**Medical Coverage Policy |** Adrenal-to-Brain Transplantation

**EFFECTIVE DATE:** 02|06|2010
**POLICY LAST UPDATED:** 03|19|2019

## OVERVIEW
The transplantation of adrenal medullary tissue to the corpus striatum is intended to ameliorate the motor and postural dysfunctions of Parkinson's disease. Striatal dopamine is depleted in Parkinson's disease patients. The rationale for the procedure is that adrenal tissue may restore dopamine activity in the corpus striatum. Adrenal-to-brain transplantation can involve either autografts or fetal allografts.

## MEDICAL CRITERIA
Not applicable.

## PRIOR AUTHORIZATION
Not applicable.

## POLICY STATEMENT
**BlueCHiP for Medicare**
Adrenal-to-brain transplantation with autograft or fetal allograft is not covered as the evidence is insufficient to determine the effects of the technology on health outcomes.

**Commercial Products**
Adrenal-to-brain transplantation with autograft or fetal allograft is considered not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

## COVERAGE
Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable not medically necessary/not covered benefits/coverage.

## BACKGROUND
The transplantation of adrenal medullary tissue to the corpus striatum is intended to ameliorate the motor and postural dysfunctions of Parkinson's disease. Striatal dopamine is depleted in Parkinson's disease patients. The rationale for the procedure is that adrenal tissue may restore dopamine activity in the corpus striatum. Adrenal-to-brain transplantation can involve either autografts or fetal allografts.

Autotransplantation entails simultaneous adrenalectomy and craniotomy with subsequent implantation of adrenal medullary tissue. Adrenal tissue is usually implanted in fragments into the caudate nucleus at the margin of the lateral ventricle, such that the tissue is exposed to cerebrospinal fluid (CSF). Tissue fragments can be anchored in place with surgical staples or with Gelfoam®. Besides the caudate nucleus, the putamen has also been used as an implantation site. Open microsurgical insertion of the tissue has been used in addition to stereotactic localization and implantation using a cannula.

Allografting involves harvesting adrenal tissue from an aborted fetus. The surgical techniques are the same as autotransplantation, with the exception of the adrenalectomy.

There are scarce data in the published, peer-reviewed scientific literature regarding the current clinical use of adrenal-to-brain transplantation in humans for any indication. In a systematic review of the literature, the

Agency for Healthcare Research and Quality (AHRQ, 2003) noted that there is a lack of efficacy and substantial morbidity associated with the procedure for the treatment of Parkinson's disease.

The American Academy of Neurology (1999) recommended that adrenal-to-brain transplantation for the treatment of Parkinson's disease is not acceptable for safety reasons.

## CODING

The following code is not covered for BlueCHiP for Medicare and not medically necessary for Commercial Products:
**S2103** Adrenal tissue transplant to brain

## RELATED POLICIES

None

## PUBLISHED

Provider Update, June 2019
Provider Update, Sep 2018
Provider Update, July 2017
Provider Update, Sep 2016
Provider Update, May 2015
Provider Update, June 2014
Provider Update, May 2012

## REFERENCES:

1. Agency for Healthcare Research and Quality, US Dept. of Health and Human Services. Diagnosis and Treatment of Parkinson's Disease: A Systematic Review of the Literature. Evidence Report/Technology Assessment No 57, 2003. Available at URL address: http://archive.ahrq.gov/downloads/pub/evidence/pdf/parkinsons/parkinsons.pdf

2. Hallet M, Litvan I. Evaluation of Surgery for Parkinson's Disease: A report of the therapeutics and technology assessment subcommittee of the American Academy of Neurology. Neurology. 1999; 53 (9):1910-1921.

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