

<b>POLICY NUMBER</b> UM XRT_2008	<b>SUBJECT</b> Neutron Beam Therapy (NBT)	<b>DEPT/PROGRAM</b> UM Dept	<b>PAGE 1 OF 2</b>
<b>DATES COMMITTEE REVIEWED</b> 03/14/18, 06/12/19, 12/11/19	<b>APPROVAL DATE</b> December 11, 2019	<b>EFFECTIVE DATE</b> December 11, 2019	<b>COMMITTEE APPROVAL DATES</b> (latest version listed last) 03/14/18, 06/12/19, 12/11/19
<b>PRIMARY BUSINESS OWNER: UM</b> <b>APPROVED BY:</b> Dr. Andrew Hertler		<b>COMMITTEE/BOARD APPROVAL</b> Utilization Management Committee	
<b>URAC STANDARDS</b> HUM 1	<b>NCQA STANDARDS</b> UM 2	<b>ADDITIONAL AREAS OF IMPACT</b>	
<b>CMS REQUIREMENTS</b> Per applicable LCD/NCD	<b>STATE/FEDERAL REQUIREMENTS</b>	<b>APPLICABLE LINES OF BUSINESS</b> All	

## I. PURPOSE

The purpose of this policy is to provide general information applicable to the review and appropriateness of Neutron Beam Therapy (NBT) services. Although a service, supply or procedure may be medically necessary, it may be subject to limitations and/or exclusions under a member's benefit plan. If a service, supply or procedure is not covered and the member proceeds to obtain the service, supply or procedure, the member may be responsible for the cost. Decisions regarding treatment and treatment plans are the responsibility of the physician. This policy is not intended to direct the course of clinical care a physician provides to a member, and it does not replace a physician's independent professional clinical judgment or duty to exercise special knowledge and skill in the treatment of members. NCH is not responsible for, does not provide, and does not hold itself out as a provider of medical care. The physician remains responsible for the quality and type of health care services provided to a member

## II. BACKGROUND

Neutron Beam Therapy (NBT) differs from other forms of radiation particle treatment such as protons or electrons as they have no electrical charge. The treatment effects are the results of the neutron mass producing dense radiation energy distributions. This effect is high energy linear transfer (LET) and may offset the negative effects of low oxygen tension in tumors leading to increased rate of control in hypoxic tumors.

## III. DEFINITIONS

Neutron Beam Therapy (NBT) is a specialized type of EBR that uses high energy neutrons (neutral charged subatomic particles). The neutrons are targeted toward tissue masses that are characterized by lower tumor oxygen levels and a slower cell cycle, since neutrons require less oxygen and are less dependent on the cell's position in the cell division cycle. Neutrons impact with approximately 20 to 100 times more energy than conventional photon radiation and may be more damaging to surrounding tissues. For that reason, the radiation is delivered utilizing a sophisticated planning and delivery system.

## IV. POLICY

- Medicare** – for Medicare and Medicare Advantage enrollees, the coverage policies of CMS (Centers for Medicare and Medicaid Services) may take precedence over Company's guidelines.
- Neutron Beam Therapy (NBT) request **MAY** meet the definition of medical necessity for the following indications however requires clinical review for determination:

Select Salivary gland cancers that are inoperable, recurrent, or are resected with gross residual disease or positive margins.



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All other indications not listed above **MAY** be considered experimental or investigational, as there may be insufficient evidence to support conclusions regarding the effect of on health outcomes. Indications not listed will be evaluated on a case by case basis at the Clinical Reviewer level.

## **V. PROCEDURE**

The following documentation is necessary for reviewing a Neutron Beam Therapy (NBT) request:

- a. Physician history and physical including radiographic reports IE: MRI, CT and prior PET/CT scans
- b. Attending Radiation Oncologist consult or progress note
- c. Treatment; in certain circumstances a comparison Dose Volume Histogram (DVH) comparing IMRT.

## **VI. APPROVAL AUTHORITY**

1. Review – Utilization Management
2. Final Approval – Utilization Management Committee

## **VII. ATTACHMENTS**

None

## **VIII. REFERENCES**

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