

FACT SHEET

Epidural Blood Patch



WHAT IS IT?

Epidural blood patch (EBP) is a well-established procedure for treatment of cerebrospinal fluid (CSF) leaks arising from the spinal column. This procedure uses autologous blood (the patient's own blood) injected into the epidural space. The spinal cord is enclosed within a sac of CSF which is contained by a membranous layer called the dural sac. The epidural space is the space between this dural sac and the bony vertebral column. The blood injected is thought to clot and therefore effectively 'patch' the hole in the dura.

WHAT CONDITIONS DOES IT TREAT?

EBP procedure is routinely used to relieve post dural puncture headache caused by epidural complications, but it is important to note that a CSF leak can have other causes. For example, spontaneous (no precipitating event) or traumatic (fall or whiplash injury) causes. The tear / hole in the dura can cause CSF to leak out which can lower CSF pressure, resulting in postural headaches (worsening with upright posture and relieved upon lying down), neck pain and other neurological symptoms. Widespread pain and inflammation is also possible. CSF leaks are sometimes difficult to diagnose as symptoms may vary between patients, hence, your response to an EBP can also be used to confirm the diagnosis.

HOW DO I PREPARE FOR THE PROCEDURE?

- You should avoid eating or drinking 6 hours prior

- We also recommend if you are diabetic or take blood-thinning medications, you should discuss this with your doctor.

HOW IS IT PERFORMED?

EBP is performed under sterile conditions in an operating theatre using mild sedation. Fluoroscopic X-ray guidance allows the operator to accurately position an epidural needle. A doctor will access a vein via a cannula in the arm for drawing your blood to use and keep it sterile. Your treating doctor will then gradually inject a variable amount of blood into the epidural space. You may be asked to feedback during the procedure regarding pressure levels / response. EBP is typically done lying on your stomach. Your blood pressure and oxygen rates will be monitored

SIDE EFFECTS / COMPLICATIONS MAY INCLUDE¹

- General sedation / procedural risks: drowsiness, infection, local damage to structure, headache
- Transient back pain - pain may last up to 4 weeks
- Transient radicular pain - pain down leg/s
- Local swelling
- General sedation / procedural risks: drowsiness, infection, headache
- A feeling of increased pressure in your head as blood volume is injected (transient). However, it is important to note that this transient increase in pressure is a normal feature and a sign that the procedure is being executed effectively.

DISCLAIMER

Please note the contents contained in this Patient Fact Sheet are not intended as a substitute for your own independent health professional's advice, diagnosis or treatment.

At Metro Pain Group, we assess every patient's condition individually. As leaders in pain intervention, we aim to provide advanced, innovative, and evidence-based treatments tailored to suit each patient.

As such, recommended treatments and their outcomes will vary from patient to patient. If you would like to find out whether our treatments are suitable for your specific condition, please speak to one of our doctors at the time of your consultation.

Updated 24/03/2020

REFERENCES

1. Knipe H, Epidural Blood Patch. Source: <https://radiopaedia.org/articles/epidural-blood-patch>
2. CSF Leak Association (UK). Source: <https://www.csfleak.info/>
3. Kranz PG, Gray L, Taylor JN. CT-guided epidural blood patching of directly observed or potential leak sites for the targeted treatment of spontaneous intracranial hypotension. *AJNR Am J Neuroradiol.* 2011;32 (5): 832-8.
4. Schievink WI, Maya MM, Louy C et-al. Diagnostic criteria for spontaneous spinal CSF leaks and intracranial hypotension. *AJNR Am J Neuroradiol.* 2008;29 (5): 853-6.

SOURCES FOR MORE INFORMATION REGARDING CSF LEAKS PLEASE VISIT

1. Brain Foundation (AUST): <https://brainfoundation.org.au/disorders/spinal-cerebrospinal-fluid-csf-leak/> (includes useful links to patient support groups online)
2. CSF Leak Association (UK): <https://www.csfleak.info/>
3. Spinal CSF Leak Foundation (USA): <https://spinalcsfleak.org/aboutspinal>

For more information

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WHAT TO EXPECT AFTER THE PROCEDURE?

You will be taken to the recovery room for a few hours where you will lie flat and still and pain levels, BP and vital signs will be monitored.

Your treating doctor will discuss lying and resting on your back for 4-6 hours post procedure. If you do need to go to the toilet, please use the log rolling technique (see below)

Preferably, you will be kept in hospital overnight.

You will need to be driven home by a carer post EBP procedure

When you get home, it is advised to lie down, rest and take it easy for the next 24-48 hours. The following day you can resume light activity. Return to work may take a bit longer, depending on your individual circumstances and previous level of function.

POST EBP CARE AND RESTRICTIONS

- Avoid anti-inflammatory medications (up to 7 days, check with your doctor)
- Log roll to get into / out of bed which means maintaining a straight spine. Your Physiotherapist or nurse can show you this technique - 2-4 weeks
- Avoid twisting, bending, stretching, or lifting anything heavier than 2kg - 3kg - 6 weeks
- Avoid straining. Do not hold your breath or strain on the toilet (use laxatives if required).
- Try not to sneeze - but if you must, keep your mouth open - 6 weeks
- Do not bend forwards to lift things off the floor - 6 weeks
- If you do need to lift, bend your knees, keep back straight, do not hold your breath
- Limit driving / sitting time for 1 week. If travelling as a passenger you can recline seat back
- Commence a daily walking program early on, after 2-3 days. Keep a walking diary and aim to gradually increase walking distance. Walk only on flat terrain (no steep hills / hiking) - 6 weeks.
- Resuming strenuous activity i.e. sports: 6 weeks up to 3 months. Discuss with your treating team.

Diet: Maintain fluids with electrolytes. Avoid foods high in vitamin A (i.e. sweet potato), limit salt and avoid caffeine intake as these substances can increase pressure if you have mild rebound high pressure.

Rebound Intracranial hypertension or rebound high pressure (RHP) only occurs in roughly 33% of cases⁵, but is more likely in chronic, long term CSF leaks. Symptoms include a severe pressure headache in your forehead or behind the eyes, tinnitus (ringing or pulsing in the ears) and increased head pain when lying down, i.e. a change in headache pattern

Note: If you do have rebound high pressure symptoms, treatment may include simple lifestyle and diet advice or certain medications may be advised – please discuss this with your treating doctor.

WHEN TO CALL YOUR DOCTOR OR NURSES AT MPG?

If you have increasing pain after 24 hours, signs of infection (i.e. fever or chills), new onset limb weakness, numbness, trouble emptying bladder and / or bowels, a stiff neck, photophobia (aversion to bright light) or severe headache. Increased or severe head pressure behind the eyes which is worsened with lying down.

KEY MANAGEMENT POINTS TO KNOW

- The timeframe to notice whether improvement has occurred as a result of EBP may vary between patients. You may notice immediate improvement within 24-48 hours or it may take 1-2 weeks of gradual ability to maintain upright posture for a longer duration.
- A positive response can be used as a diagnostic tool and symptom relief may or may not be sustained
- Multi-level or targeted EBP's are a variation to discuss with your treating Physician
- The success rate of non-targeted epidural blood patch is variable, reported between 50-95% for craniospinal hypotension and 90-99% for post lumbar puncture headache and sometimes multiple EBP's are required for a successful outcome 5.6