

# CEREBROSPINAL FLUID COLLECTION FACT SHEET

MEMORY & AGING PROJECT (MAP), WASHINGTON UNIVERSITY

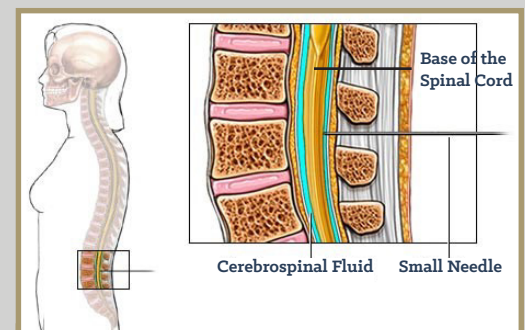
## WHAT IS CEREBROSPINAL FLUID?

Cerebrospinal fluid (CSF) is made in the brain to protect the brain and spinal cord. CSF contains proteins and other chemicals that are important for brain health.

The type and amount of these proteins and chemicals may indicate a disease process, such as Alzheimer disease (AD) or potential risk for AD. The analysis of CSF provides a unique “window” into the understanding of how AD develops and progresses. Findings about AD in living people through the study of CSF mean that the illness may be diagnosed during life, without waiting to confirm the diagnosis at autopsy after death.

## HOW IS CSF COLLECTED?

Experienced clinicians collect CSF by a lumbar puncture (LP), also called a spinal tap. Research volunteers generally have the LP while sitting up and fully awake. The back is cleaned and a numbing medication is injected into the skin. When the skin is numb, a thin needle is inserted into the back at the level of the hip bones. There is no spinal cord at that level, and there is no risk for paralysis. The needle is placed between (not through) the bones of the spine until the spinal fluid is reached. For testing, approximately 2-3 tablespoons of fluid are collected in sterile tubes. The brain makes CSF constantly, and at any one time over 37 tablespoons are available.



LP involves inserting a small needle between the vertebrae below the base of spinal cord. A small amount of fluid is collected. There is no risk for paralysis.



## WHO WE ARE

Since 1979, the Memory & Aging Project at Washington University has studied intellectual functioning in persons as they age. Our efforts are designed to provide information on the aging process in healthy older persons and in those diagnosed as having Alzheimer disease dementia or another related disorder. The Memory and Aging Project (MAP) along with the Memory and Aging Project Satellite (MAPS) are at the forefront of a worldwide effort to uncover key causal factors in the development of Alzheimer disease, with a goal of developing more effective treatments and an eventual cure or prevention.

**KnightADRC**  
*Alzheimer's Disease Research Center*

  
Washington  
University in St. Louis  
SCHOOL OF MEDICINE

## ARE THERE RISKS INVOLVED?

Spinal fluid collection is safe and involves minimal discomfort. You may experience minor pain, bruising or swelling of the skin where the needle is inserted—much as you might when giving blood. Headache can occur after the procedure, in about 10% or less of those receiving an LP. Such headaches are usually mild. More severe headaches can occur but are rare and usually respond to treatment within a few hours.

People who faint when giving blood may have a similar flushing/fainting experience in response to LP. Risk for infection from LP is less than that of a regular blood draw. All precautions are taken to anticipate potential problems and minimize these risks.

## WHERE CAN I LEARN MORE?

Please share any questions you might have with the MAP doctor (314-286-2683).

*There are also a number of helpful resources about LP available on the Internet:*

### NATIONAL LIBRARY OF MEDICINE

<http://www.nlm.nih.gov/medlineplus/ency/article/003428.htm>

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

<http://jama.jamanetwork.com/article.aspx?articleid=203803&resultClick=3#>

This fact sheet summarizes information about cerebrospinal fluid collection and is offered for educational purposes only. Produced by the Outreach, Recruitment, and Education Core of the Knight Alzheimer Disease Research Center, Washington University, St. Louis (11/15/2016).