This handout explains a procedure called inferior petrosal sinus sampling.

What are the petrosal sinuses?

Petrosal sinuses are a group of veins on both sides of the head. They drain blood from the pituitary gland.

What is inferior petrosal sinus sampling?

Inferior petrosal sinus sampling (IPSS) is a procedure that checks for adrenocorticotropic hormone (ACTH) in the petrosal sinuses. This procedure may be done if you had a magnetic resonance imaging (MRI) scan to find the cause of a high ACTH level, but the scans did not find or diagnose a tumor. The results of IPSS will tell your doctor if you have Cushing’s disease (a pituitary tumor) or Cushing’s syndrome.

IPSS is an outpatient procedure. Most patients can go home the same day as their IPSS.

What can I expect?

- You will be awake for the procedure. You will be given:
  - A mild sedative (medicine to help you relax)
  - A local anesthesia (numbing medicine) at the puncture site
- A catheter (a long, slim tube) will be inserted into veins in your upper thigh (femoral veins).
- The catheter will be moved through your veins to the petrosal sinuses.
- Contrast (X-ray dye) will be injected through the catheter. This dye helps images show up more clearly on X-rays.
- Your doctor will use X-rays to help guide the catheter to the right place.
• Blood samples will be taken from the left and right petrosal sinuses, and from the femoral vein.

• *Corticotrophin-releasing hormone* (CRH) will be injected into the peripheral vein.

• More blood samples will be taken 2, 5, and 10 minutes after the CRH injection.

• Your doctor will compare ACTH from the left petrosal and right petrosal samples to the femoral vein samples. The results help your doctor know if your symptoms are caused by a pituitary tumor.

• IPSS can also show which side of the pituitary gland the tumor is on.

**How do I prepare?**

• You may be asked to stop certain medicines before the procedure. Please see the handout “Cerebral Angiogram” for medicine instructions.

• Plan to have a responsible adult to take you home after the procedure. This person can drive you home, or ride with you on a bus or in a taxi. Also plan for someone to stay with you the first night.

**Day of the Procedure**

**At Home**

• Starting 8 hours before your IPSS, do not eat or drink anything.

• If you must take medicines, take them with *only* a small sip of water.

• Bring your medicines with you in case you need to take them after your procedure.

• Do not wear makeup, nail polish, or jewelry.

• Leave all valuables at home.

**At the Hospital**

• Check in at Admitting on the 3rd floor (main level) of the medical center.

• If you were told to have lab work done before your procedure, go to Blood Draw on the 3rd floor near the Cascade elevators.

• Go to the Radiology department on the 2nd floor. Check in at the main desk.

• Tell your doctor or nurse if you have had any kidney problems or allergies to contrast. If so, your doctor may prescribe medicine for you to take before the procedure.
• The neuro-radiologist will see you before the procedure to talk about the procedure and ask you to sign a consent form. You will be able to ask any questions you have at this time.

**During Your Procedure**

• We will closely monitor your blood pressure, heart rate, breathing rate, and comfort level.

• Your skin will be cleaned with a special soap. Some hair may be shaved in the areas where the doctor will be working.

• An *intravenous* (IV) line will be placed into a vein in your arm to give you medicines and fluids.

• The medicines you receive will relax you. You should not feel any pain.

• When the contrast is sent into your blood vessel, you may feel a warm to hot flush sensation spreading all over your body. These feelings are normal and should only last a few seconds.

• X-rays are taken while the contrast moves through your blood vessel.

• After blood samples are taken, the catheter will be removed. Pressure will be placed over the puncture site for about 15 to 20 minutes.

**After Your Procedure**

• You will be monitored for 4 hours in a short-stay unit in the hospital.

• During this time, you must lie flat in bed to reduce bleeding from the groin site.

• You will likely be able to go home the same day.

• You may feel light headed or dizzy.

**For Your Safety**

The sedative you were given for the procedure can affect your ability to think clearly. For your safety, for **24 hours** after your procedure:

• Do **not** drive.

• Do **not** use machinery or power tools.

• Do **not** drink alcohol.

• Do **not** take sedating medicines unless your doctor told you to.

• Do **not** be responsible for children, pets, or adults who need care.

• Do **not** make important decisions or sign legal documents.
Self-care at Home

- For 24 hours after your procedure:
  - Do only light activity and get plenty of rest.
  - Keep the puncture site clean and dry.
- Drink plenty of fluids and eat as usual, if you can. If you cannot eat at first, start with water and slowly add foods that you can handle.
- Unless your doctor or nurse tells you otherwise:
  - You may shower after 24 hours.
  - Gently pat the puncture site dry.
  - Do not apply any creams, lotions, ointments, or powders to the site.
- On the 2nd day, you can be more active, but do not do strenuous exercise, or anything that puts strain on your puncture site.
- For 7 days after your procedure, do not take a bath, sit in a hot tub, or go swimming, unless your doctor or nurse told you otherwise.

When to Call

Call the clinic nurse at 206.598.5637 right away if:

- Your leg or foot feels cold or numb.
- The puncture site begins to bleed, swell, or becomes more painful.
- Your speech is slurred.
- You have balance problems or trouble using your arm or leg.
- You develop a rash.
- You have a fever higher than 101.5°F (38.6°C).

The Neurosurgery Clinic is open weekdays from 8 a.m. to 5 p.m. If you are calling after clinic hours, call 206.598.5637.