Pediatric to Adult Care

A Guide for Pediatric Growth Hormone Deficiency Patients and Caregivers

The Transition of Treatment from Pediatric to Adult Care

For easily accessible answers, education, and support, visit Nutropin.com or call 1-866-NUTROPIN (1-866-688-7674).

What are common possible side effects of Nutropin therapy?

Common side effects reported in adults and children taking Nutropin therapy include injection site reactions. Additional common side effects in adults include swelling, joint pain, and carpal tunnel syndrome.

You may report side effects to the FDA at (800) FDA-1088 or www.fda.gov/medwatch. You may also report side effects to Genentech at (888) 835-2555.

How should you store Nutropin?

Nutropin must be kept refrigerated (36° to 46°F [2° to 8°C]). Do not freeze. NuSpin pens must be used within 28 days of initial use. Throw away any unused Nutropin after 28 days of initial use. Before giving an injection, check the manufacturer’s expiration date on the pen. Do not use if it has expired. Do not inject medication if the solution is cloudy.

Please see the accompanying full Prescribing Information, and additional Important Safety Information throughout and on pages 10-11.
Indications:
Who is Nutropin Therapy for?

Nutropin AQ® (somatropin) injection for subcutaneous use is a human growth hormone that is available by prescription only.

Doctors prescribe Nutropin therapy for children and teenagers who are short or growing slowly because they:
- Do not make enough growth hormone on their own
- Have idiopathic short stature, which means they are shorter than 98.8% of other children of the same age and sex; are growing at a rate not likely to allow them to reach normal adult height; and no other cause of short stature can be found
- Have Turner syndrome
- Have chronic kidney disease (CKD) up to the time of kidney transplant

Doctors prescribe Nutropin therapy for adults who have growth hormone deficiency that began either in:
- Adulthood as a result of pituitary disease, diseases of the hypothalamus, surgery, radiation therapy, or trauma; or
- Childhood. Patients treated for growth hormone deficiency in childhood, whose bones have stopped growing, should be reevaluated to see if they need to continue with growth hormone therapy

Your doctor will test to see if growth hormone is right for you.

Select Important Safety Information:
Nutropin therapy and your safety:

Please read this Important Safety Information carefully. Then, if you have any questions, talk with your doctor.

Nutropin Therapy is NOT for:
- Patients having serious complications after undergoing open heart surgery, abdominal surgery, serious injuries involving many body systems, or life-threatening breathing problems. Deaths have been reported in such cases
- Children who have Prader-Willi syndrome (PWS) and are very overweight or have a history of severe breathing problems. Deaths have been reported in children with PWS who are very overweight, have a history of blocked upper airways, sleep apnea (pauses in breathing during sleeping), or other severe breathing problems
- Patients who have active cancer. Because growth hormone deficiency can be an early sign of some tumors in the brain or pituitary gland, the presence of these types of tumors should be ruled out by your doctor before you start Nutropin therapy
- Patients who are allergic to somatropin, the active ingredient in Nutropin therapy, or the inactive ingredients in Nutropin therapy
- Adults or children with certain types of eye disease caused by diabetes
- Children and teenagers whose bones have finished growing

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Looking Ahead: Treatment Expectations for the Teen and Adult Years

You already know by now that growth hormone plays an important role in the development of organs, bones, and tissues for children and teens. But did you know adults need growth hormone too? In adults it helps your body maintain a healthy balance between lean mass and body fat. For pediatric GHD patients who remain growth hormone deficient as teens and adults, this means a commitment to ongoing therapy even after completing puberty and getting to full height.

Timing: When to Evolve your Treatment Goals and Treatment Team

The American College of Endocrinology recommends when your child is between the ages of 15-18, an adult endocrinologist can work with your child’s pediatrician to determine the level of continued care needed. Tests to determine growth hormone levels and other measurements will be done. If it is determined your child can benefit from ongoing therapy, an adult endocrinologist will help shift treatment goals. Adult treatment goals include improvements in:

- Body composition
- Cholesterol profile
- Bone mineral density

Remember – Treatment goals are not just about height!

Select Important Safety Information (continued)

What should you tell your doctor before starting Nutropin therapy?

- If you take cyclosporine, hormone replacement therapy, insulin or other diabetes medications, drugs containing steroids, or drugs for seizures. These medications may need to be adjusted during Nutropin therapy.
- If you had cancer as a child. An increased risk of a new tumor, particularly certain brain tumors, has been reported in patients taking Nutropin therapy. If you have pre-existing tumors or growth hormone deficiency caused by abnormal tissue in the brain, you should be watched closely for the worsening or return of this condition.

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Questions to Ask Your Doctor:
Mapping Out your Treatment Plan

When you meet with your doctor, use these questions to help you make a plan for the future:

- Which pediatric patients should be tested for adult GHD and at what ages?
- Are there any long-term health risks for GHD adults?
- What are the symptoms for GHD adults?
- What kind of doctor helps manage adult GHD? Where can I find this kind of doctor?
- Are there any long-term safety considerations or side effects?
- Where can I find help navigating the insurance coverage process for adult GHD?
- What else is good for me to understand about how GHD could affect me in adulthood?

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Select Important Safety Information (continued)

What should you tell your doctor before starting Nutropin therapy?

- If you have diabetes, risk factors for diabetes, or impaired glucose tolerance. If so, your doctor should monitor your blood sugar closely during Nutropin therapy. New cases of type 2 diabetes have been reported in patients taking Nutropin therapy.
- If you have pituitary hormone deficiency(s) (an inability of the pituitary gland to produce sufficient hormones) or adrenal hormone deficiency (an inability of the adrenal glands to produce sufficient hormones, primarily cortisol). Your doctor may further monitor your hormone levels or your hormone replacement therapy closely while you are taking Nutropin therapy.
- If you are pregnant, nursing, or plan to become pregnant. It is not known whether Nutropin is excreted in human milk. Nutropin therapy should be used during pregnancy only when clearly needed.
Select Important Safety Information (continued)

While taking Nutropin, contact your doctor immediately if you experience:

- Changes in upper airway obstruction (including onset of or increased snoring and/or new onset sleep apnea, in patients with PWS. These patients should also have effective weight control and be monitored by a doctor for signs of respiratory infection
- Changes in vision, a bad headache, or nausea with or without vomiting. This may be a sign of increased pressure in the brain
- Any allergic reaction you experience to the injection of Nutropin therapy
- A limp or have hip or knee pain
  - A fracture in the ball of the hip joint can occur in children who have endocrine problems and in children who have rapid growth
  - Children with growth failure due to CKD should be examined periodically for evidence of loss of bone minerals. Hip x-rays should be taken before starting Nutropin therapy in these children

Finding Support: Guidance on Navigating the Transition to Adult Focused Care

New life stages may mean new approaches to care and coverage. As your child becomes a teen and adult, use the below resources and tools to help you understand and plan what's next:

**Magic Foundation:**
Treatment education on the transition from child to adult with GHD.
https://www.magicfoundation.org

**Nutropin.com**
Understanding Nutropin treatment coverage for adult GHD.
https://www.nutropin.com/patient/patient-support/nutropin-patient-access-support.html

**Nutropin Financial Support**
Get personalized help navigating insurance and getting access to treatment. Call our care team at 1-866-NUTROPIN (1-866-688-7674).

**Nutropin GPS™ Co-pay Card Program**
Helps eligible patients cover the co-pay costs.

Reference: AACE 2019 Guidelines for Management of Growth Hormone Deficiency in Adults and Patients Transitioning from Pediatric to Adult Care. Available at:

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Nutropin therapy and your safety:
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While taking Nutropin, contact your doctor immediately if you experience:

- Progression of scoliosis (curvature of the spine) that can occur in children who have rapid growth. Nutropin therapy has not been shown to increase the occurrence of this condition.
- Increases in laboratory test serum levels of inorganic phosphorus, alkaline phosphatase, parathyroid hormone (PTH), or IGF-1.
- Abdominal pain. Cases of pancreatitis (inflammation of the pancreas) have been reported rarely in children and adults receiving Nutropin therapy.

Other important information about Nutropin:

- Adults may retain water during Nutropin therapy. This may be brief but may increase with higher doses of Nutropin therapy.
- Patients should have their thyroid function tested periodically during Nutropin therapy. Thyroid hormone treatment may need to be started or adjusted.
- Patients should be sure to inject Nutropin at a different recommended place on their body each time to avoid tissue breakdown. A doctor or nurse should provide injection training and supervise the first injection.
- The use of Nutropin therapy has not been studied in patients over 65 years of age. Elderly patients may be more sensitive to Nutropin therapy and may experience more side effects.
- Patients with Turner syndrome should be monitored closely by a doctor for ear infections and cardiovascular problems during Nutropin therapy.

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Your healthcare team is your primary source of information about your treatment.

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Models used for illustrative purposes only.