force from the feet, such

Fig. 1. Normal knee anatomy

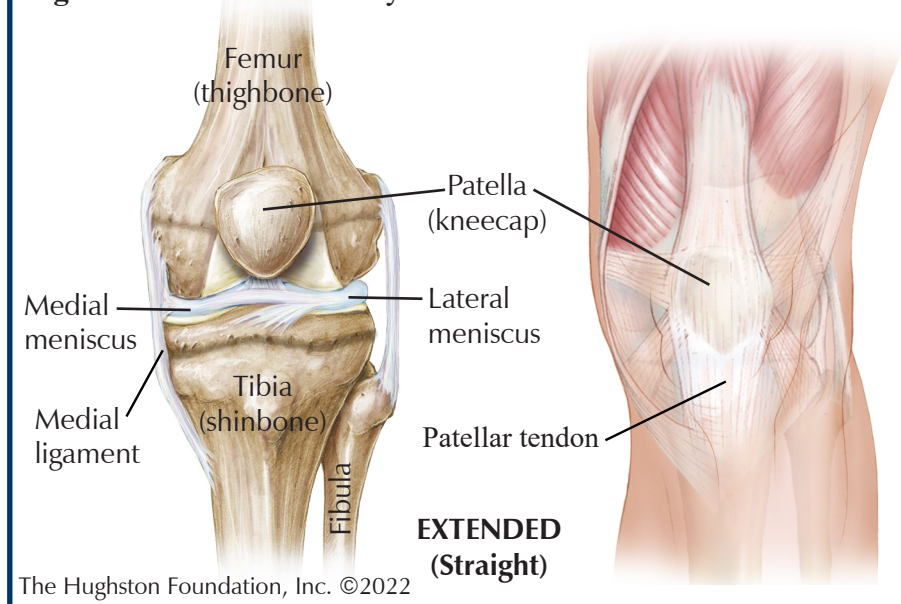
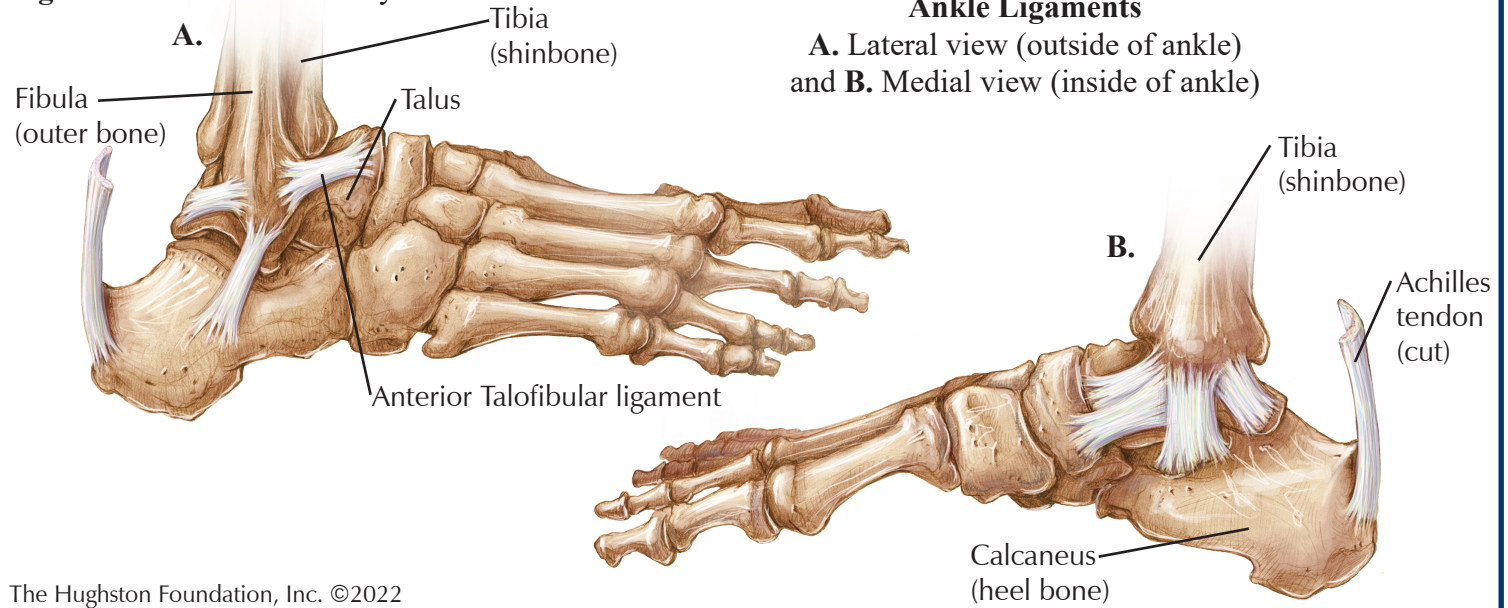


Fig. 2. Normal ankle anatomy



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as jumping, running, and pivoting, which causes injury to the Achilles tendon. Physicians classify the mild version of injury to the Achilles tendon as Achilles tendinitis. In Achilles tendinitis, the tendon becomes inflamed and irritated, leading to pain and stiffness. This injury develops over time, which classifies it as an over-use injury.

The severe version of this injury is an Achilles tear, usually arising from a traumatic tendon tear due to sudden increase in tendon force and loading. For professional athletes, this type of injury often needs surgical intervention; but unfortunately, it does not have a favorable prognosis.^{4,5} After suffering an Achilles tendon tear, athletes average missing 10 months of competitive basketball while having surgery and undergoing physical rehabilitation.⁶ Additionally, research shows that competitive basketball players who suffered an Achilles tendon tear ended up having a shorter career afterwards in comparison with other players who did not suffer the injury.⁶

Treatment and prevention

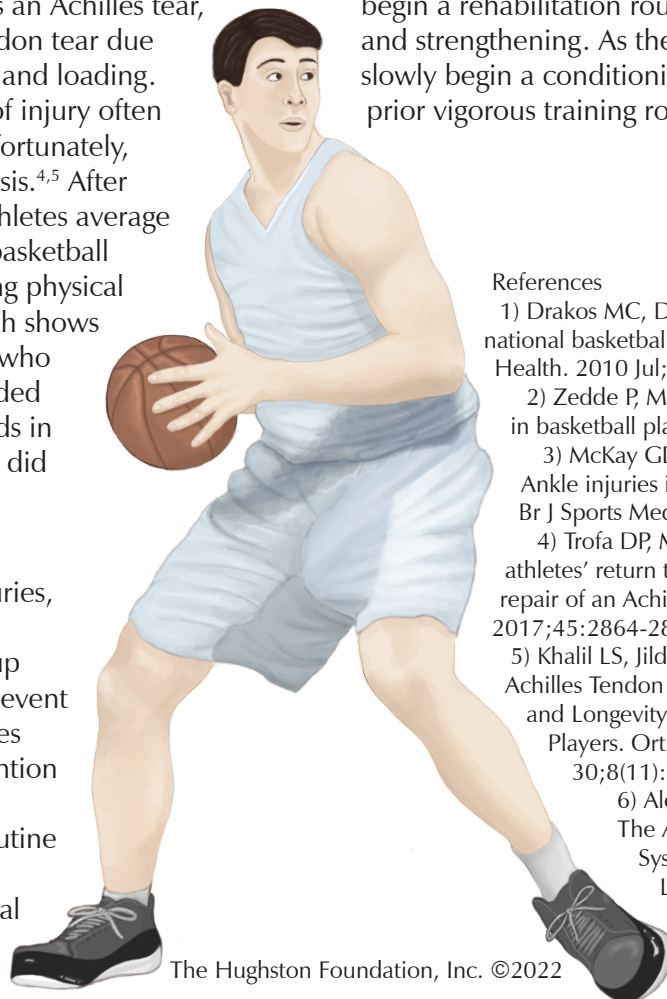
As with most musculoskeletal injuries, the best treatment is prevention. Adequate stretching and warming up prior to physical activity is key to prevent the injuries. Conditioning for athletes also play a crucial role in the prevention of overuse injuries. Athletes must gradually ramp up their exercise routine so that their tendons and ligaments become adapted to the new physical stress placed upon them.

Initially, conservative treatment for athletes who suffer lower extremity musculoskeletal injuries, such as sprains, include following the RICE regimen (rest, ice, compression, elevation), NSAID's (non-steroidal anti-inflammatory medication), and bracing or splinting. Once the inflammation and pain decreases, the athlete can begin a rehabilitation routine that focuses on stretching and strengthening. As the injury improves, the athlete can slowly begin a conditioning period before returning to the prior vigorous training routine.

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- Providing training materials at meetings for healthcare professionals, such as occupational health nurses, and future healthcare providers.
- Materials distributed at sporting events, such as the Georgia High School Soccer Association Championship, and Safe Kids programs to educate the public about safety concerns for our youth.

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