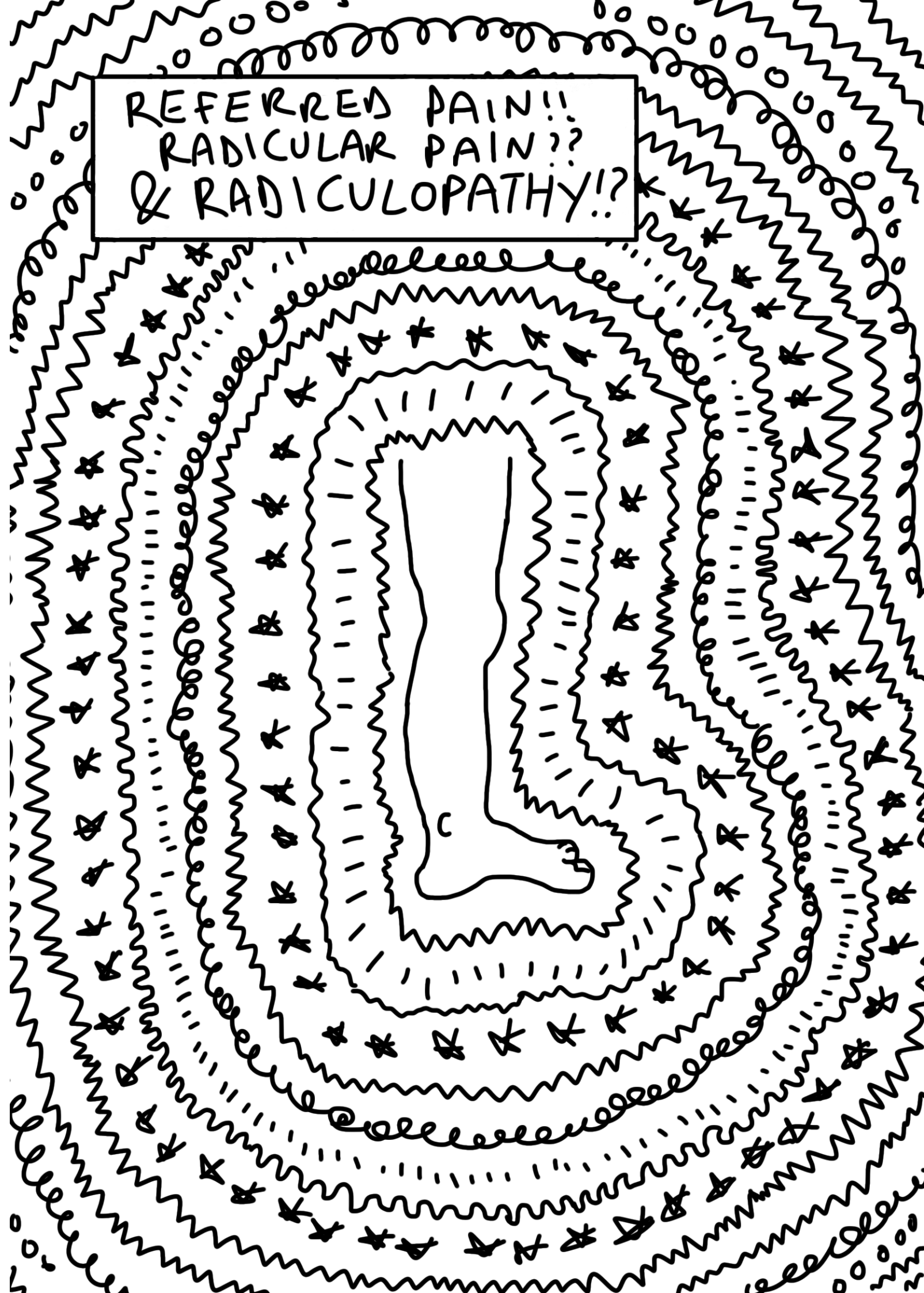


REFERRED PAIN!!
RADICULAR PAIN??
& RADICULOPATHY!?



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What you're reading...



This little 'zine' explains the difference between three commonly-confused phrases: REFERRED PAIN, RADICULAR PAIN, and RADICULOPATHY

Here's the contents:

- Anatomy
- ↓
- Referred pain
- ↓
- Radicular pain

→ Radiculopathy

- ↓
- Summary
- ↓
- Causes

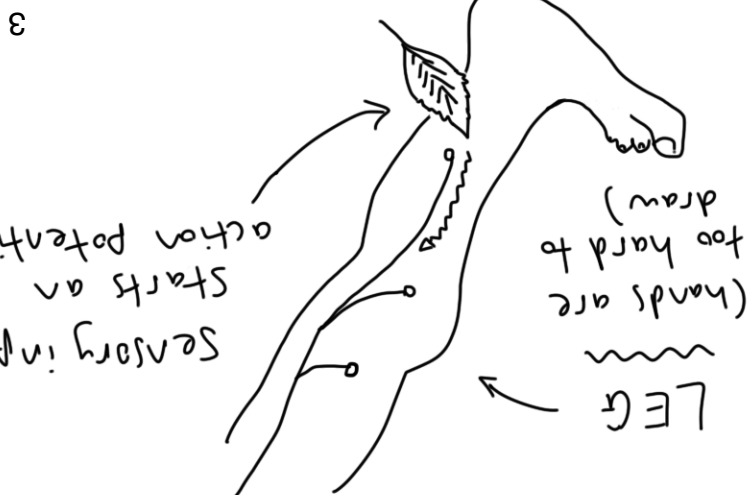
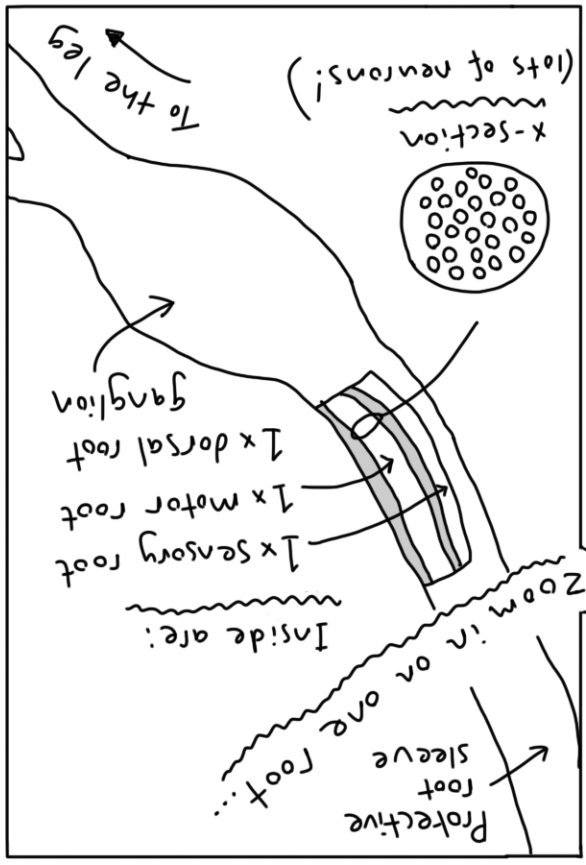
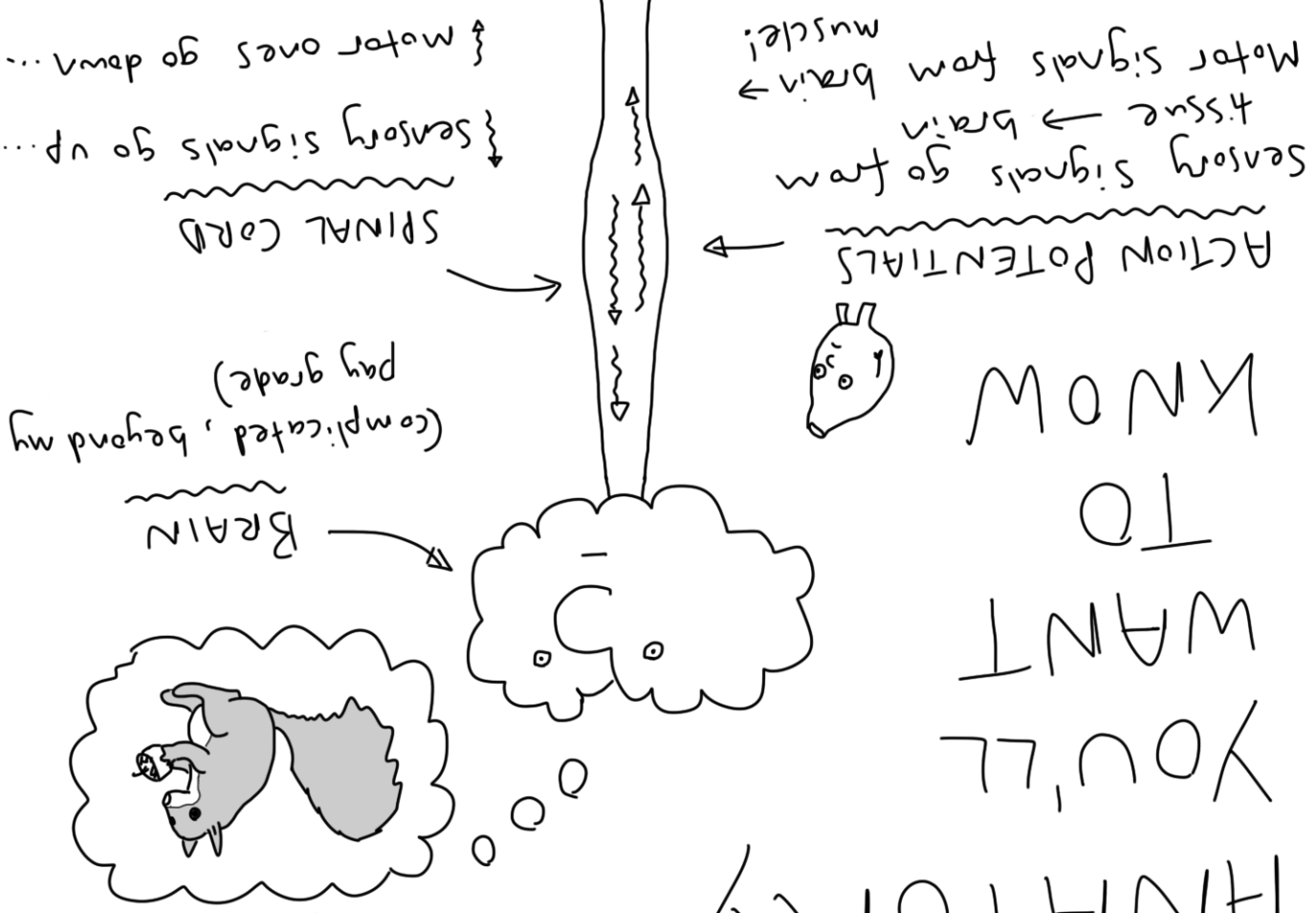
Oh, and I invented this weird character. He pops up throughout the zine... he's supposed to be a DORSAL ROOT GANGLION.



◦ To be Continued....?

ANATOMY

YOU'LL WANT TO KNOW

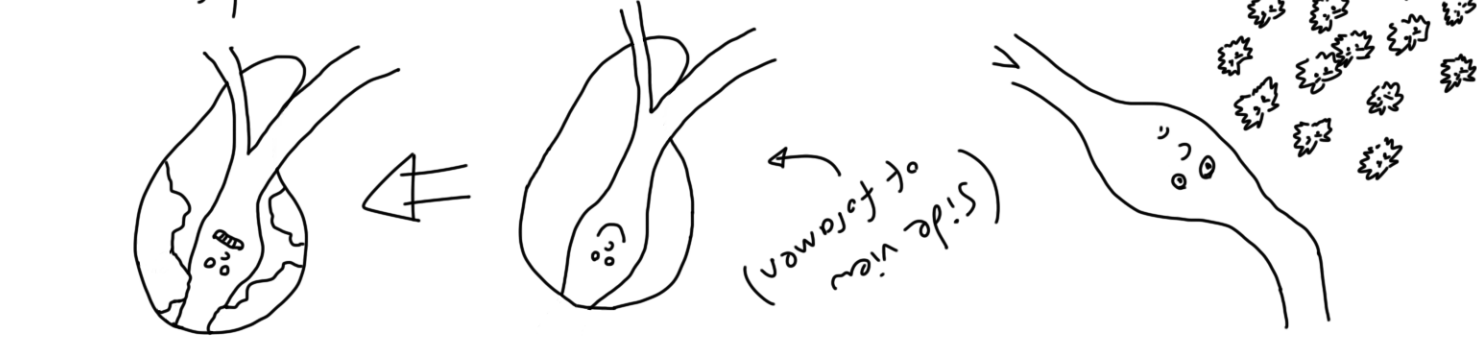


CAUSES

OF RADICAL CLAP PAIN



Foraminal Stenosis




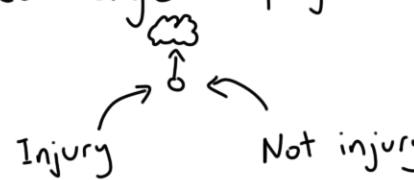

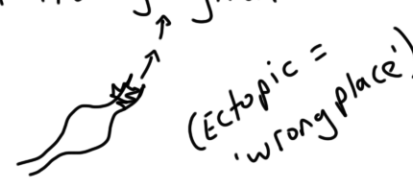

- * Rare but there:
- * Shingles! (esp. thoracic.)
- * Aneurysms
- * Metastatic tumours
- * Benign lumps + bumps

- * Pressure on roots
- * Commonly asymptomatic

And don't forget Cauda equina for more on that, see the CESbook.com!



In summary ...

	Symptoms/signs	Mechanism
Referred Pain	Dull, aching, difficult to localize 	"Convergence-projection" 
Radicular Pain	Lancinating, shocking, electrical, often in a dermatome (fish) band, 	"Ectopic" impulses from root +/or ganglion 
Radiculopathy	Objective neuro signs: ↓ reflexes ↓ power ↓ sensation	Conduction block at nerve root 

REFERRED PAIN

A well-known example is a heart attack
 Problem = 
 Pain = 



And we see referred pain all the time in MSK... @thomas-jesson



It's just pain felt in a place other than the 'source' of pain.

(what a know-it-all...)

Of course, it's sometimes not that simple. For example, all three often co-occur

Like this:



And there's also that tugging nerve "tightness" called mechanosensitivity.

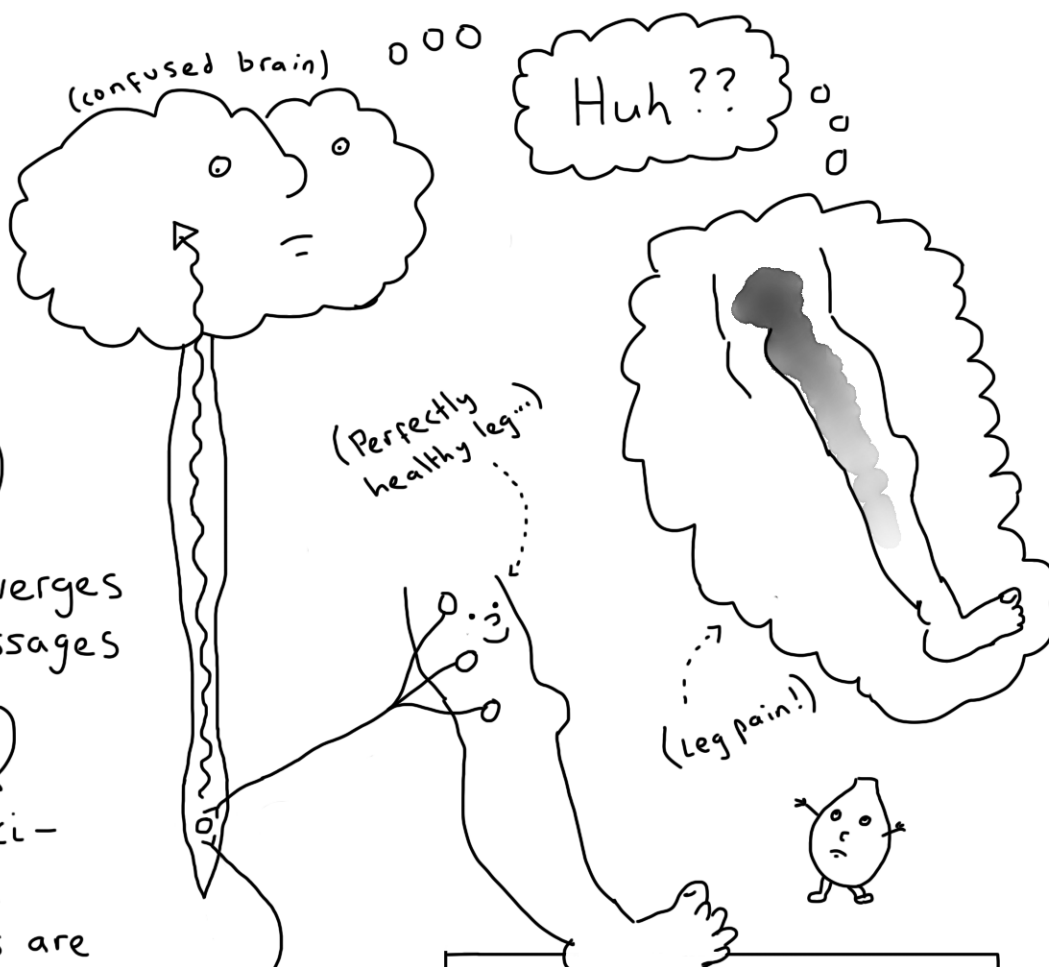


And radicular pain often deviates from the "expected" dermatome



How it works...

- ① Nociception from the spine is sent to the spinal cord...
- ② Where it converges with normal messages from the limb.
- ③ Both the nociception and the normal messages are projected up the spinal cord together...
- ④ To the brain, which can't tell the two apart, so it 'feels' the pain in the wrong place



REFERRED PAIN IS...

- Dull, aching
- Deep (not superficial)
- Hard to localise
- Worse closer to the 'source', easing distally. (Generally...)

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RADICULOPATHY

If you press on a nerve... You reduce its blood supply and it stops working!!

Pressure + /or inflammation = CONDUCTION BLOCK!

Radiculopathy isn't too different...

RADICULAR PAIN

Usually a sharp, shooting pain

Sometimes with a background ache/burn

Often accompanied by extra, "nerve" sensations

- pins & needles
- cold
- itch
- crawling
- prickling

6

Corefree action potentials zipping up from the leg

Hey! There's no way past!!

It's been blocked ever since that disc herniated...

Sensory action potentials travel up from the tissues, and motor action potentials travel down from the brain... like normal... but a conduction block at an injured root stops them from passing!!

Of course, this picture shows the sensory side only

Radiculopathy is:

- often quite mild, b/c roots share work
- Not a pain condition, technically!

How it works...

How it works... quiet lately... Hmm... S1 is been quiet lately...

5

Nothing wrong down here in all quiet...

Potentials up to the brain

BURSTS: of action root + ganglion send

1 An irritated nerve

How IT works

Often worse distally than proximally

Can be SEVERE

Something bad's happening in the leg!!!

2 Those bursts are experienced as pain or, tingling, etc. depending on their pattern + rhythm, pins & needles, etc.

Zoom in on the nerve root:

These "ectopic" APs come from the root, but the brain 'thinks' they are from the leg...

How IT works