Healthcare Utilization for Musculoskeletal Disorders in Alberta, Canada - 7 Year Trend

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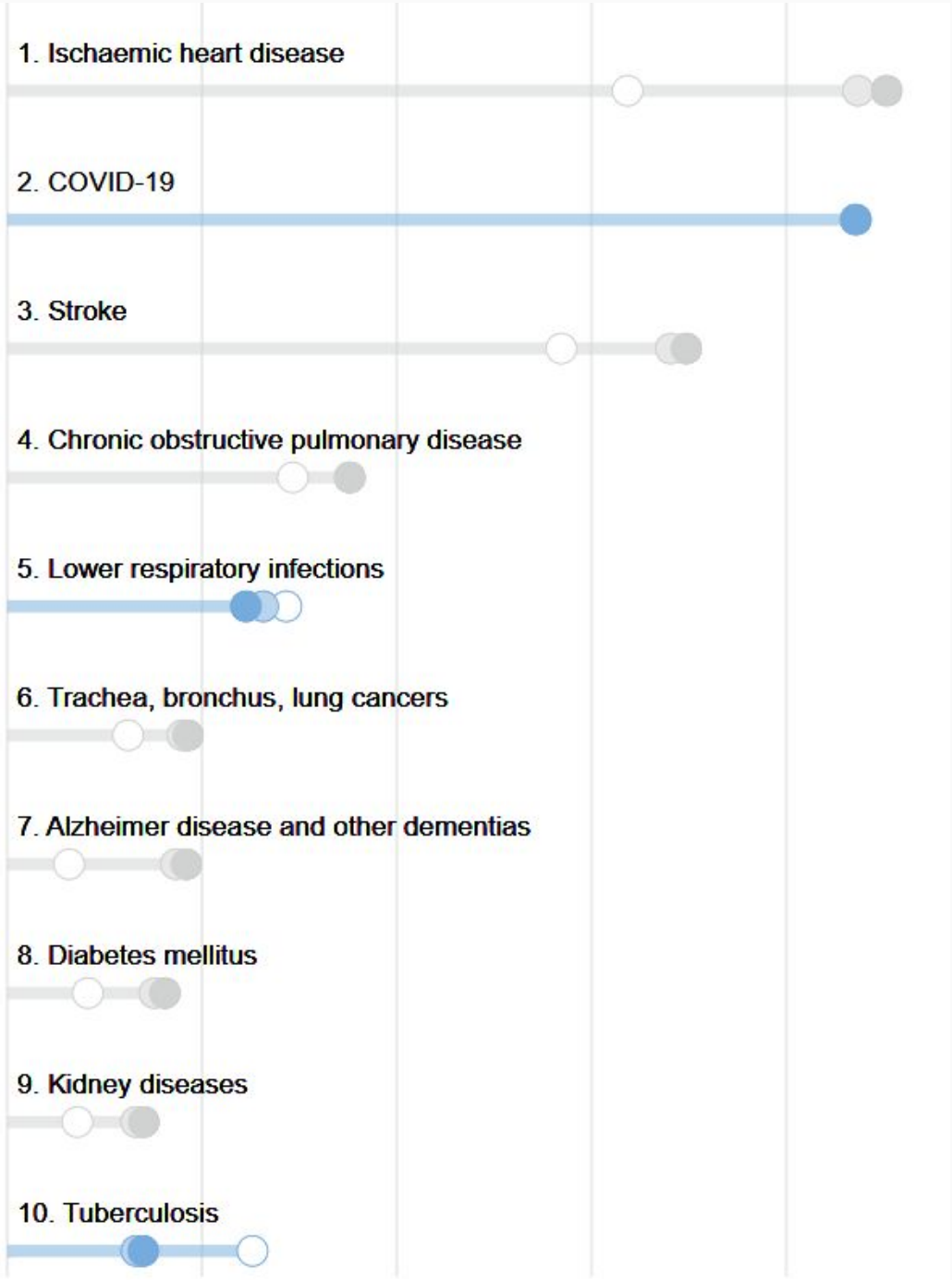
ACKNOWLEDGMENTS & FINANCIAL DISCLOSURE

- Research Team
  - Dr. Thanh Nguyen
  - Mr. Mel Slomp
  - Core Design Teams

- Bone and Joint Health Strategic Clinical Network
- Institute for Improved Health Outcomes
  (Formerly the Alberta Bone & Joint Health Institute)



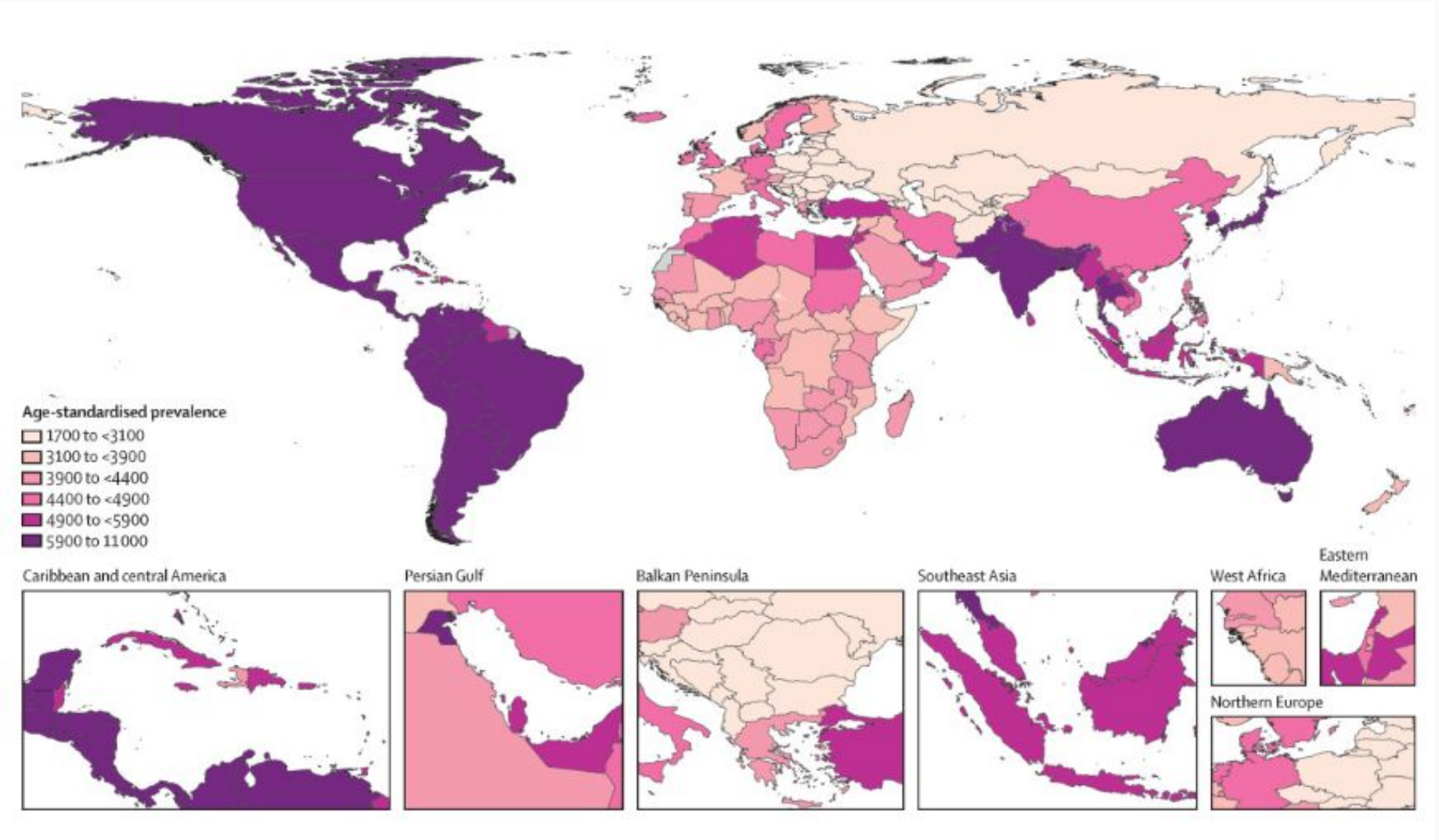
Leading Causes of Death Globally

(World Health Organization, 2021)

The global effect of MSK conditions as measured by prevalence, years of life lived with disability, and disability-adjusted life-years has been shown to be large. This is a large **non-fatal burden**.

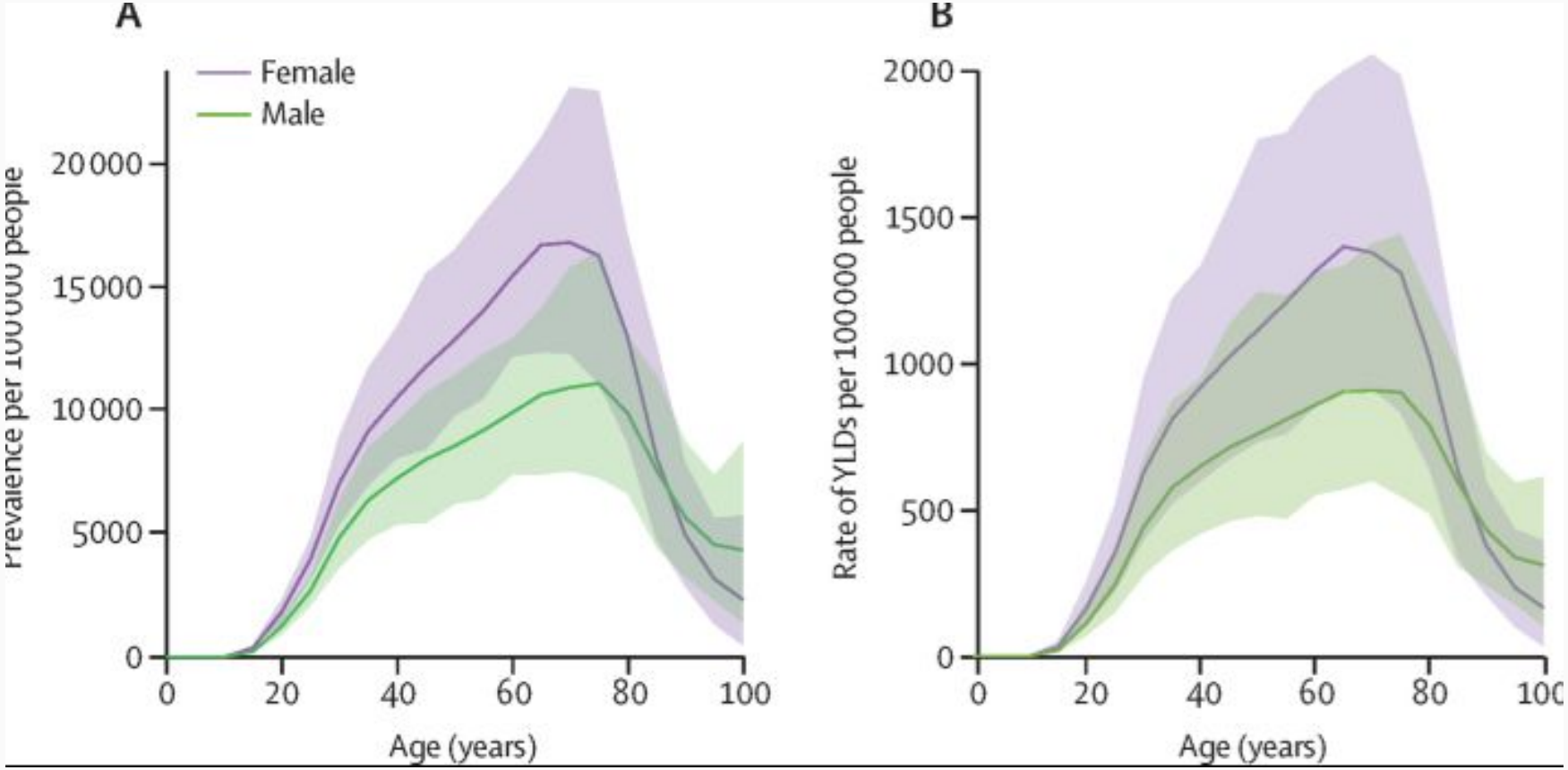
(GBD 2021 Other Musculoskeletal Disorders Collaborators, 2023)

GLOBAL BURDEN



(GBD 2021 Other Musculoskeletal Disorders Collaborators, 2023)

BIOLOGICAL SEX DIFFERENCE

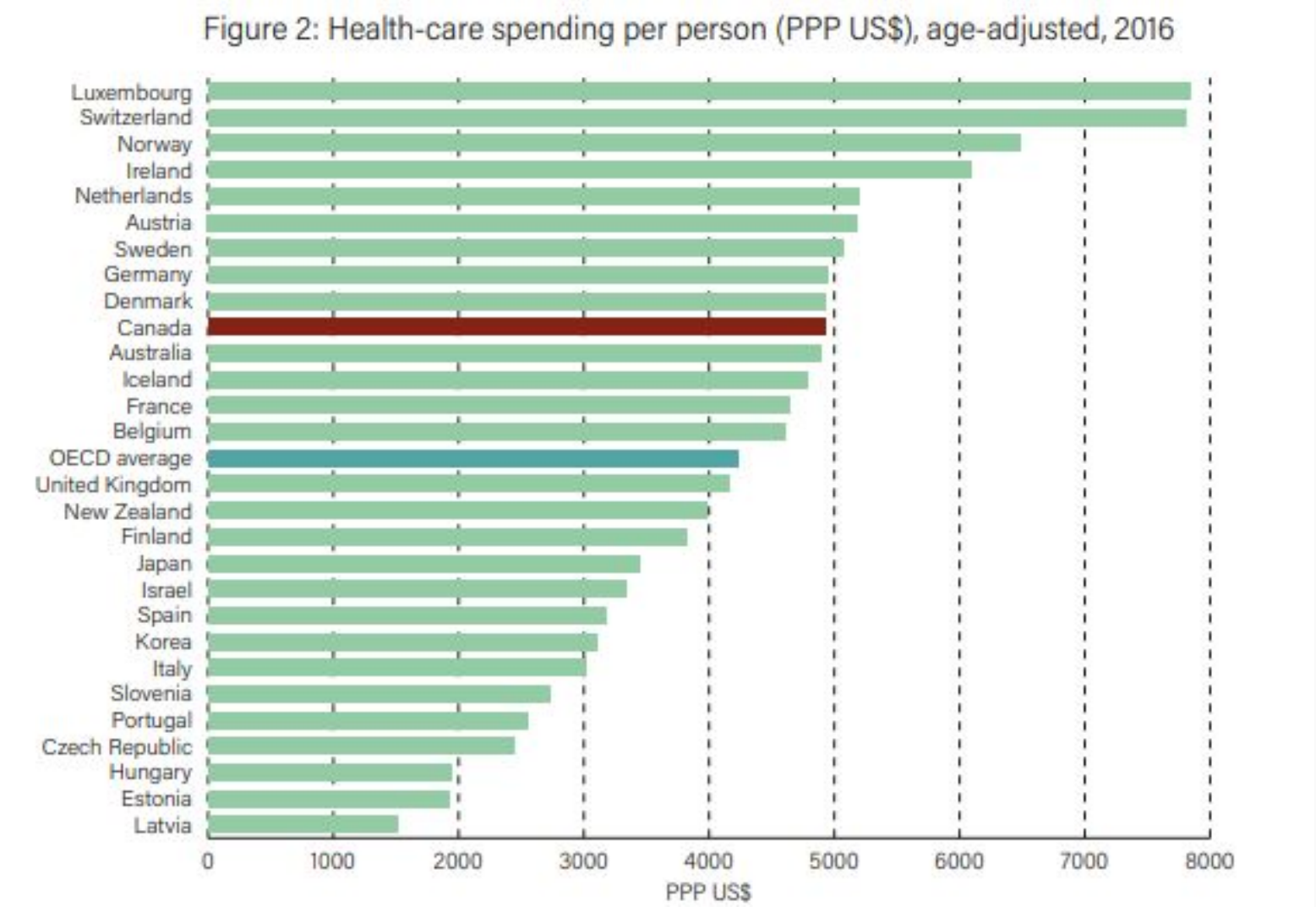


(GBD 2021 Other Musculoskeletal Disorders Collaborators, 2023)

In 1998, the total cost of MSK disorders in Canada was $25.6 billion or 3.4% of the GDP. Direct and indirect costs were estimated at $7.5 billion and $18.1 billion, respectively.

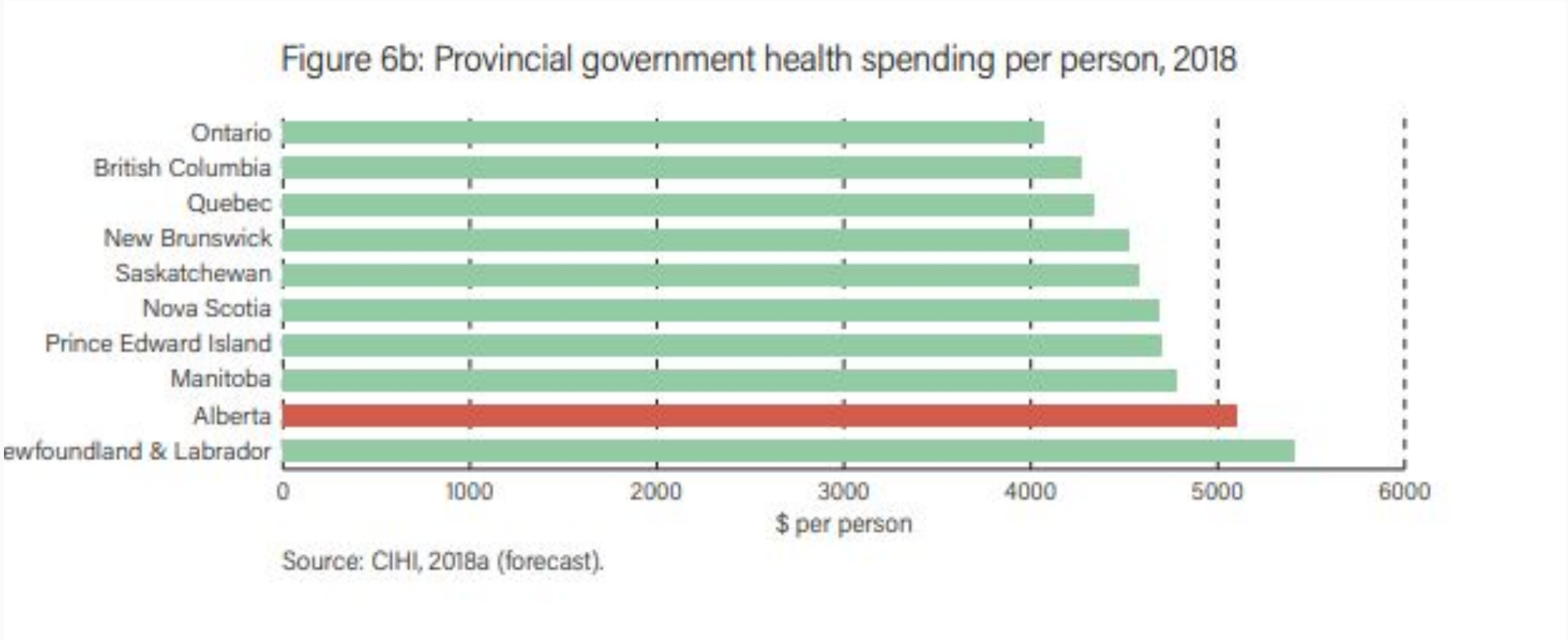
(Coyte, 1998)

THE CANADIAN CONTEXT

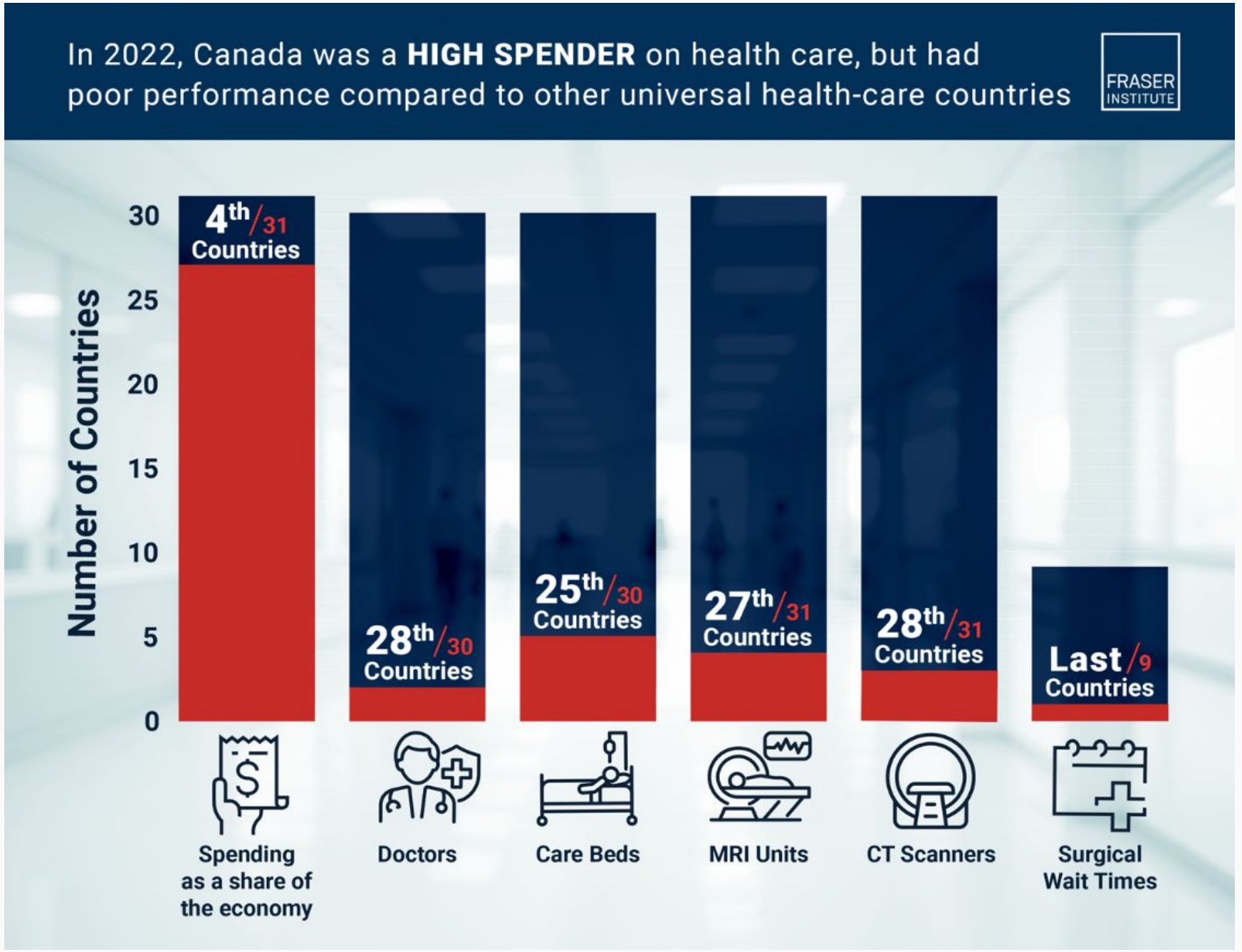


(Fraser Institute, 2019)

THE ALBERTAN CONTEXT

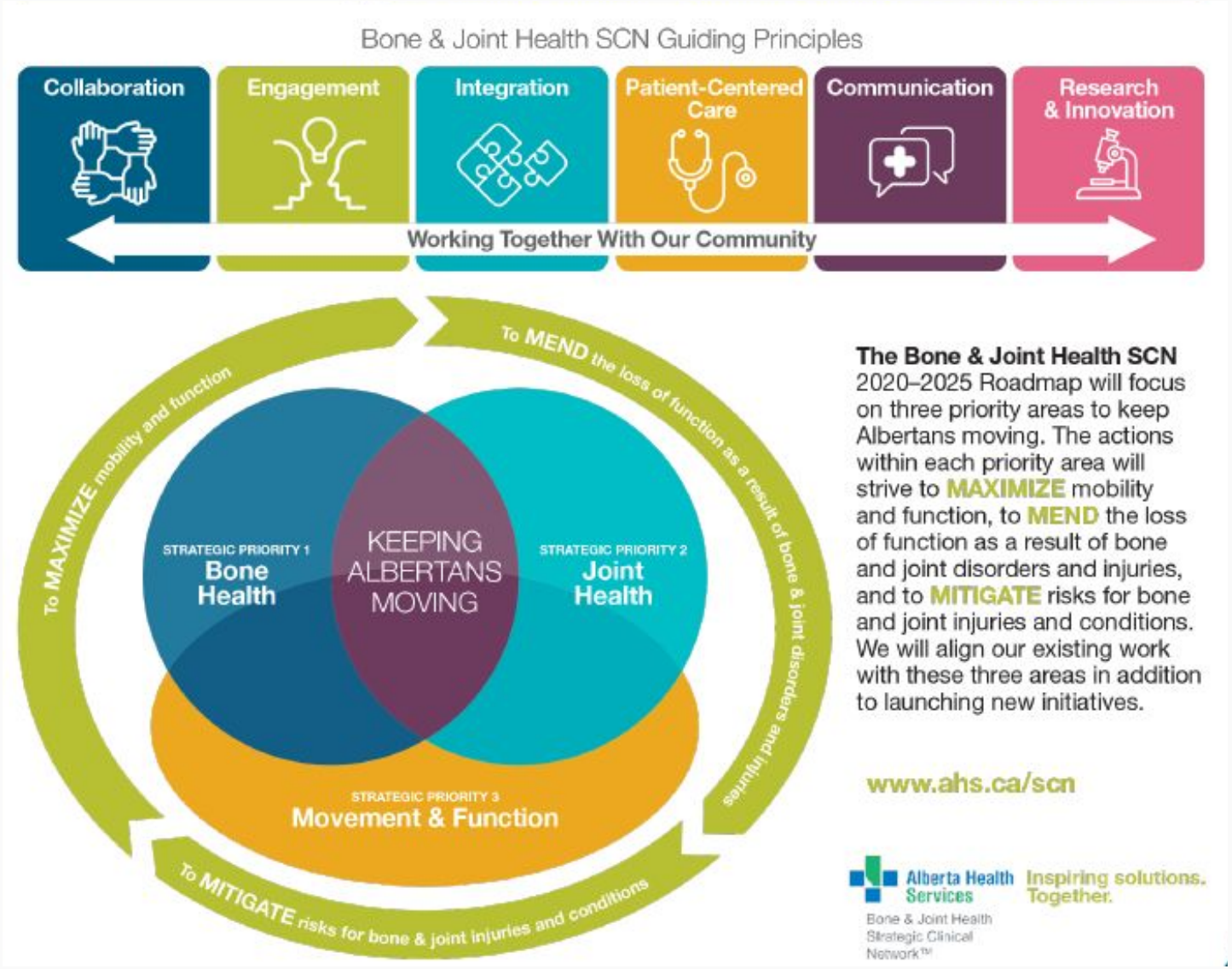


(Fraser Institute, 2019)

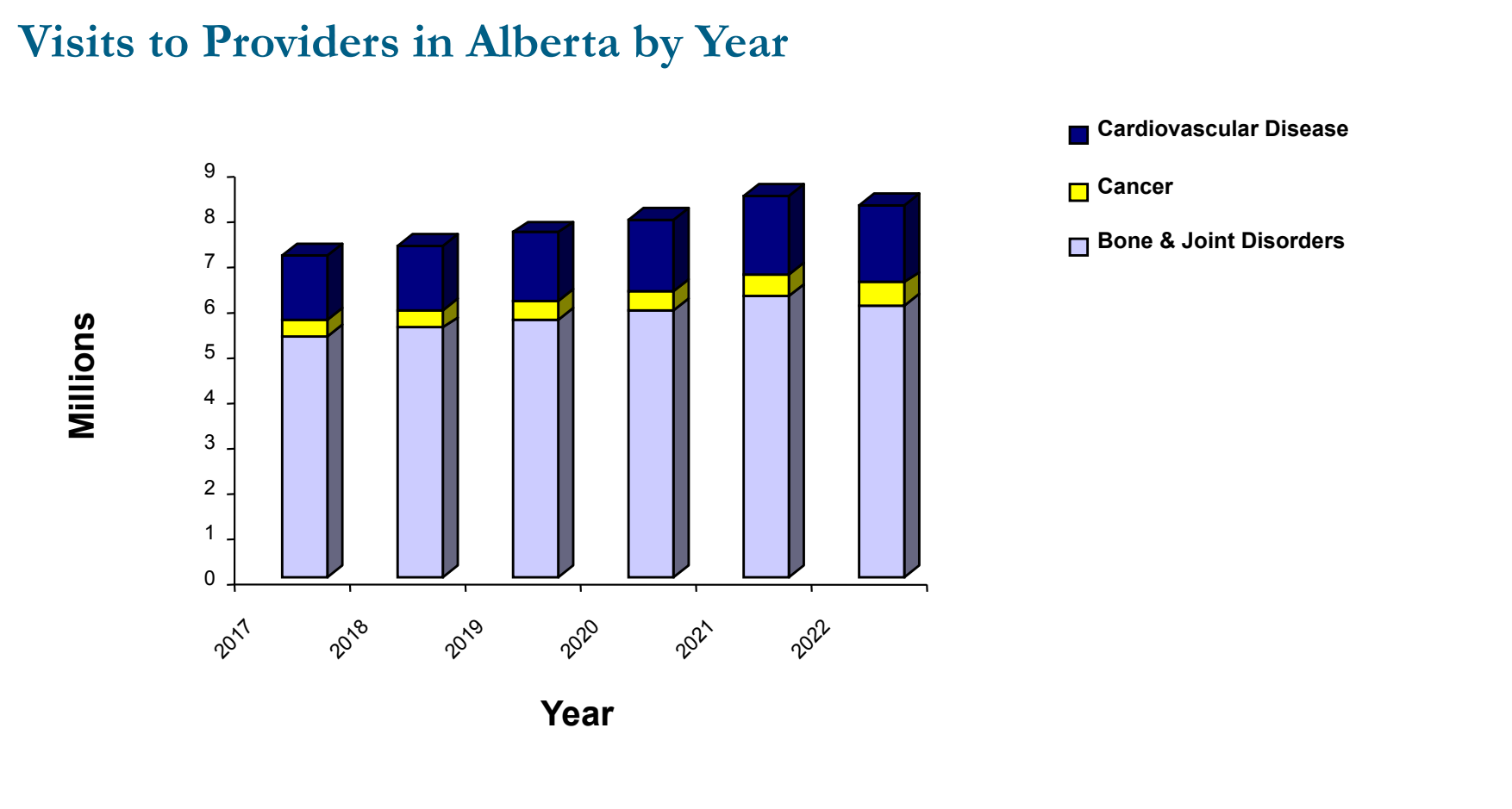


(Fraser Institute, 2024)

MSK-TRANSFORMATION PROGRAM



MSK conditions are a significant burden and cost to the health system.



(Thanh, 2024)

OBJECTIVE

To examine patterns of public healthcare utilization for patients presenting with musculoskeletal disorders in Alberta, Canada, Canada’s 4th largest province

METHODS

- A retrospective population-level cross sectional study

- Outcomes
  - Health service utilization (Physician, DI)
  - Public costs

	Year	# Patients	# Visits	Total Cost (M)
SHOULDER	**2015/2016**	**469,712**	1,083,452	$88.4
	2016/2017	**496,158**	1,179,647	$94.81
	2017/2018	**512,259**	1,292,118	$101,79
	2018/2019	**538,952**	1,380,077	$108.57
	2019/2020	**547,468**	1,431,782	$112.23
	2020/2021	**513,104**	1,413,322	$105.78
	2021/2022	**556,318**	1,548,360	$117.80
KNEE	**2015/2016**	**335,226**	719,570	$66.06
	2016/2017	**348,674**	759,400	$69.69
	2017/2018	**355,654**	776,124	$70.26
	2018/2019	**364,417**	807,028	$73.89
	2019/2020	**366,519**	823,938	$74.91
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SPINE	**2015/2016**	**341,360**	789,253	$66.21
	2016/2017	**355,240**	831,963	$73.38
	2017/2018	**366,211**	866,859	$78.88
	2018/2019	**372,618**	876,808	$81.85
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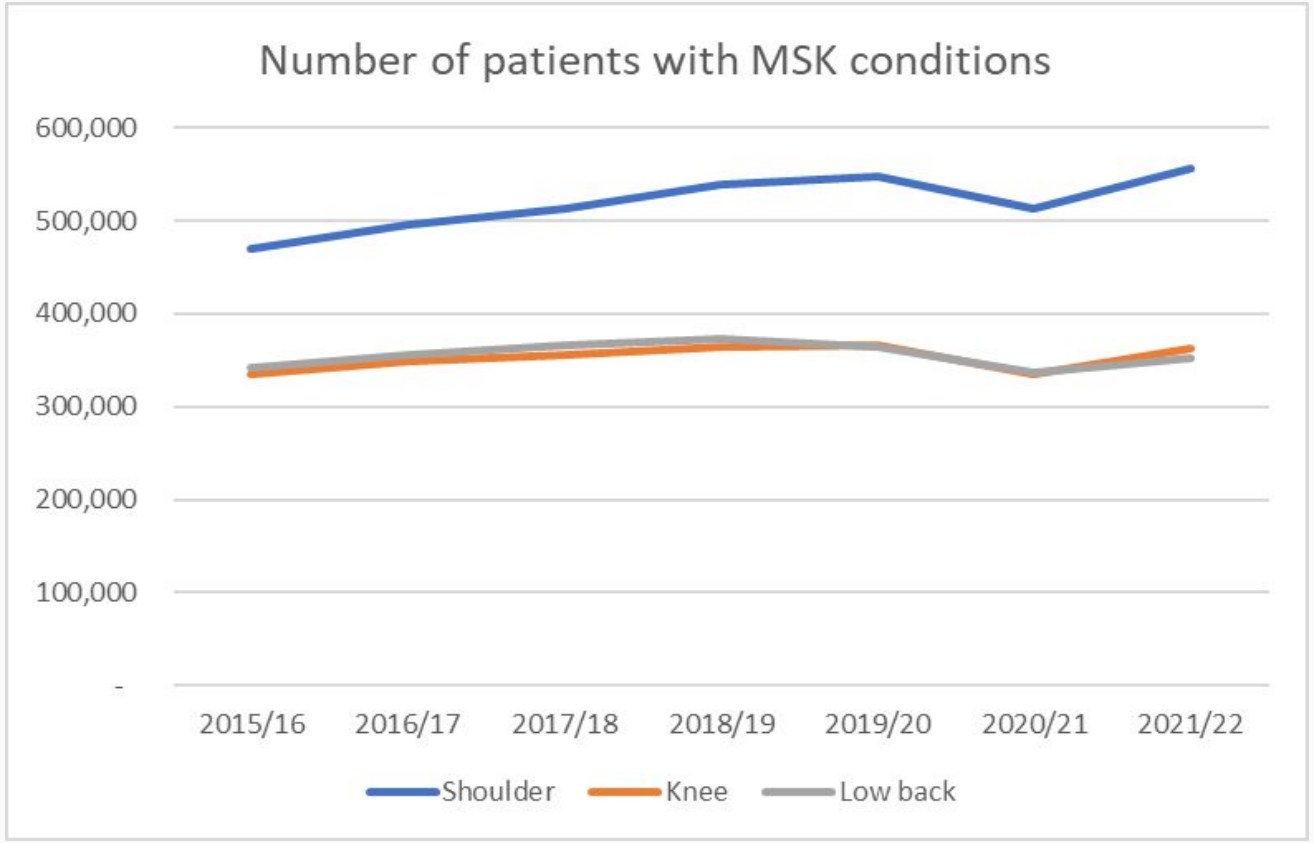

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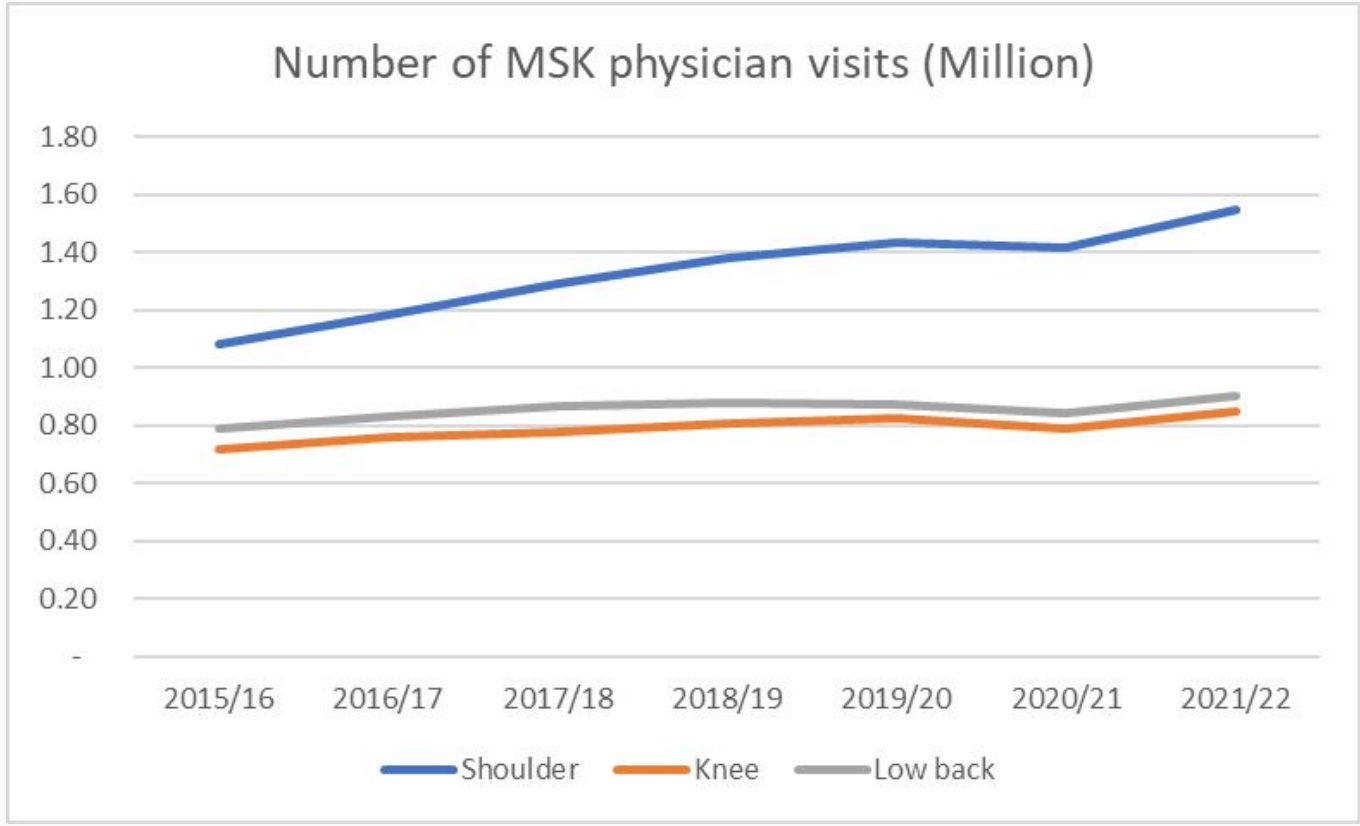

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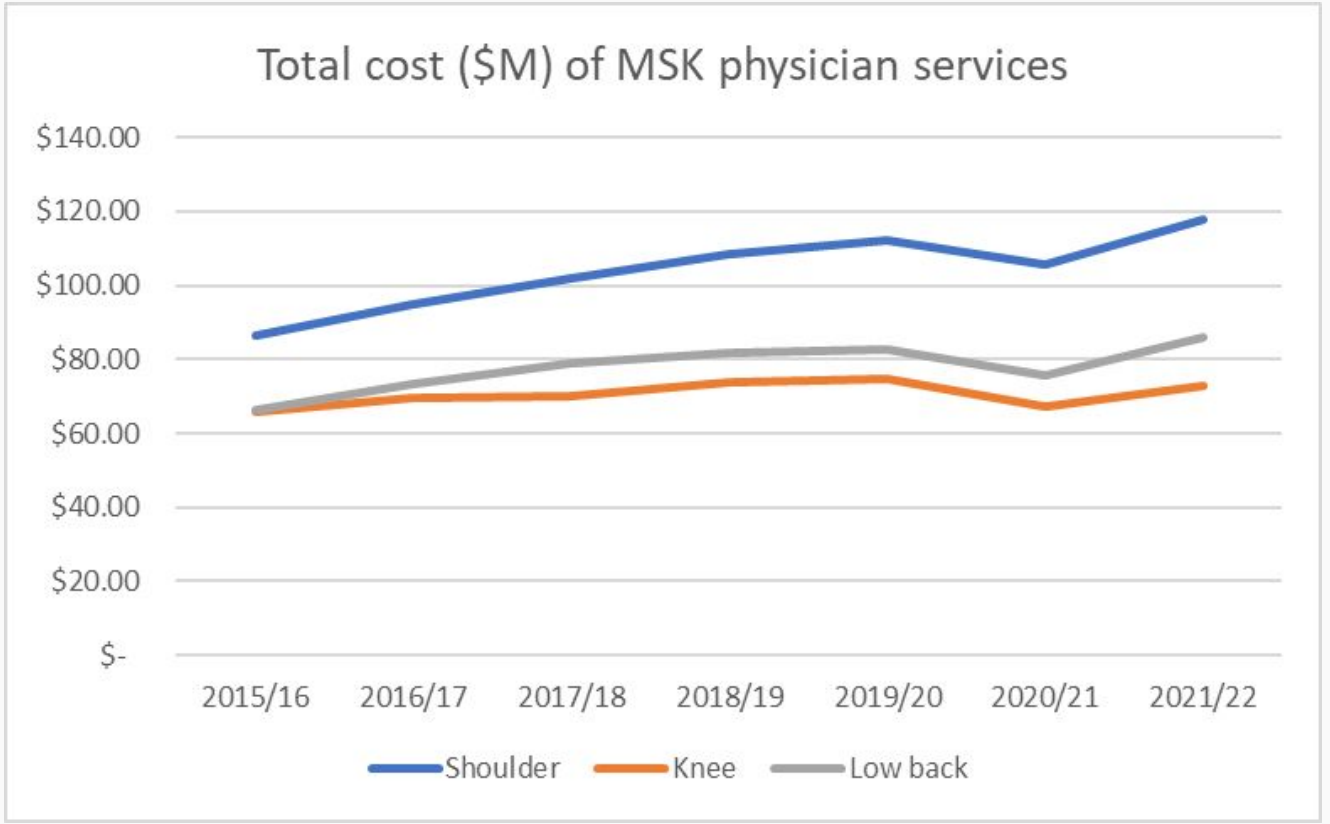
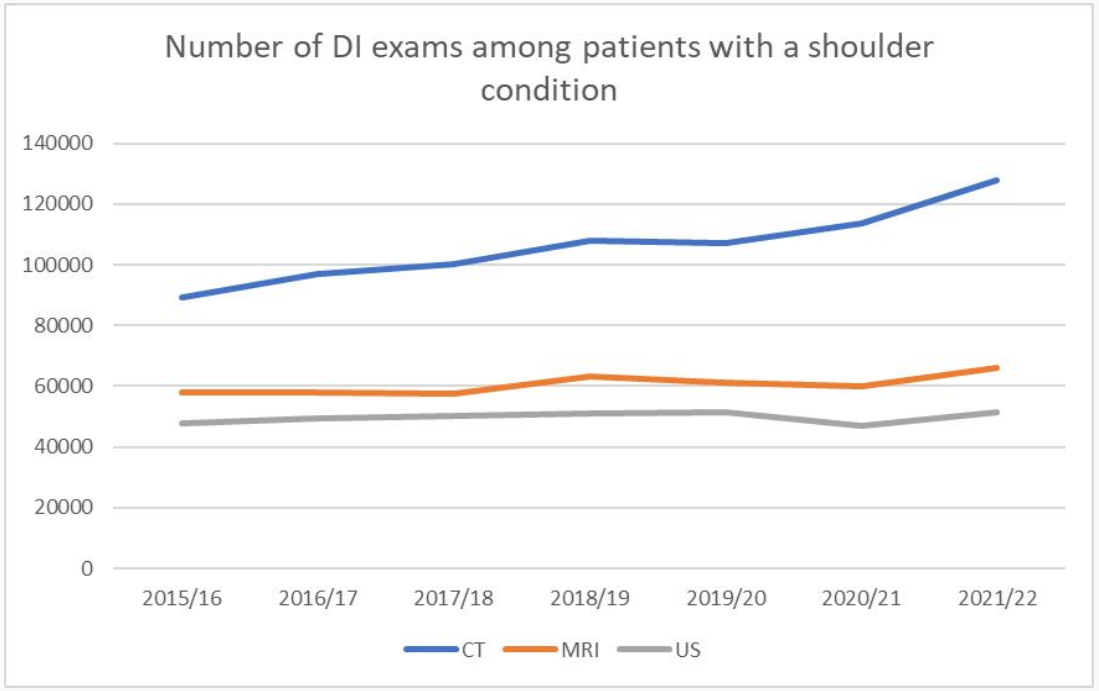
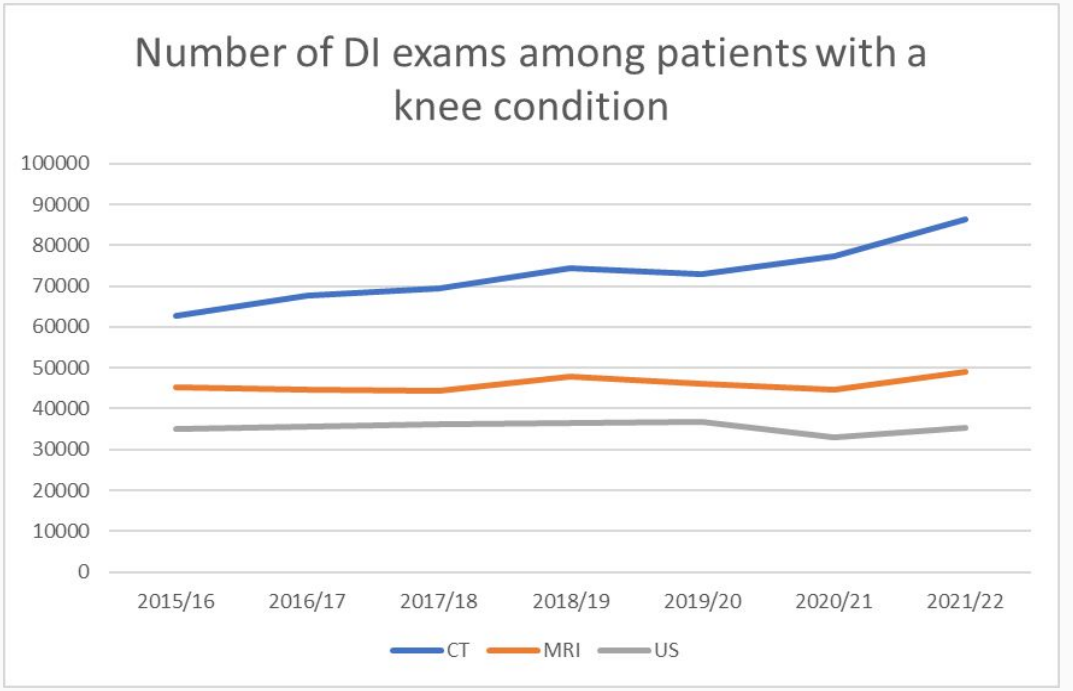
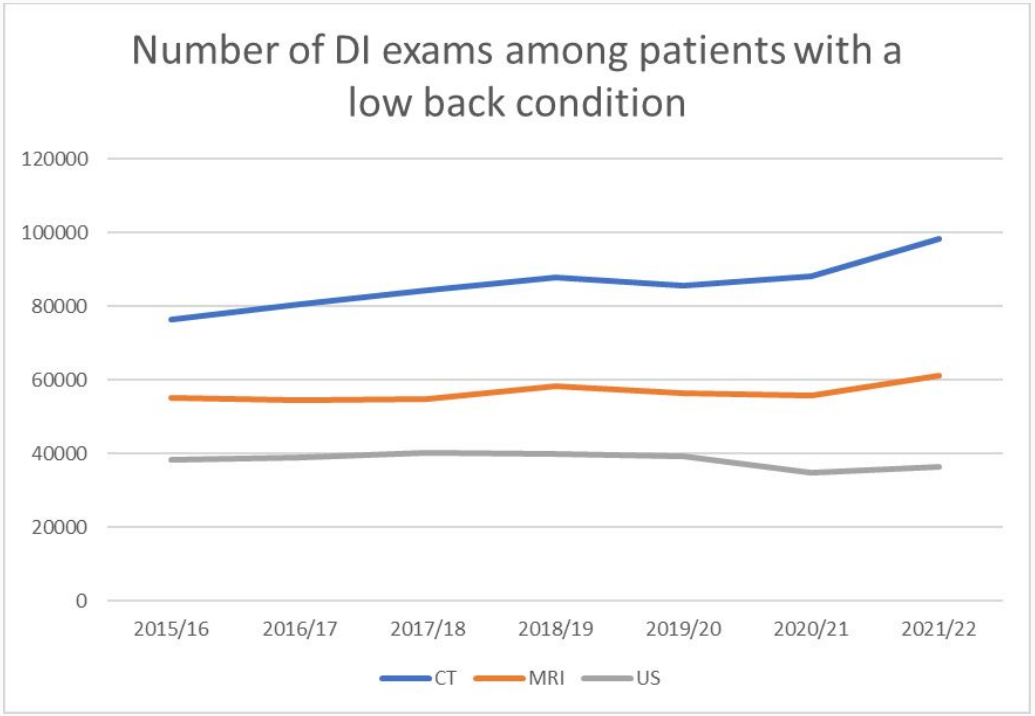
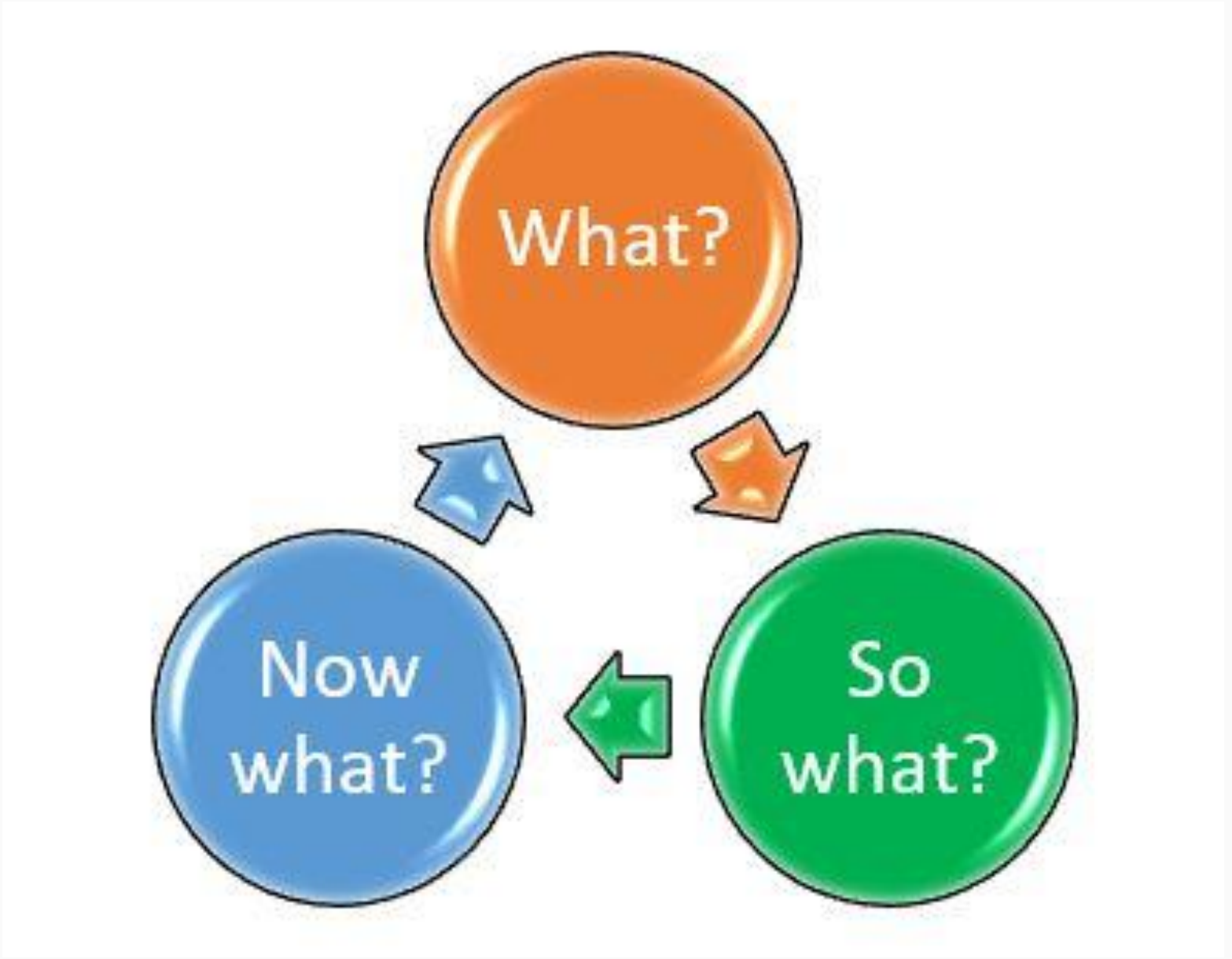



Number of DI exams among patients with a shoulder condition
140000
120000
100000
80000
60000
40000
20000
0
2015/16
2016/17
2017/18
2018/19
2019/20
2020/21
2021/22
CT
MRI
US


Number of DI exams among patients with a knee condition
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
2015/16
2016/17
2017/18
2018/19
2019/20
2020/21
2021/22
CT
MRI
US


Number of DI exams among patients with a low back condition
120000
100000
80000
60000
40000
20000
0
2015/16
2016/17
2017/18
2018/19
2019/20
2020/21
2021/22
CT
MRI
US



WHAT CAN YOU DO

- Prompt identification
- Accurate diagnosis
- Referral to appropriate measures
- Activate non-surgical protocols ASAP if applicable
- Implement injury prevention strategies

RESOURCES

- Shoulder and Upper Extremity Research Group

VIDEOS

Bankart Repair Guidelines

Standard RC Guidelines

RESOURCES

- Spine: Low Back Assessment Clinical Pathway

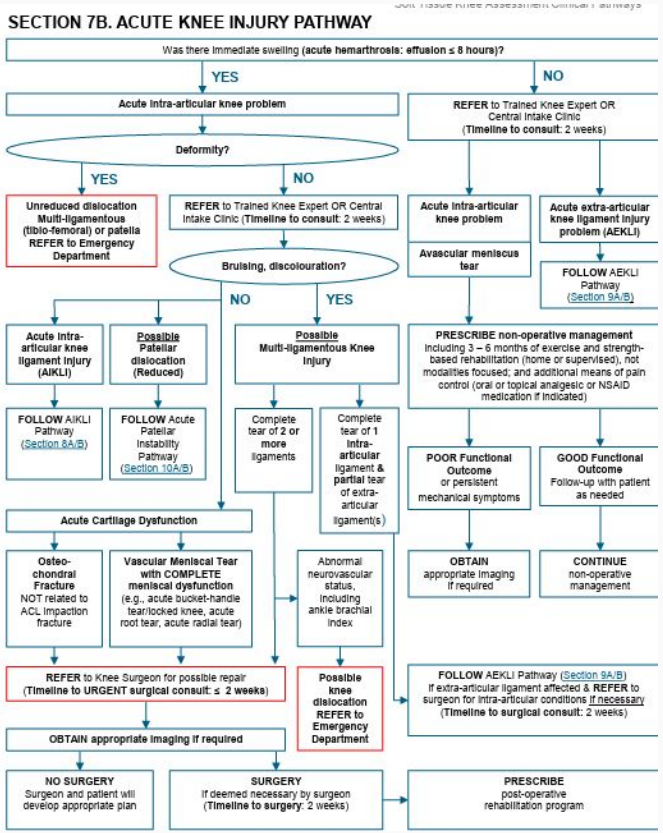
PATTERN 1 	• Pain is worst in the back, buttocks, upper thigh, or groin, and may radiate into the legs • Pain may be constant **or** intermittent • Pain is **worse** when sitting or bending forward and **better** when walking or standing • Pain may be eased by bending backwards • Normal neurological exam • Categorized as prone extension positive (PEP) or prone extension negative (PEN)*
PATTERN 2 	• Pain is worst in the back and buttocks, and may radiate into the legs • Pain is **always** intermittent • Pain is **worse** when bending backward and when standing or walking for extended periods • Pain **may be eased** by bending forward or sitting • Normal neurological exam
PATTERN 3 	• Pain is mainly in the legs, but back pain may also be present • Pain is constant and often worse when sitting or bending • Pain can be made worse by any movement or specific back positions in the acute stage • Pain **may lessen** in some rest positions • Positive neurological findings
PATTERN 4 	• Pain is worst in leg and can be described as heaviness or aching • Pain is always intermittent • **Flexion aggravated (FA)** - Pain aggravated with flexion - Pain improved or abolished with unloaded extension - Variable neurological findings • **Flexion relieved (FR) (neurogenic claudication)** - Pain is relieved by a change in position, proper rest, and usually by bending forward - Pain is worse when walking or bending backwards - Negative nerve root irritation tests

LBP Clinical Pathway

(Eubank et al., 2024)

RESOURCES

- Soft Tissue Knee Assessment Clinical Pathway



ACUTE

- Intra-articular ligament
- Extra-articular ligament
- Patellar instability

CHRONIC

- Atraumatic overuse

STK Clinical Pathway

(Eubank et al., 2024)