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Acthar[®] Gel Value to Patients

Our mission at Mallinckrodt is Managing Complexity. Improving Lives. Our employees live this mission every day, and we're focused on providing safe, effective treatments that make a difference in the lives of patients, especially those with severe and critical conditions.

A number of media outlets and other external parties have made misleading and inaccurate allegations about Acthar Gel (repository corticotropin injection) and Mallinckrodt. It is important to set the record straight.

Here are key facts:

- Acthar Gel is U.S. Food and Drug Administration (FDA)-approved for 19 indications, including for the treatment of Infantile Spasms, following a full label review by the Agency in 2010.
- The price of Acthar Gel today is \$38,892, before discounts provided to payers. Since acquiring the drug in late 2014, Mallinckrodt has only made modest price adjustments in the mid-single digit percentage range.
- In contrast to the drug's prior owner Mallinckrodt has invested more than \$500 million into Acthar Gel, including investment into health economic and outcomes research and well-controlled clinical trials. Information on our total investment in Acthar Gel is publicly available on our website.
- Synacthen[®] (tetracosactide) is not Acthar Gel, nor is it an approved substitute for Acthar Gel in any of its indications in the U.S. Once we acquired the prior owner of Synacthen, we began developing the drug and in 2016, prior to the U.S. Federal Trade Commission (FTC) settlement, initiated clinical trials investigating use of the compound in Duchenne Muscular Dystrophy.
- Mallinckrodt strongly disagrees with the allegations contained in the City of Rockford, Illinois complaint.
- Mallinckrodt adheres to all regulations, guidance and codes related to interactions with healthcare providers.

Please see additional facts below.

The Price of Acthar Gel

In 2007, Acthar Gel's previous owner was near bankruptcy and raised the price of the drug substantially in order to keep the drug on the market and to ensure the long-term supply of the drug for treatment of children afflicted with infantile spasms and other small groups of patients suffering from complex, devastating diseases. They did this only after extensive consultation with the FDA.³

Today the price per vial of Acthar Gel is \$38,892. Since acquiring Acthar Gel, Mallinckrodt has only made modest price adjustments in the mid-single digit percentage range. Additionally, Mallinckrodt provides discounts to this list price to payers, which the prior owner generally did not offer. We would encourage you to review Mallinckrodt's pledge on drug pricing and innovation, which we take very seriously.

Availability of Acthar Gel for Infantile Spasms Patients

- Mallinckrodt is committed to ensuring that any infant under the age of 2 suffering from infantile spasms (IS) who is prescribed Acthar[®]Gel receives treatment.⁴
- Acthar Gel samples are provided at no charge to physicians so they can provide the drug immediately upon diagnosis and assess the patient's clinical response to Acthar.

- All IS patient prescriptions received at the Acthar Hub are serviced urgently and with the utmost care knowing that a baby's well-being is at stake.
- A dedicated Acthar Hub Case Manager begins working immediately with the local Access and Reimbursement Manager to obtain insurance coverage and put the caregivers in touch with the Specialty Pharmacy to schedule expedited delivery.
- Mallinckrodt has a commercial copay assistance program to help offset out-of-pocket costs for eligible IS patients with no government insurance. The program offers a \$0 co-pay for eligible patients.
 - Eligibility is established when the IS patient is a permanent U.S. resident, has a legal representative who is at least 18 years old, has been prescribed Acthar for this approved indication, and is commercially or privately insured.
 - The \$0 co-pay program is not available to people insured by a federal or state healthcare plan or where prohibited by law.
- For those cases where the commercial or public insurance plan will not approve coverage for Acthar or the baby does not have insurance coverage – or for Medicaid patients whose families cannot afford the out-of-pocket costs – Mallinckrodt may provide Acthar at no cost to eligible patients through the Acthar Patient Assistance Program.
- Mallinckrodt also offers injection training services at no cost to the patient caregiver(s). A trained nurse will come to the best location (at the hospital, in the home, etc.) for the caregiver(s) and instruct them how to administer Acthar.

In short, Mallinckrodt invests significant resources to provide Acthar to babies quickly and with the utmost urgency. There is an entire support team that passionately and personally ushers each baby's prescription through the process to ensure no delays.

Physician Payments/Travel Expense Reimbursement:

In the period of 2013-2016, of all healthcare practitioners prescribing Acthar Gel to whom Mallinckrodt or the prior owner made payments, **more than 95% received only modest meals or nominally priced clinical reprints** – well within regulations and guidelines. For the remaining ~5%, the vast majority were engaged for peer-to-peer speaking engagements, with a small fraction involved in other consulting services for the company, such as speaking to employees or investors and participation in expert Physician Advisory Boards – again, all within regulations and guidelines. It is our belief that many physicians prefer peer-to-peer presentations and dialogue over other methods of learning about the value a product may bring to appropriate patients they are treating. The physicians who present to their peers must take time away from their practice and frequently travel to other cities – incurring normal, but sometimes substantial travel expenses. Any payments reported include reimbursement for these expenses.

Mallinckrodt designs our policies to be consistent with applicable legal and regulatory requirements, the PhRMA Code, and industry best practices. We have instituted controls and strict guidelines regarding the selection and training of speakers; the conduct of such programs, including requirements related to the individuals that may attend such programs; and guidelines to ensure that the venues selected for such programs are appropriate and conducive to the educational focus of these programs, and payments are based on fair market value.

Adverse Events:

As an FDA-approved drug, Acthar Gel is deemed safe and effective for its labeled indications by the agency.

Mallinckrodt annually provides the FDA with data about adverse events related to its marketed products. As we approach our yearly filing, we are pleased to report that the positive benefit-risk of Acthar Gel has remained unchanged across all marketed indications and is consistent with previous

years. To derive meaningful conclusions of this topic, adverse event reports for Acthar Gel need to be considered within the appropriate context.

Acthar Gel is typically prescribed to patients with very serious medical conditions, often as a third or fourth line of treatment when other treatments have failed. It is well known that many of these patients suffer from diseases in which co-morbidities are high, and often they are on other medications that may be contributing factors. The frequency of adverse event reports also does not necessarily correlate to an increase in the actual prevalence or relative severity of any particular side effect or event. Each event is reported and counted whether it relates to a relatively minor event such as a headache or a more serious event such as anaphylaxis.

Furthermore, the FDA itself cautions on its website that reporting of a side effect or adverse event occurring while taking a drug doesn't establish a causal relationship between the adverse event and the medicine.

Over the past years, the number of patients using Acthar Gel has increased significantly. Critically, however, company-generated Acthar Gel data on adverse events over the last four calendar years indicates that the number of serious adverse events as a proportion of the number of Acthar Gel prescriptions (measured by vials sold) has remained very low and consistent with the FDA's independent analysis.

Acthar Gel Advisory Committee Results

Regarding your questions on this topic, these are the facts: On May 11, 2010, a meeting of the FDA's Peripheral and Central Nervous System Drugs Division held an Advisory Committee Meeting (AdCom) to review/discuss the data Questcor was submitting/had submitted in support of use of Acthar Gel in treatment of patients with Infantile Spasms. The Committee voted 22 to 1 that Acthar Gel was an effective treatment for patients with IS and voted 20 to 1 the drug was safe in the intended patient population at an effective dosing regimen, inclusive of a Risk Evaluation and Mitigation Strategy (REMS). The REMS was a part of the agency's eventual approval of the drug for this indication (along with the reaffirmation of 18 others) in 2010. Two years later, the FDA removed the REMS requirement based on Acthar Gel's demonstrated safety in the market in IS patients.

The Facts about the Rockford Lawsuit

Mallinckrodt strongly believes that none of the company actions outlined in the plaintiff's complaint constitute a violation of any law and, therefore, believes that the complaint should be dismissed in its entirety. We will vigorously defend the company in this matter.

Treating physicians prescribe what they believe is best for their patients and the doctor(s) in Rockford, Illinois chose to prescribe Acthar Gel. The medical community is well aware that there are other treatment options for IS such as high dose steroids.

Synacthen, Acthar Gel and the FTC Settlement

NEW: Synacthen is not a generic competitor to Acthar Gel. While the two drugs may share mechanistic effects through the ACTH component, Acthar Gel is much more. As noted in the product label approved by the FDA, Acthar Gel is a naturally-sourced complex mixture of purified adrenocorticotrophic hormone analogs and other pituitary peptides. It is not a steroid, and amongst its many components includes a 1-39 peptide chain. It is not simply a highly purified form of ACTH. Synacthen is a synthetic ACTH 24-peptide chain. The two products are very different drugs.

Mallinckrodt did not pursue commercialization of Synacthen for IS, as the barriers to completion were, in our view, virtually impossible to overcome.

- Synacthen has never been approved by the FDA for use in the U.S. for any indication and it is not an alternative treatment for IS in the U.S.

- In all the time that Synacthen has been commercially available in select foreign countries, it has never been commercialized in the U.S. and no owner of Synacthen (including the owner prior to Questcor) ever undertook U.S. development of the drug in IS or any other indication.
- Even in Canada, where Synacthen is approved and used in certain indications, it is not approved for use in IS patients. In fact, in Canada, the label contains a warning against use in infants or children under 3 years old due to the product containing benzyl alcohol.

Mallinckrodt is developing the drug (MNK-1411) in an indication where there is both high unmet medical need and, if successful, potential for greatest impact for patients – Duchenne Muscular Dystrophy.

¹The FDA conducted a thorough review of the label for Acthar Gel in 2010.

²Because symptoms of IS can be subtle and are generally not widely recognized, Mallinckrodt invests resources to support education of the medical and patient community to ensure IS babies are getting diagnosed promptly. We also invest in ongoing clinical research to further understand the disease and since treating infantile spasms is so urgent once diagnosed Mallinckrodt has established an entire support team to usher each baby's prescription through the coverage process to ensure quick access to the product.

³Please see the Questcor's 10-K filing for 2007. Additionally, Questcor issued many new shares the year before, presumably to raise capital. Moreover, articles have appeared, including one in Investor's Business Daily in November of 2013 in which the former CEO of Questcor publicly discussed the company's challenges to stay afloat during this time period.

⁴Patients who withdrew from the process on their own would be exceptions to this statement.

About Acthar Gel (repository corticotropin injection)

INDICATIONS

Acthar Gel is an injectable drug approved by the FDA for the treatment of 19 indications. Of these, today the majority of Acthar use is in these indications:

- Treatment during an exacerbation or as maintenance therapy in selected cases of systemic lupus erythematosus
- Monotherapy for the treatment of infantile spasms in infants and children under 2 years of age
- The treatment of acute exacerbations of multiple sclerosis in adults. Controlled clinical trials have shown Acthar Gel to be effective in speeding the resolution of acute exacerbations of multiple sclerosis. However, there is no evidence that it affects the ultimate outcome or natural history of the disease
- Inducing a diuresis or a remission of proteinuria in nephrotic syndrome without uremia of the idiopathic type or that due to lupus erythematosus
- Treatment during an exacerbation or as maintenance therapy in selected cases of systemic dermatomyositis (polymyositis)
- The treatment of symptomatic sarcoidosis
- Adjunctive therapy for short-term administration (to tide the patient over an acute episode or exacerbation) in rheumatoid arthritis, including juvenile rheumatoid arthritis (selected cases may require low-dose maintenance therapy)
- Treatment of severe acute and chronic allergic and inflammatory processes involving the eye and its adnexa such as: keratitis, iritis, iridocyclitis, diffuse posterior uveitis and choroiditis, optic neuritis, chorioretinitis, anterior segment inflammation

IMPORTANT SAFETY INFORMATION

Contraindications

- Acthar should never be administered intravenously
- Administration of live or live attenuated vaccines is contraindicated in patients receiving immunosuppressive doses of Acthar
- Acthar is contraindicated where congenital infections are suspected in infants
- Acthar is contraindicated in patients with scleroderma, osteoporosis, systemic fungal infections, ocular herpes simplex, recent surgery, history of or the presence of a peptic ulcer, congestive heart failure, uncontrolled hypertension, primary adrenocortical insufficiency, adrenocortical hyperfunction or sensitivity to proteins of porcine origins

Warnings and Precautions

- The adverse effects of Acthar are related primarily to its steroidogenic effects
- Acthar may increase susceptibility to new infection or reactivation of latent infections
- Suppression of the hypothalamic-pituitary-axis (HPA) may occur following prolonged therapy with the potential for adrenal insufficiency after withdrawal of the medication. Adrenal insufficiency may be minimized by tapering of the dose when discontinuing treatment. During recovery of the adrenal gland patients should be protected from the stress (e.g. trauma or surgery) by the use of corticosteroids. Monitor patients for effects of HPA suppression after stopping treatment
- Cushing's syndrome may occur during therapy but generally resolves after therapy is stopped. Monitor patients for signs and symptoms
- Acthar can cause elevation of blood pressure, salt and water retention, and hypokalemia. Blood pressure, sodium and potassium levels may need to be monitored
- Acthar often acts by masking symptoms of other diseases/disorders. Monitor patients carefully during and for a period following discontinuation of therapy
- Acthar can cause GI bleeding and gastric ulcer. There is also an increased risk for perforation in patients with certain gastrointestinal disorders. Monitor for signs of bleeding
- Acthar may be associated with central nervous system effects ranging from euphoria, insomnia, irritability, mood swings, personality changes, and severe depression, and psychosis. Existing conditions may be aggravated
- Patients with comorbid disease may have that disease worsened. Caution should be used when prescribing Acthar in patients with diabetes and myasthenia gravis
- Prolonged use of Acthar may produce cataracts, glaucoma and secondary ocular infections. Monitor for signs and symptoms
- Acthar is immunogenic and prolonged administration of Acthar may increase the risk of hypersensitivity reactions. Neutralizing antibodies with chronic administration may lead to loss of endogenous ACTH activity
- There is an enhanced effect in patients with hypothyroidism and in those with cirrhosis of the liver
- Long-term use may have negative effects on growth and physical development in children. Monitor pediatric patients
- Decrease in bone density may occur. Bone density should be monitored for patients on long-term therapy
- Pregnancy Class C: Acthar has been shown to have an embryocidal effect and should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Adverse Reactions

- Common adverse reactions for Acthar are similar to those of corticosteroids and include fluid retention, alteration in glucose tolerance, elevation in blood pressure, behavioral and mood changes, increased appetite and weight gain
- Specific adverse reactions reported in IS clinical trials in infants and children under 2 years of age included: infection, hypertension, irritability, Cushingoid symptoms, constipation, diarrhea, vomiting, pyrexia, weight gain, increased appetite, decreased appetite, nasal congestion, acne, rash, and cardiac hypertrophy. Convulsions were also reported, but these may actually be occurring because some IS patients progress to other forms of seizures and IS sometimes mask other seizures, which become visible once the clinical spasms from IS resolve

Other adverse events reported are included in the full Prescribing Information. Please see full Prescribing Information available at [Acthar.com](https://www.acthar.com).