Lumbar Spine Stenosis Algorithm

Definition: Clinical Syndrome of gradual onset of Intermittent buttock or lower extremity pain, with or without back pain[1,8]. Symptoms are aggravated by standing or walking (neurogenic claudication[3,6]) and relieved by sitting or leaning forward[1,3,4,5,7,8]. Spinal stenosis is associated with decreased space available for neural elements (thecal sac and/or exiting nerve roots[3]) and epidural veins in the lumbar spine[1,7,8].

The typical patient has a stooped forward posture, restricted lumbar extension, thigh pain with 30 seconds of lumbar extension.

Must differentiate from other conditions such as:

Peripheral Vascular Disease (Measure ankle brachial index)[1,2,3,4,5,6,8]

Diabetes[1,4,6,8]

Peripheral Neuropathy[1,4,5,6,8]

Hip/Knee Osteoarthritis[1,5,6,8]

Initial assessment of any back pain patient

Establish Standardized Score:

Ask patient to complete the Zurich Claudication Questionnaire[9] and document score

Ask patient to complete the STarT Back Screening Tool (SBST) and document score

Assess your patient:

Conduct a focused history and physical examination

Review the standardized questionnaire scores

Classify your patient into one of five broach categories

Presence of Red Flags:

New Bowel/Bladder incontinence or retention; recent sever trauma; progressive paraparesis, quadraparesis, neurologic sings → Send to emergency in your RUIS (Réseau Universitaire Intégré de Santé)

Unexplained weight loss (>10 lbs over 6 months), fever, chills, saddle anaesthesia without new bowel/bladder incontinence or retention; acute pain not eased by recumbent position; incremental non-relenting pain → page spine resident in the Emergency room of your RUIS

Unsteadiness of gait, weakness, numb/clumsy fingers → go to myelopathy algorithm

Lumbar Spinal Stenosis

Typical patient > 50yr old[1,3,4,5,8]

Non-Specific Low Back Pain (NSLBP) → Go to Acute/subacute non-specific low back pain algorithm

Unilateral leg pain below the knee (with/without numbness and weakness) → Go to radiculopathy algorithm

Educate:

Reassure patients → development of cauda equina syndrome or severe progressive neurologic deficit rare[3,4,5,6,7].

Advise patients to stay active

Promote self management

Discourage bed rest

Prescribe medication for paint relief (if needed):

Gabapentin[4,10]

NSAIDs[1,3,6]

Non-narcotic analgesics[6]

Narcotic analgesics (short course of maximum 2 weeks only if necessary)[3,5]

Prescribe Physiotherapy:

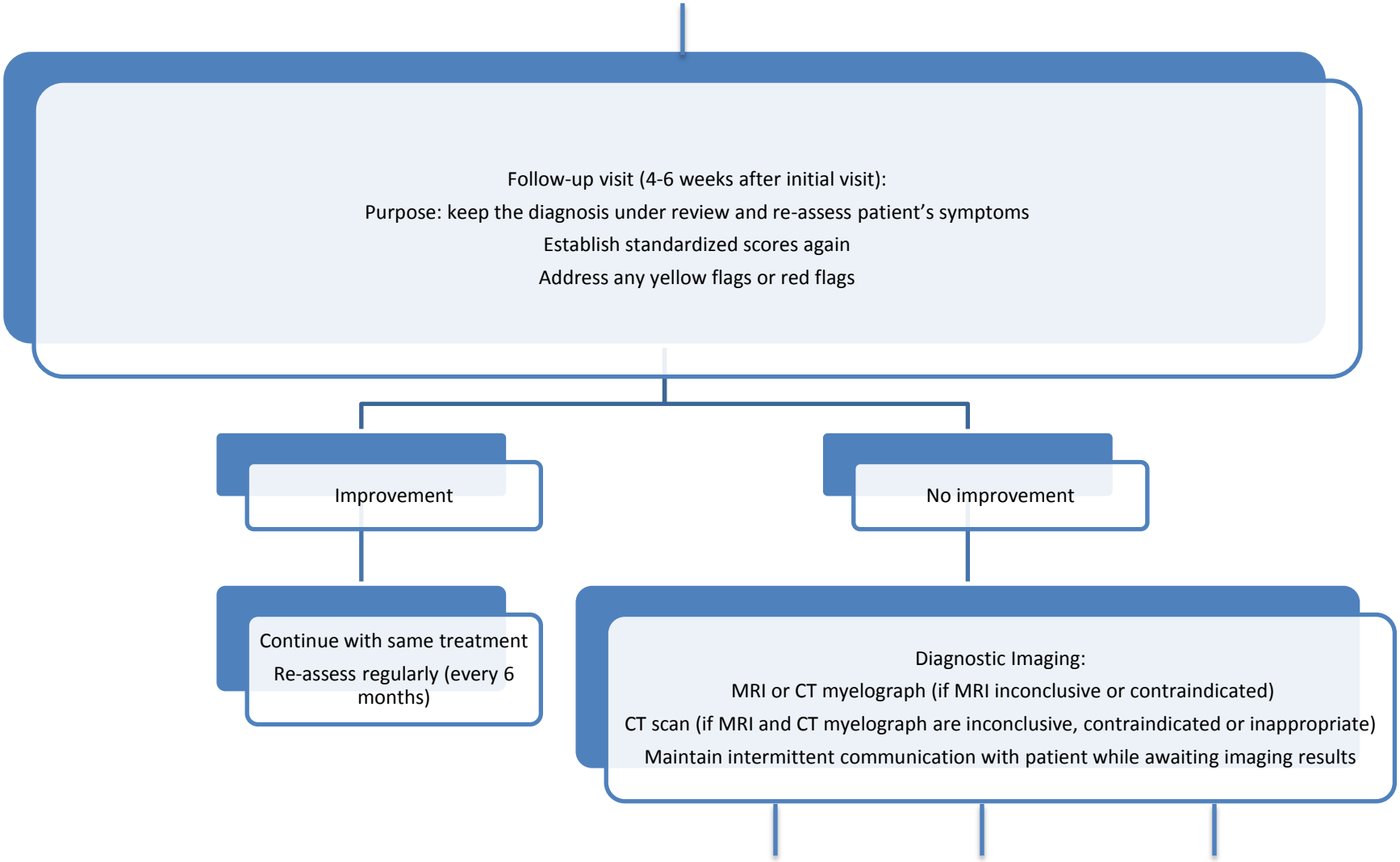
Strengthening of core muscles[1,3,5,11]

Stretching of lower extremity muscles (hamstrings, quadriceps, hip flexors)[1,11]

Lumbar flexion exercises (e.g. cycling)[3,4,5,11]

Avoid Lumbar extension exercises[4,8]

Elastic Lumbar binder (Wear only for brief periods to avoid deconditioning of para-spinal muscles)[8]


Follow-up visit (4-6 weeks after initial visit):
Purpose: keep the diagnosis under review and re-assess patient's symptoms
Establish standardized scores again
Address any yellow flags or red flags
Improvement
No improvement
Continue with same treatment
Re-assess regularly (every 6 months)
Diagnostic Imaging:
MRI or CT myelograph (if MRI inconclusive or contraindicated)
CT scan (if MRI and CT myelograph are inconclusive, contraindicated or inappropriate)
Maintain intermittent communication with patient while awaiting imaging results

MRI reported as mild-moderate spinal canal or neuroforaminal stenosis

Fluoroscopically guided epidural injection (ESI)[1,12,13,14] by:

Physiatrist

Pain management specialist

Follow-up in 3-4 weeks

MRI reported as severe spinal canal or neuroforaminal stenosis

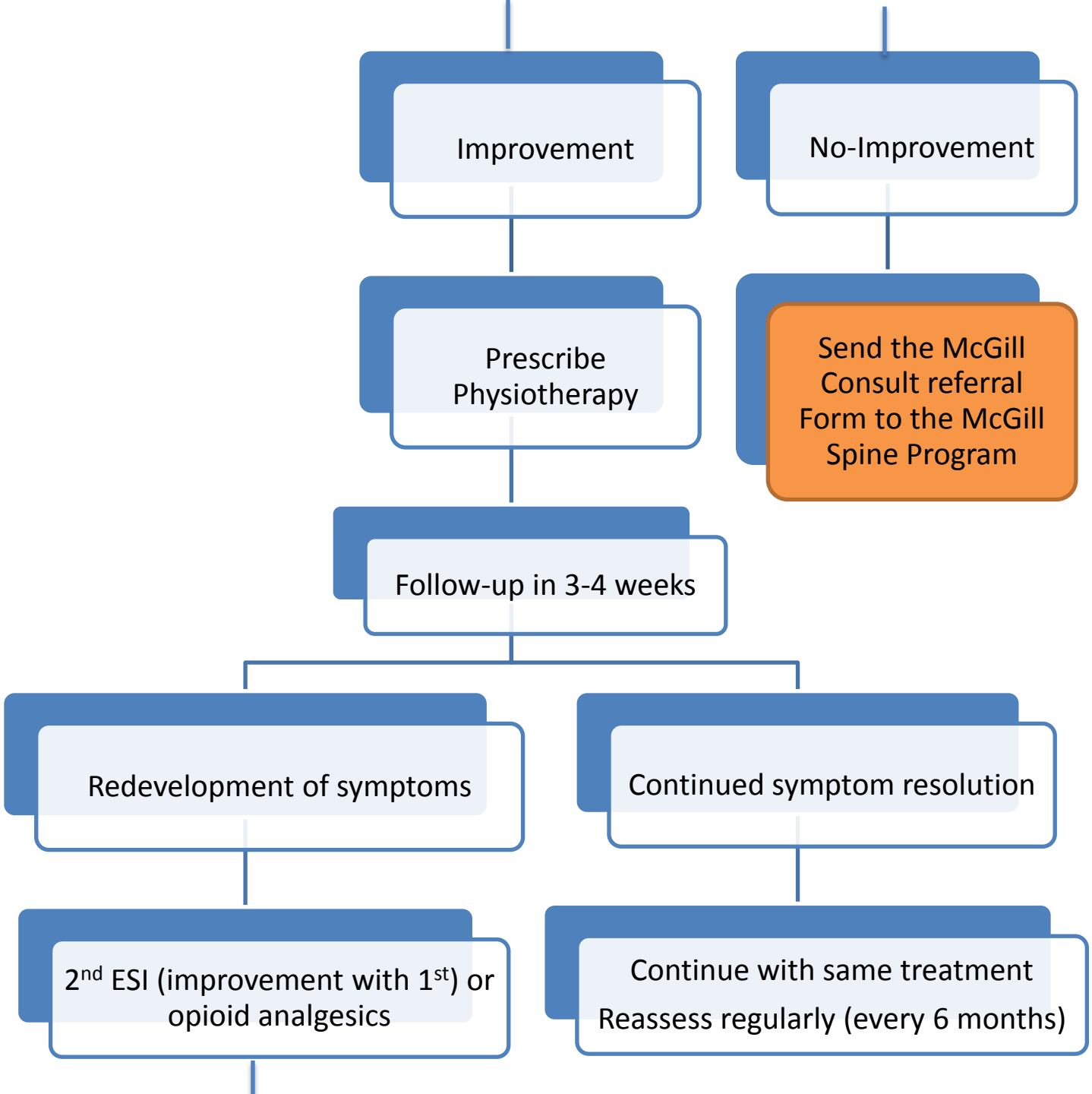
Send the McGill Consult referral Form to the McGill Spine Program

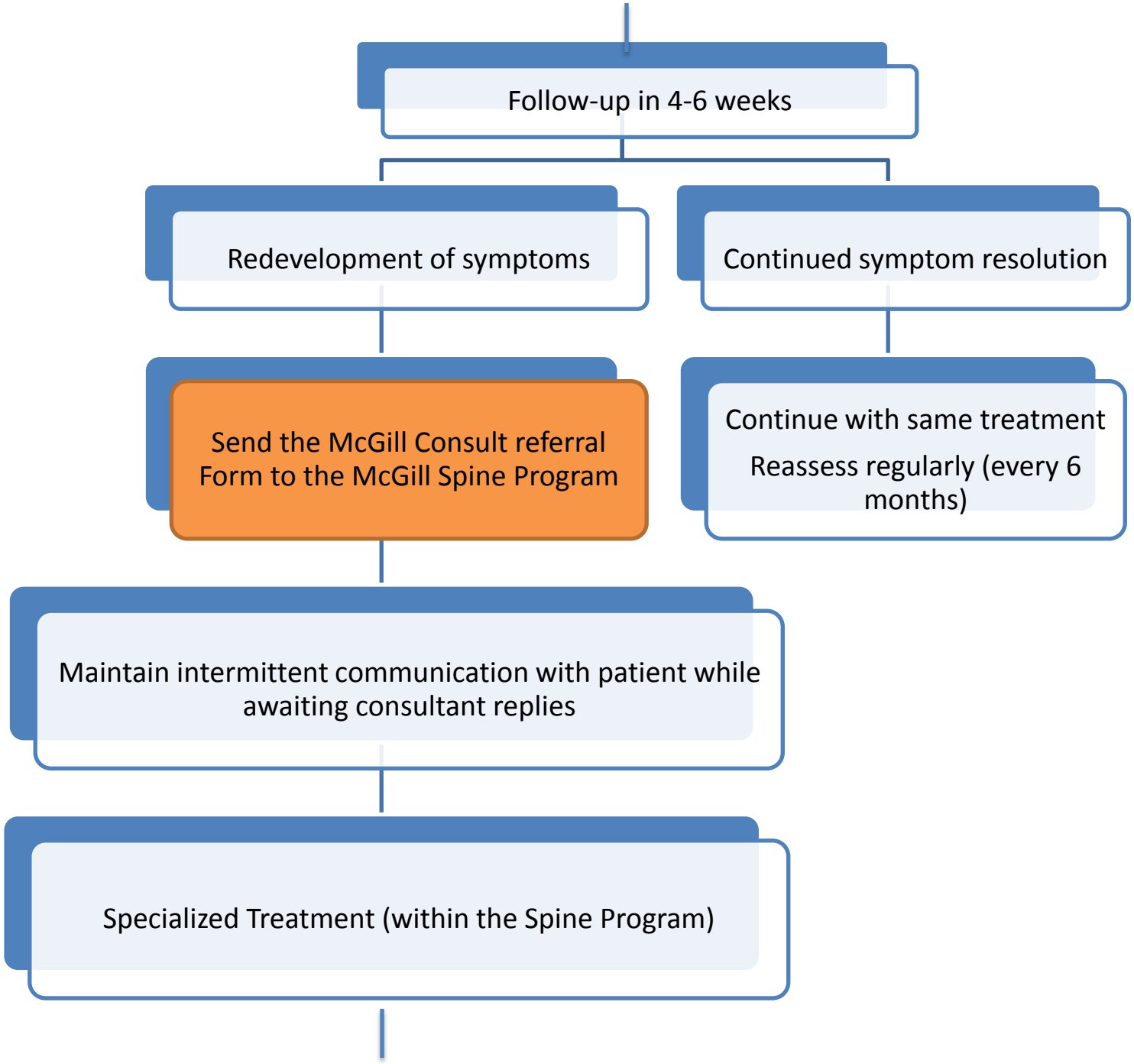
MRI showed no evidence of spinal canal or neuroforaminal stenosis

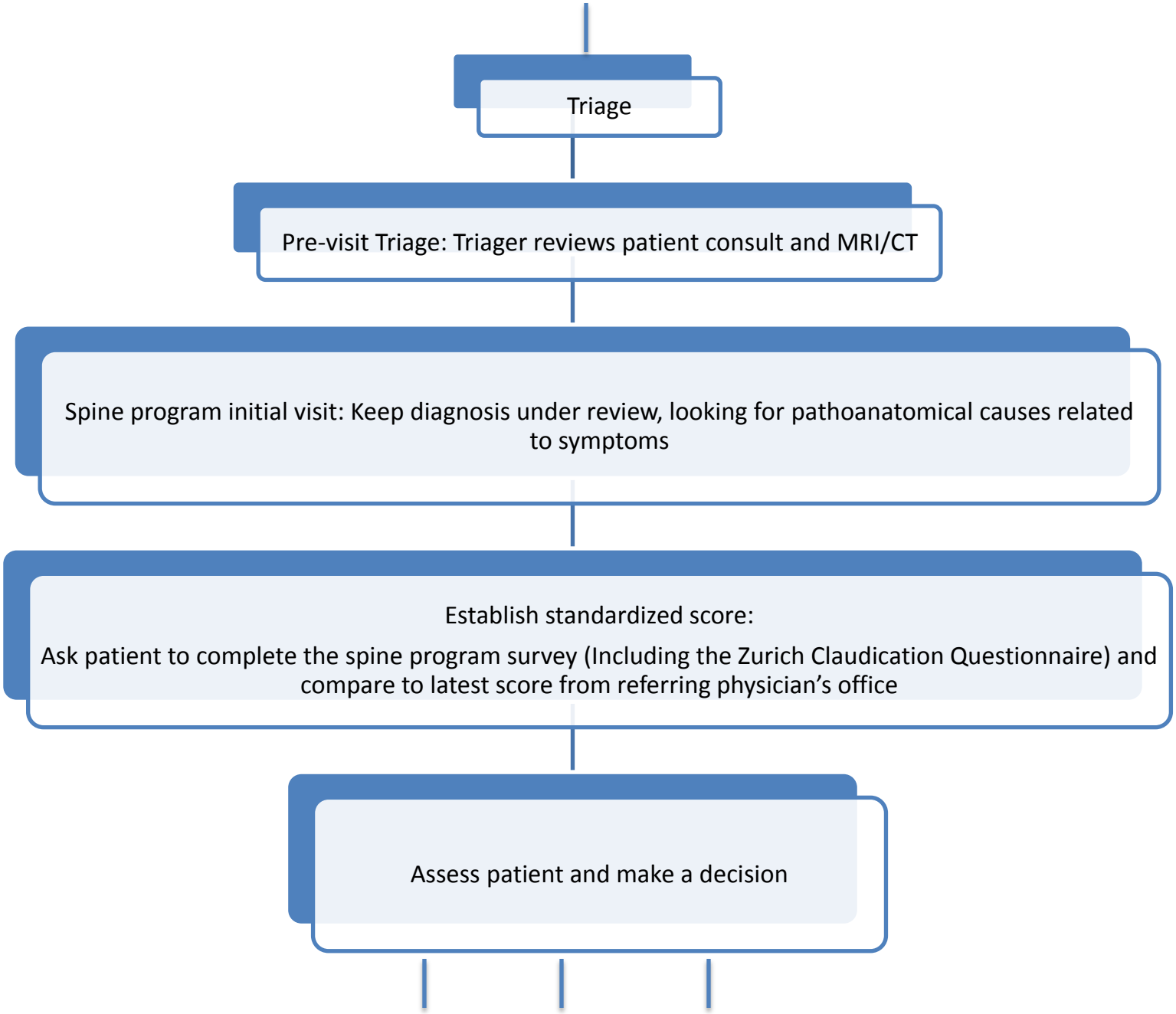
Not a neurocompressive disorder

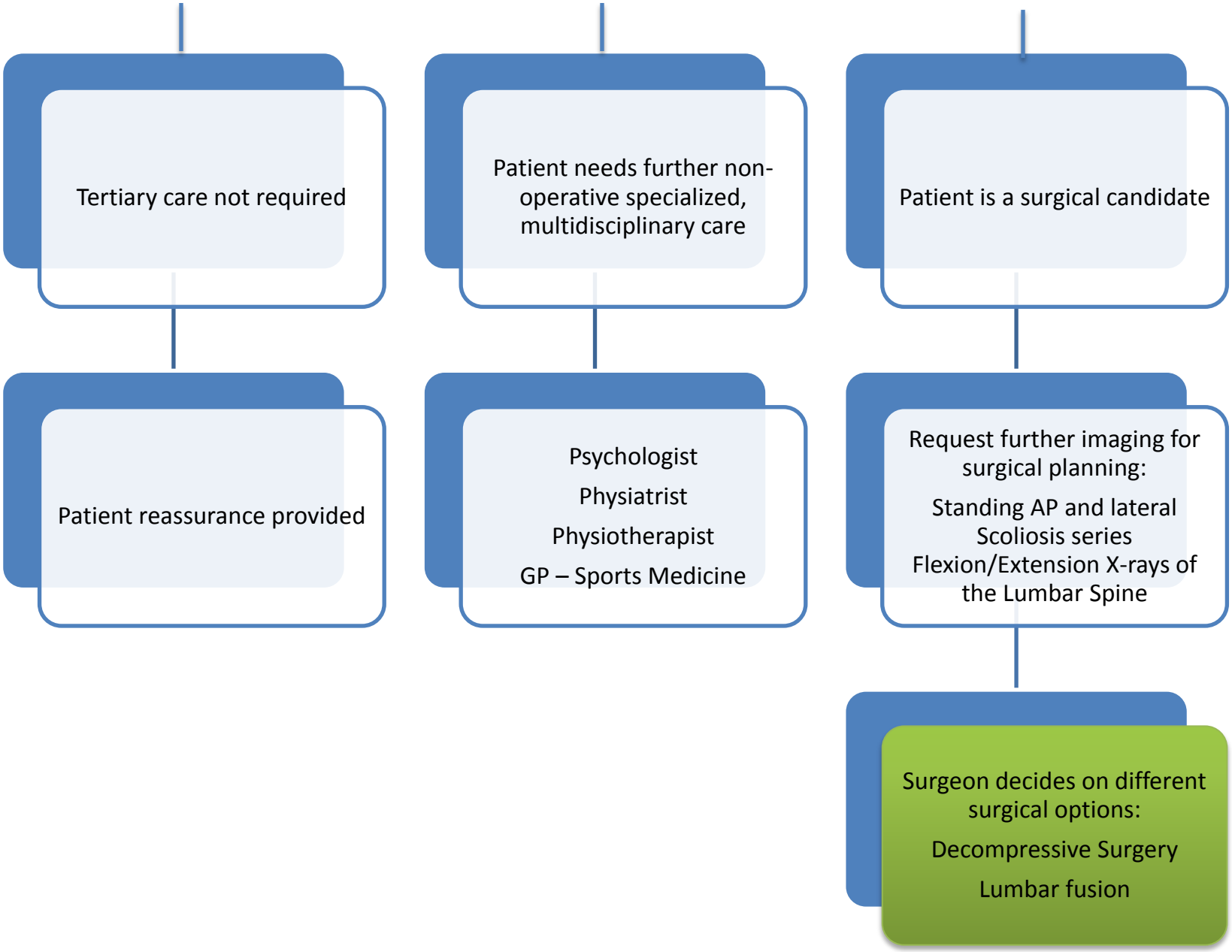
Further work-up for neuropathy/other pathology

Refer patient to Neurologist for further assessment


Improvement
No-Improvement
Prescribe Physiotherapy
Send the McGill Consult referral Form to the McGill Spine Program
Follow-up in 3-4 weeks
Redevelopment of symptoms
Continued symptom resolution
2nd ESI (improvement with 1st) or opioid analgesics
Continue with same treatment
Reassess regularly (every 6 months)


Follow-up in 4-6 weeks
Redevelopment of symptoms
Continued symptom resolution
Send the McGill Consult referral Form to the McGill Spine Program
Continue with same treatment
Reassess regularly (every 6 months)
Maintain intermittent communication with patient while awaiting consultant replies
Specialized Treatment (within the Spine Program)


Triage
Pre-visit Triage: Triager reviews patient consult and MRI/CT
Spine program initial visit: Keep diagnosis under review, looking for pathoanatomical causes related to symptoms
Establish standardized score:
Ask patient to complete the spine program survey (Including the Zurich Claudication Questionnaire) and compare to latest score from referring physician's office
Assess patient and make a decision


Tertiary care not required
Patient reassurance provided
Patient needs further non-operative specialized, multidisciplinary care
Psychologist
Physiatrist
Physiotherapist
GP – Sports Medicine
Patient is a surgical candidate
Request further imaging for surgical planning:
Standing AP and lateral Scoliosis series
Flexion/Extension X-rays of the Lumbar Spine
Surgeon decides on different surgical options:
Decompressive Surgery
Lumbar fusion

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