ORCHESTRA
Ottawa Rheumatology CompreHEnSive TReatment and Assessment Clinic

Considerations for the Primary Care Provider Following Patients with Rheumatic Disease

Rheumatology for Primary Care Webinar Series 2025

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Disclosures

No conflicts of interest to declare

Learning Objectives

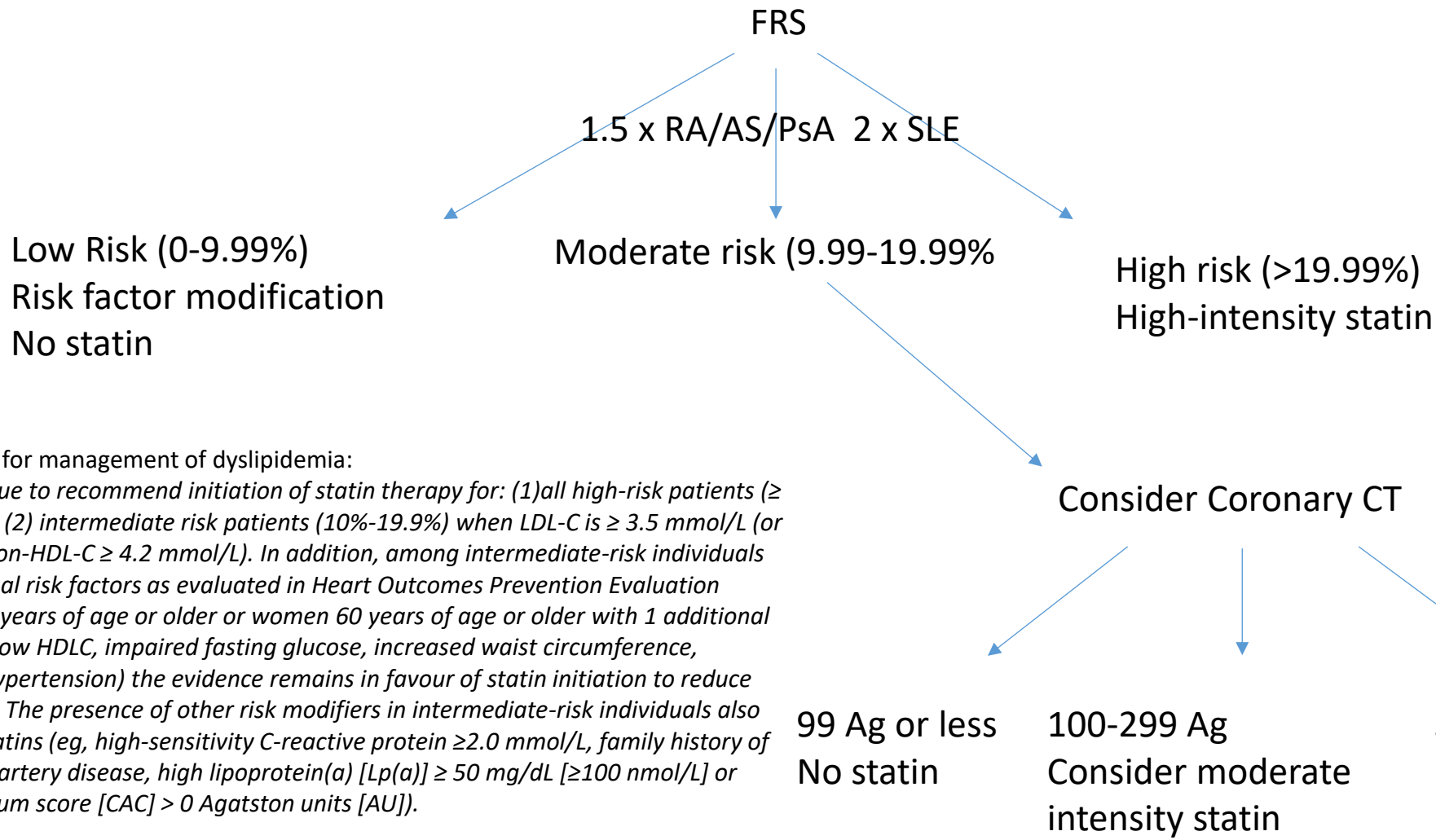
- Program Objectives:
  - Rheumatologic disease and…
    - Cardiovascular disease risk
    - Fragility fracture risk
    - Malignancy risk/screening
  - Immunizations for those on immunosuppression
  - Effect of depression on IA treatment outcomes
- Taking Your Lead:
  - Diagnosing fibromyalgia/Psoriatic Arthritis
  - Workup for rheumatology referrals
  - Management while waiting

Cardiovascular Disease Risk

- RA, PsA, AxSpA, vasculitis, gout, SLE, APS, CTD
  - FRS x 1.5 for RA (PsA/AxSpA)
  - FRS x 2 for SLE
    - Lower BP target of <130/80
  - Avoid BB in SSc
- CVD risk assessment:
  - Within 6 months of diagnosis
  - Every 5 years/each treatment change
- Induction of remission reduces risk
  - When possible avoid/limit NSAID/Prednisone
  - Gout - UA target of <360
- Routine:
  - Exercise, smoking cessation, diabetes screening/management, BP, lipid assessment, weight

Drosos GC, et al. Ann Rheum Dis 2022;81:768–779. doi:10.1136/annrheumdis-2021-221733
Agca R, et al. Ann Rheum Dis 2017;76:17–28. doi:10.1136/annrheumdis-2016-209775

Cardiovascular Disease Risk



2021 CCS Guidelines for management of dyslipidemia:

Therefore, we continue to recommend initiation of statin therapy for: (1)all high-risk patients (≥ 20% 10-year risk); or (2) intermediate risk patients (10%-19.9%) when LDL-C is ≥ 3.5 mmol/L (or ApoB ≥ 1.05 g/L or non-HDL-C ≥ 4.2 mmol/L). In addition, among intermediate-risk individuals with several additional risk factors as evaluated in Heart Outcomes Prevention Evaluation (HOPE) 316 (men 50 years of age or older or women 60 years of age or older with 1 additional risk factor including low HDLC, impaired fasting glucose, increased waist circumference, cigarette smoking, hypertension) the evidence remains in favour of statin initiation to reduce the risk of CV events. The presence of other risk modifiers in intermediate-risk individuals also favours the use of statins (eg, high-sensitivity C-reactive protein ≥2.0 mmol/L, family history of premature coronary artery disease, high lipoprotein(a) [Lp(a)] ≥ 50 mg/dL [≥100 nmol/L] or coronary artery calcium score [CAC] > 0 Agatston units [AU]).

Clinical practice guideline for management of osteoporosis and fracture prevention in Canada: 2023 update

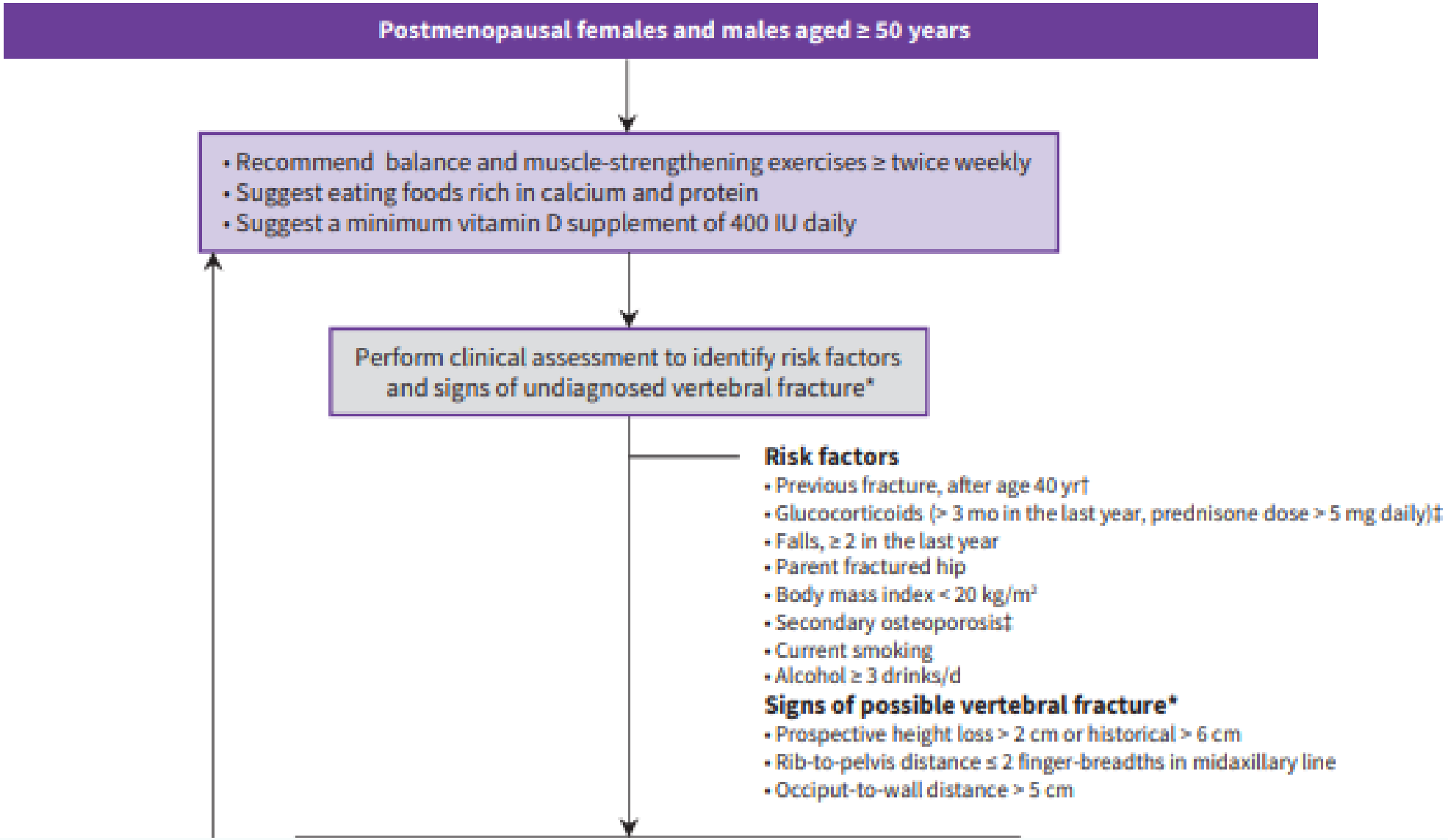
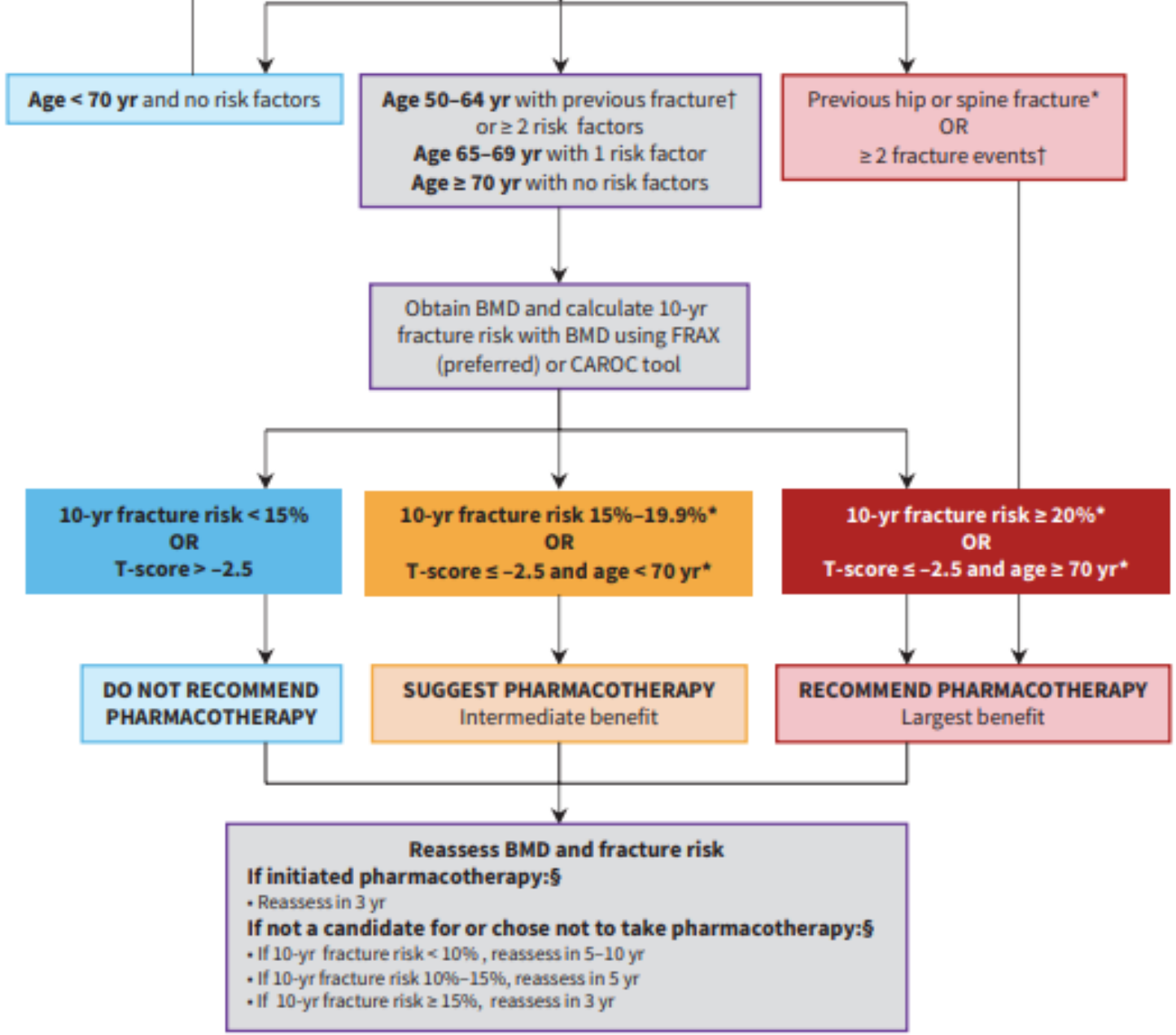


Table 3. Biochemical testing for secondary causes of osteoporosis, and for potential limitations when considering specific osteoporosis pharmacotherapy (17)

- Calcium, corrected for albumin
- Phosphate
- Creatinine (eGFR)
- Alkaline phosphatase
- Thyroid-stimulating hormone
- Serum protein electrophoresis (for patients with vertebral fractures)
- 25-hydroxyvitamin D, if risk factors for insufficiency or starting potent antiresorptive therapy

Table 5. Causes of secondary osteoporosis or that have adverse effect on bone health (15, 20-27)

Drugs	Endocrine disorders	Gastrointestinal & Nutritional disorders
Glucocorticoid steroids Aromatase inhibitors Anticonvulsants (particularly phenytoin, phenobarbital) GnRH agonists and antagonists Androgen-deprivation agents Cancer chemotherapy Immunosuppressants (eg. cyclosporine)	Hyperparathyroidism Hyperthyroidism Hypercortisolism/Cushing's syndrome Diabetes mellitus (Type 1 & Type 2) Prolonged premature hypogonadism Acromegaly	Inflammatory bowel disease Celiac disease Bariatric surgery Pancreatic insufficiency Other malabsorptive syndromes Primary biliary cholangitis Chronic liver disease Eating disorder Malnutrition Parenteral nutrition Vitamin D and/or calcium deficiency
Rheumatologic disorders	**Genetic disorders**	**Other disorders**
Rheumatoid arthritis Other inflammatory arthritis disorders Systemic lupus erythematous	Osteogenesis imperfecta Hypophosphatasia Other genetic causes of osteomalacia	Multiple myeloma Other marrow-related disorders Idiopathic hypercalciuria Chronic kidney disease/renal failure Chronic obstructive pulmonary disease Organ transplantation Multiple sclerosis Parkinson's disease Other neuromuscular disorders Prolonged immobilization Paget's disease Acquired causes of osteomalacia



Fragility Fracture: occurring spontaneously in those >40 years old or from minor trauma, such as a fall from a standing height or less.

Typical sites: vertebra (20%), hip, wrist, humerus, rib, and pelvis.

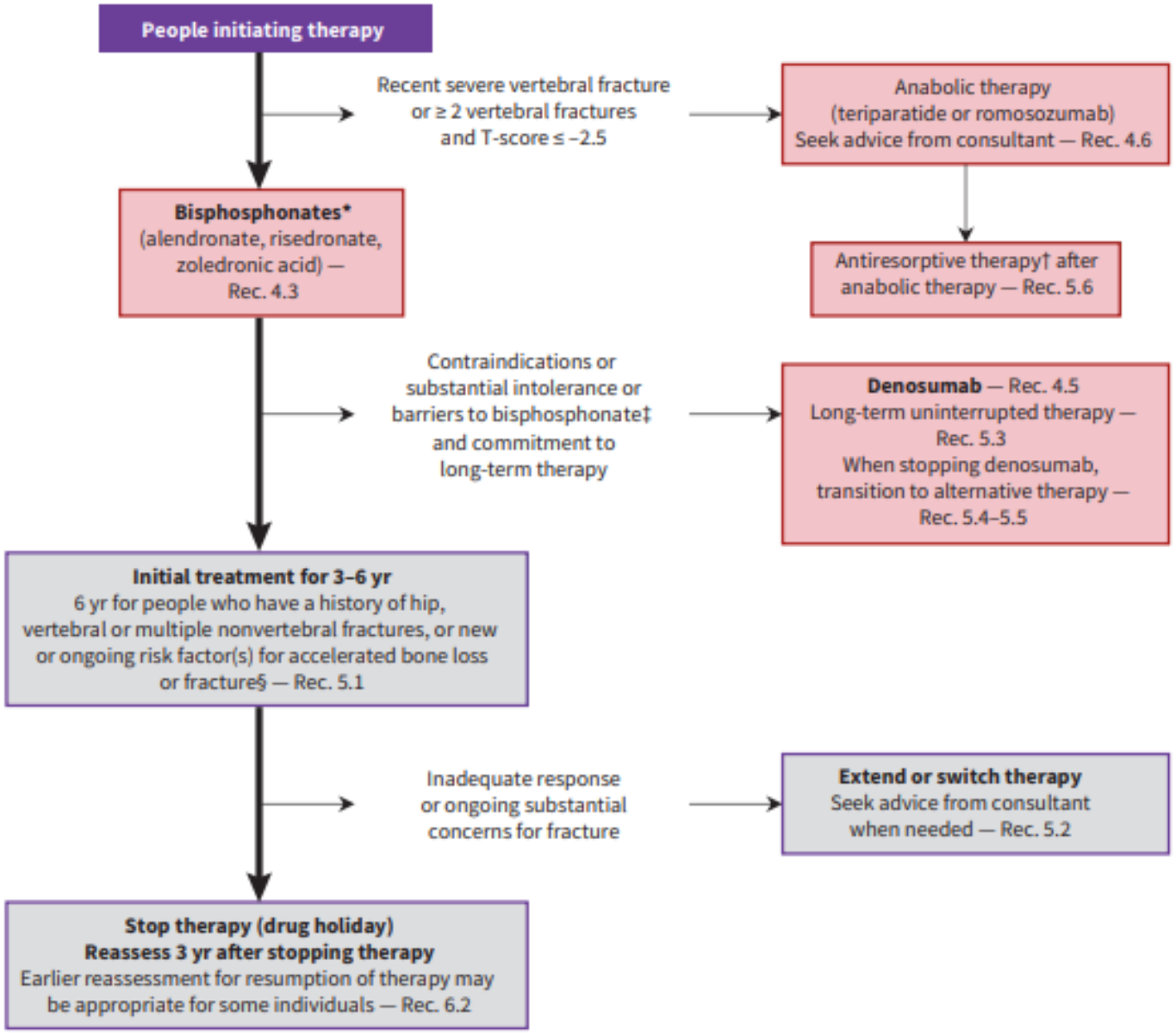
Sites excluded: skull, cervical spine, hands, feet, ankles, stress fractures

Severe vertebral fracture:

>40% loss of height

Risk factors

- Previous fracture, after age 40 yr†
- Glucocorticoids (> 3 mo in the last year, prednisone dose > 5 mg daily)‡
- Falls, ≥ 2 in the last year
- Parent fractured hip
- Body mass index < 20 kg/m²
- Secondary osteoporosis‡
- Current smoking
- Alcohol ≥ 3 drinks/d


People initiating therapy
Recent severe vertebral fracture or ≥ 2 vertebral fractures and T-score ≤ –2.5
Anabolic therapy (teriparatide or romosozumab) Seek advice from consultant — Rec. 4.6
Antiresorptive therapy† after anabolic therapy — Rec. 5.6
Bisphosphonates* (alendronate, risedronate, zoledronic acid) — Rec. 4.3
Contraindications or substantial intolerance or barriers to bisphosphonate‡ and commitment to long-term therapy
Denosumab — Rec. 4.5
Long-term uninterrupted therapy — Rec. 5.3
When stopping denosumab, transition to alternative therapy — Rec. 5.4–5.5
Initial treatment for 3–6 yr
6 yr for people who have a history of hip, vertebral or multiple nonvertebral fractures, or new or ongoing risk factor(s) for accelerated bone loss or fracture§ — Rec. 5.1
Inadequate response or ongoing substantial concerns for fracture
Extend or switch therapy
Seek advice from consultant when needed — Rec. 5.2
Stop therapy (drug holiday)
Reassess 3 yr after stopping therapy
Earlier reassessment for resumption of therapy may be appropriate for some individuals — Rec. 6.2

Cancer Screening

- Risk of malignancy increased in RA, SLE, immunosuppression*
- Age-appropriate cancer screening (breast, cervical, lung, colorectal)
  - Yearly PAP for SLE and immunosuppressive therapy
  - Q3years once HPV-based screening indicated
    - CCO recommendations

Cervical Cancer	Breast Cancer	Lung Cancer	Colorectal Cancer
Pap test every three years from age 25-69.	Mammograms from age 50-74. If you are aged 40 to 49 or older than 74, you can speak with our nurse practitioner to see if screening is right for you. If you have a family history of breast cancer, you can speak with our nurse practitioner to see if earlier screening is right for you.	Current or past smokers aged 55-74.	A stool (FIT) test every two years from age 50 to 74. Based on family history, some people may be eligible for a screening colonoscopy.

Champlain Screening Outreach- Consultation de dépistage

- Hospitalists:
  - For patients without PCP requiring age-appropriate cancer screening
  - Must live in Champlain LHIN
  - https://outlook.office365.com/book/OutreachScreening@theottawahospital.onmicrosoft.com/
  - 1-833-551-4125
  - https://www.ottawahospital.on.ca/en/documents/2023/09/cancer-screening-outreach-consent.pdf/

Immunizations

- Flu Vaccines:
  - Yearly

	Influenza vaccination	Other non-live attenuated vaccinations
Methotrexate	Hold methotrexate for 2 weeks *after* vaccination*	Continue methotrexate
Rituximab	Continue rituximab**	Time vaccination for when the next rituximab dose is due, and then hold rituximab for at least 2 weeks after vaccination
Immunosuppressive medications other than methotrexate and rituximab	Continue immunosuppressive medication	Continue immunosuppressive medication

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Immunizations

Pneumococcal:
Pneu-C-20 (Prevnar 20) - Covered by OHIP for adults on immunosuppressive therapy

Age Group	History of Vaccination		Recommended dose of Pneu-C-20 (Prevnar 20) and dosing interval
	Pneu-C-23 (Pneumovax)	Pneu-C-13 (Prevnar 13)	
Age 5 to 49 and on immunosuppressive therapy	0 to 1 dose	N/A	1 dose, 1 year after last dose of Pneumovax (if applicable)
	2 doses	N/A	None
Age 50 to 64 and on immunosuppressive therapy	0 to 2 doses	0 doses	1 dose, 1 year after last dose of Pneumovax (if applicable)
	0 to 1 doses	1 dose	1 dose, 1 year after last dose of Pneumovax (if applicable) and 8 weeks after last dose of Prevnar 13 (if applicable)
	2 doses	1 dose	None
Age ≥65 and on immunosuppressive therapy	0 to 3 doses	0 doses	1 dose, 1 year after last dose of Pneumovax (if applicable) and 8 weeks after last dose of Prevnar 13 (if applicable)
	0 to 2 doses	1 dose	
	3 doses, with at least 1 dose at age ≥65 years	1 dose	None

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Immunizations

Hepatitis B: for all with SAb <10.
Repeat titers should be performed 1-3 months after administration of the last vaccine dose.

HPV: as per Canadian guidelines.
Conditionally recommended for those >26 and <45 on immunosuppressive therapy and not previously vaccinated

Tetanus: as per Canadian guidelines.

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Immunizations

VZV

Health Canada Indications.: RZV (Shingrix) for 18 years of age and older who are therapy (advanced therapy). For individuals who are immunosuppressed second dose can be given 1 to 2 months after the initial dose.

RSV: RSV vaccination with Arexvy is strongly recommended for adults 75 years of age and older treated with immunosuppressive biologic agents.

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Immunosuppressive medication	Hold before live-attenuated virus vaccine administration	Hold after live-attenuated virus vaccine administration
Glucocorticoids[a]	4 weeks	4 weeks
Methotrexate, azathioprine[b]	4 weeks	4 weeks
Leflunomide, mycophenolate mofetil, calcineurin inhibitors, oral cyclophosphamide	4 weeks	4 weeks
JAK inhibitors	1 week	4 weeks
TNF, IL17, IL12/23, IL23, BAFF/BLyS inhibitors	1 dosing interval[c]	4 weeks
IL6 pathway inhibitors	1 dosing interval[d]	4 weeks
IL1 inhibitors Anakinra Rilonacept Canakinumab	 1 dosing interval[d] 1 dosing interval[d] 1 dosing interval[d]	 4 weeks 4 weeks 4 weeks
Abatacept	1 dosing interval[c]	4 weeks
Anifrolumab	1 dosing interval[c]	4 weeks
Cyclophosphamide IV	1 dosing interval[c]	4 weeks
Rituximab	6 months	4 weeks
IVIG[e] 300-400 mg/kg 1 gm/kg 2 gm/kg	 8 months 10 months 11 months	 4 weeks 4 weeks 4 weeks

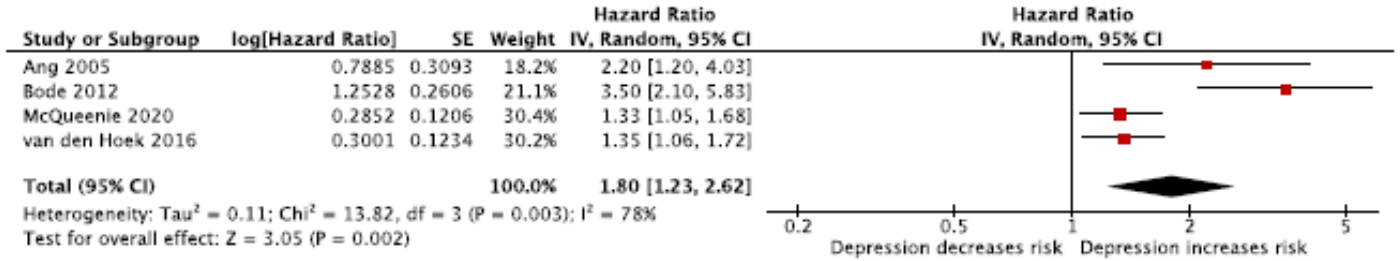
Depression

- Depression affects 14.9-50% of RA patents [1,2]
  - Most common comorbidity in those with RA[1,2]
  - 56% of those with RA in the ORCHESTRA
    - 34% having moderate-to-severe depression
- Identification of Depression in Rheumatology Clinic[2] :
  - Symptoms overlap (misattribution)
  - Patients feel:
    - Rheumatologist may not be appropriate provider
    - Stigma of mental illness
    - Only 20% of PHQ-9 >15 discussed depression – 100% patient initiated
  - Rheumatologists feel:
    - No time
    - Not within their expertise

1. Brock, J., Basu, N., Schlachetzki, J.C.M. *et al.* Immune mechanisms of depression in rheumatoid arthritis. *Nat Rev Rheumatol* **19**, 790–804 (2023). https://doi.org/10.1038/s41584-023-01037-w
2. Withers, M. H., Gonzalez, L. T., & Karpouzas, G. A. (2017). Identification and treatment optimization of comorbid depression in rheumatoid arthritis. *Rheumatology and therapy*, *4*(2), 281-291.

Depression

- Depression in RA associated with[1-6]:
  - Increased fatigue, poorer functional status – **Reversible**
    - Highest predictor of work disability
  - Heightened/centralized/wide-spread pain/catastrophizing
  - Decreased medication adherence
  - Up to 30% reduction in response to biologic therapy[1]
  - Higher risk of MI and death[2,7]



- EULAR Difficult-to-Treat RA Recommendations[3-5]:
  - Ensure presence of inflammation (MSUS)
  - Rule out/address confounding affective disorder/widespread pain

1. Brock, J., Basu, N., Schlachetzki, J.C.M. *et al.* Immune mechanisms of depression in rheumatoid arthritis. *Nat Rev Rheumatol* **19**, 790–804 (2023). https://doi.org/10.1038/s41584-023-01037-w
2. Withers, M. H., Gonzalez, L. T., & Karpouzas, G. A. (2017). Identification and treatment optimization of comorbid depression in rheumatoid arthritis. *Rheumatology and therapy*, *4*(2), 281-291.
3. Nagy, G., Roodenrijs, N. M., Welsing, P. M., Kedves, M., Hamar, A., van der Goes, M. C., Kent, A., Bakkers, M., Blaas, E., Senolt, L., Szekanecz, Z., Choy, E., Dougados, M., Jacobs, J. W., Geenen, R., Bijlsma, H. W., Zink, A., Aletaha, D., Schoneveld, L., … van Laar, J. M. (2021). EULAR definition of difficult-to-treat rheumatoid arthritis. *Annals of the Rheumatic Diseases*, *80*(1), 31–35. https://doi.org/10.1136/annrheumdis-2020-217344
4. Nagy, G., Roodenrijs, N. M. T., Welsing, P. M. J., Kedves, M., Hamar, A., van der Goes, M. C., Kent, A., Bakkers, M., Pchelnikova, P., Blaas, E., Senolt, L., Szekanecz, Z., Choy, E. H., Dougados, M., Jacobs, J. W., Geenen, R., Bijlsma, J. W., Zink, A., Aletaha, D., … van Laar, J. M. (2022). EULAR points to consider for the management of difficult-to-treat rheumatoid arthritis. *Annals of the Rheumatic Diseases*, *81*(1), 20–33. https://doi.org/10.1136/annrheumdis-2021-220973
5. Manning-Bennett, A. T., Hopkins, A. M., Sorich, M. J., Proudman, S. M., Foster, D. J. R., Abuhelwa, A. Y., & Wiese, M. D. (2022). The association of depression and anxiety with treatment outcomes in patients with rheumatoid arthritis – a pooled analysis of five randomised controlled trials. *Therapeutic Advances in Musculoskeletal Disease*, *14*, 1759720X2211116. https://doi.org/10.1177/1759720X221111613
6. Fiest, K. M., Hitchon, C. A., Bernstein, C. N., Peschken, C. A., Walker, J. R., Graff, L. A., Zarychanski, R., Abou-Setta, A., Patten, S. B., Sareen, J., Bolton, J., & Marrie, R. A. (2017). Systematic Review and Meta-analysis of Interventions for Depression and

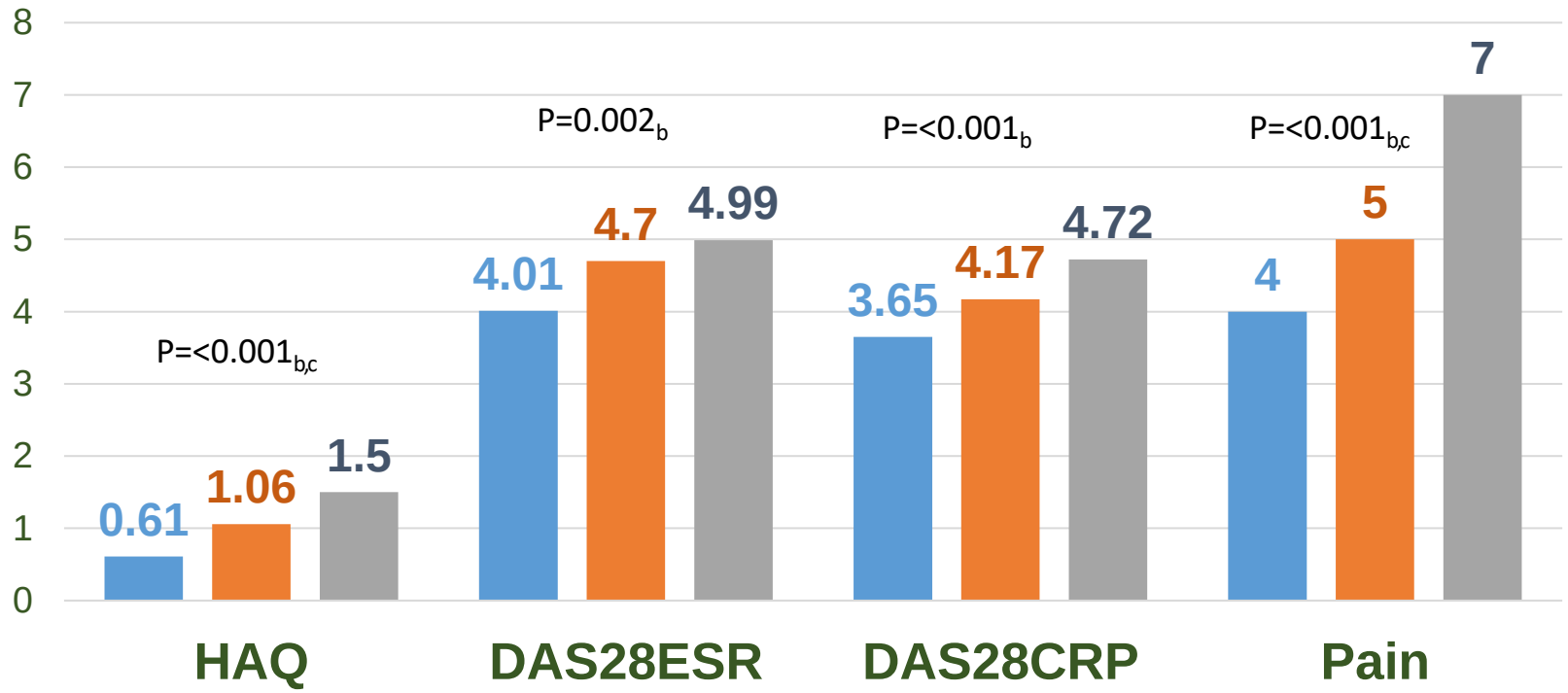
ORCHESTRA Data

- Population:
  - Those with RA referred to ORCHESTRA clinic for start/switch of advanced therapy
  - Consecutive recruitment to cohort
  - At time of last data-cut N=144 with a baseline visit, and 113 with 3-month visit
- Measurements:
  - Depression: PHQ-9
  - Disease Activity Measurements:
    - CDAI (TJC/SJC 28/44, PGA, PhysGA), DAS28, HAQ
  - MSUS:
    - Global OMERACT-EULAR score system (**GLOESS**) Score
    - B-Mode (0-3), Doppler (0-3)
- Analysis:
  - Compared clinical and US detected disease activity according to stratified depression severity

Baseline Characteristics of ORCHESTRA RA Cohort (N=144)

	No Depression N=63	Mild Depression N=32	Moderate to Severe Depression N=49	P
Age	63(52-69)	60.5(44.5-69)	57(48.5-65)	0.057
Gender (female)	63.5%*	78.1%	85.7%*	0.024*
RF/CCP+	82%/70%	72%/60%	65%/68%	0.118/0.622
Disease Duration	7(2-19)	13.5(4-22)	6 (1-12)	0.495
Erosion	50.8%	56.7%	42.9%	0.467
Deformity	28.6%	31.3%	18.4%	0.338
ESR/CRP	17(8-29)/4(1.5-12.5)	24(13-39)/6 (1.9-22.3)	22(8.75-36.25)/4.9(1.2-11.9)	0.282/0.589
Prior AT's	0(0-1)	0(0-1)	0(0-1)	0.750

Baseline Disease Activity Across Depression Severity



a: There is a statistically significant difference between none and mild groups.

b: There is a statistically significant difference between none and moderate/severe groups.

c: There is a statistically significant difference between mild and moderate/severe groups

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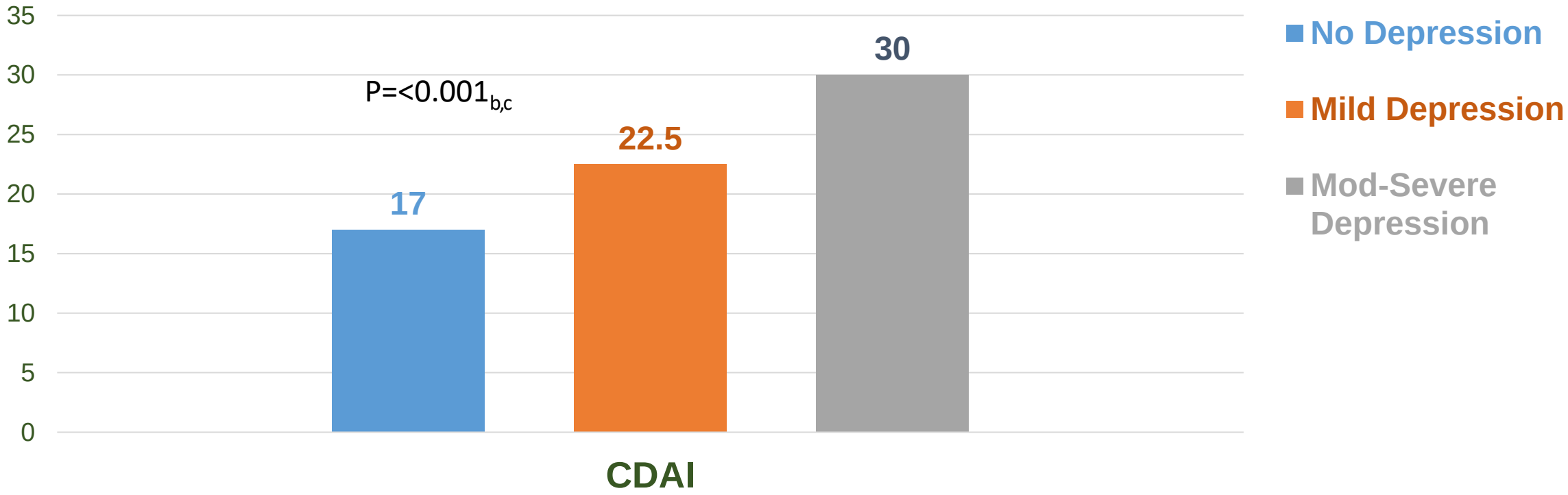
Baseline CDAI Across Depression Severity



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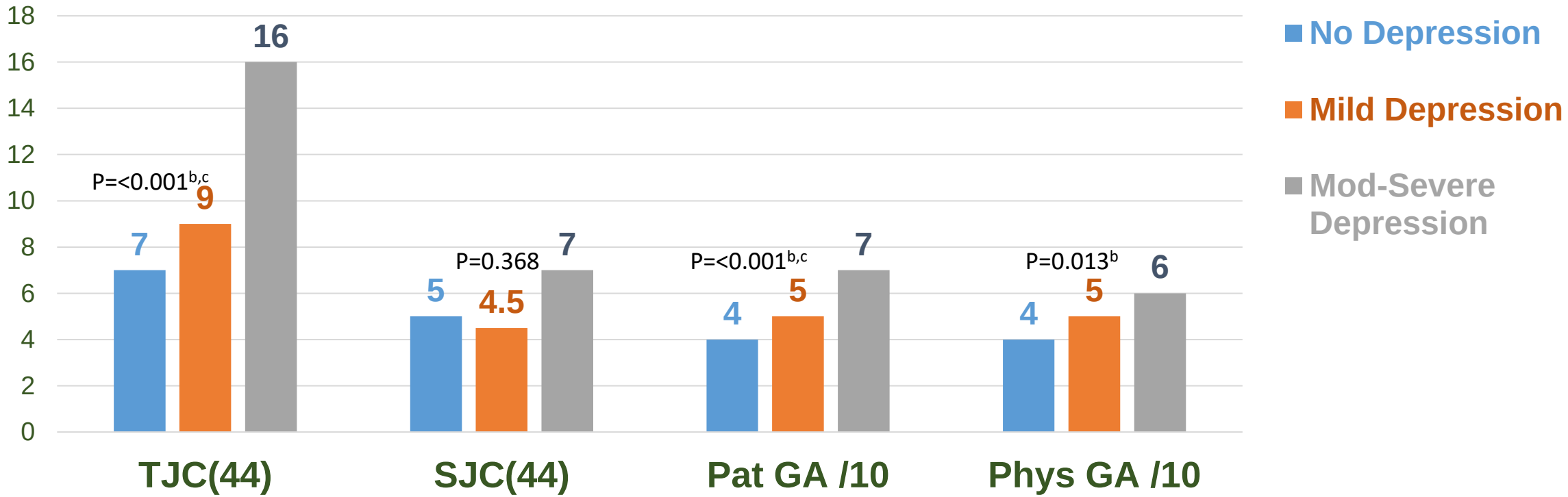
Baseline CDAI Components Across Depression Severity



a: There is a statistically significant difference between none and mild groups.

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c: There is a statistically significant difference between mild and moderate/severe groups

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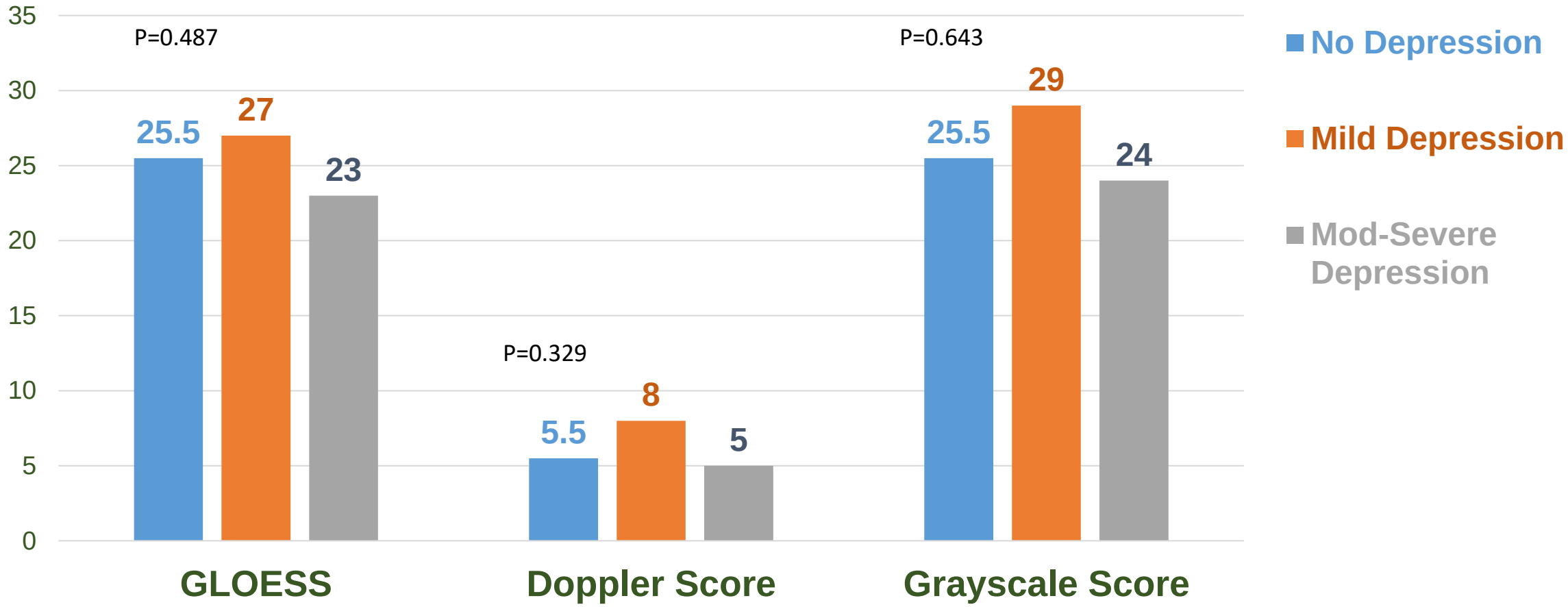
Baseline MSUS Across Depression Severity



a: There is a statistically significant difference between none and mild groups.

b: There is a statistically significant difference between none and moderate/severe groups.

c: There is a statistically significant difference between mild and moderate/severe groups

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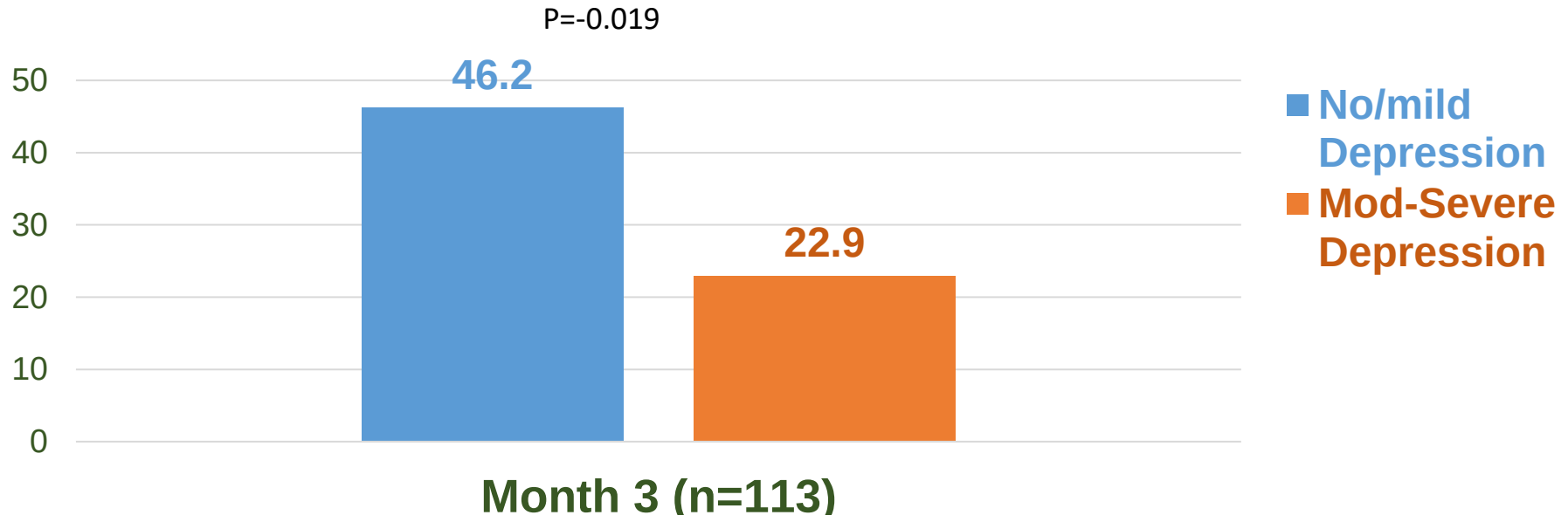
Follow up – % Achieving LDA and Remission



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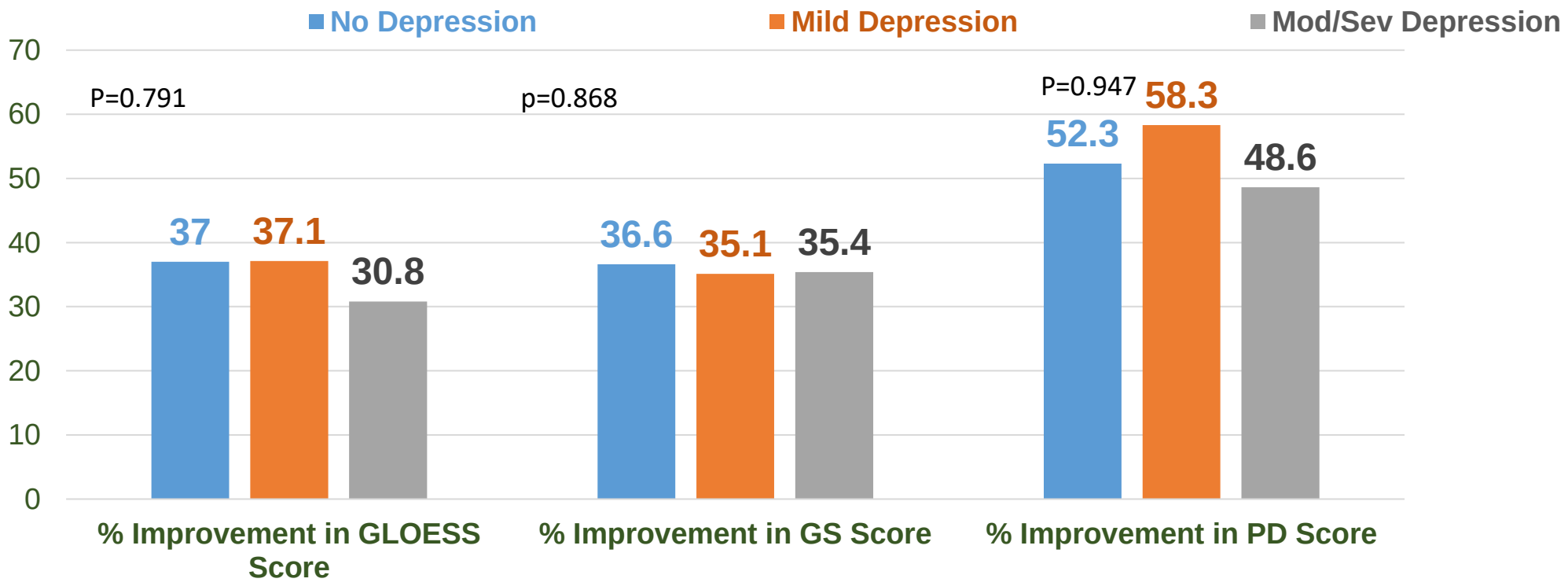
Follow up – Changes in MSUS Scores at 3 Months



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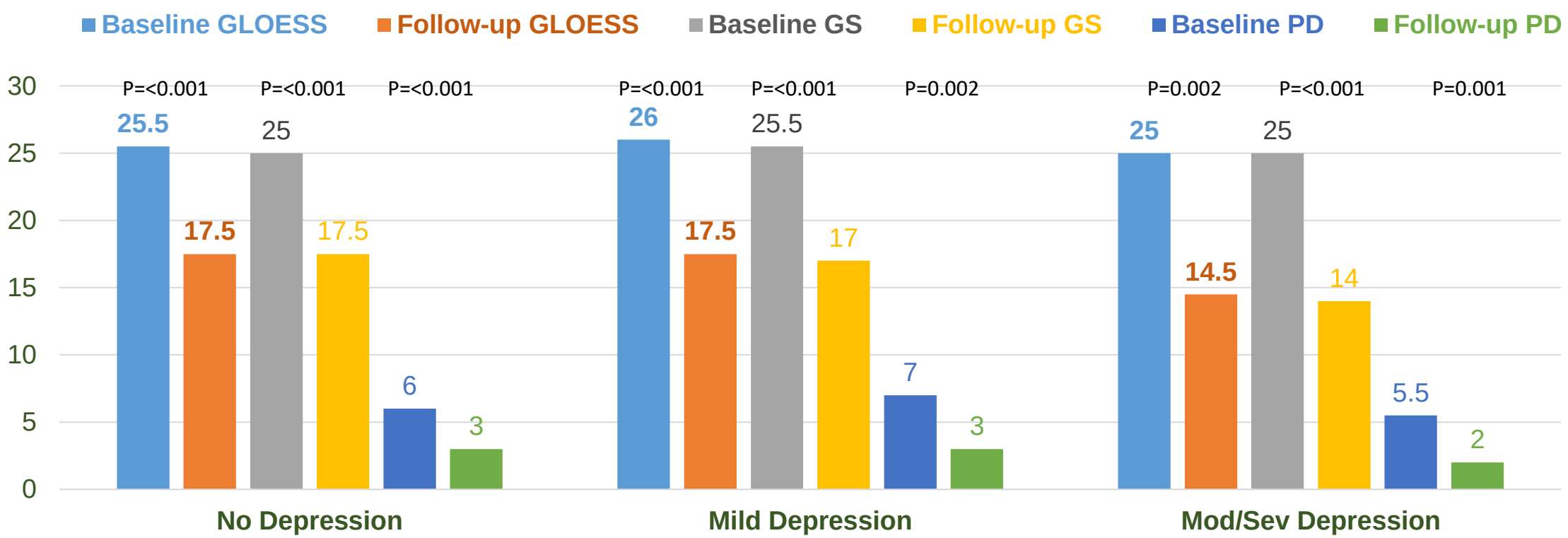
Follow up – Changes in MSUS Scores at 3 Months



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Conclusions

- RA – screen with PHQ-9
  - Modifiable risk factor
- Mod/Severe Depression:
  - Lack of LDA/Remission, however same ultrasound response
  - Consider treatment
- Interventions for depression in RA improve:
  - Depressive symptoms
  - Psychological Distress
  - Coping
  - Self-efficacy
- Unclear if treatment of depression in RA independently improves RA outcomes

Fibromyalgia

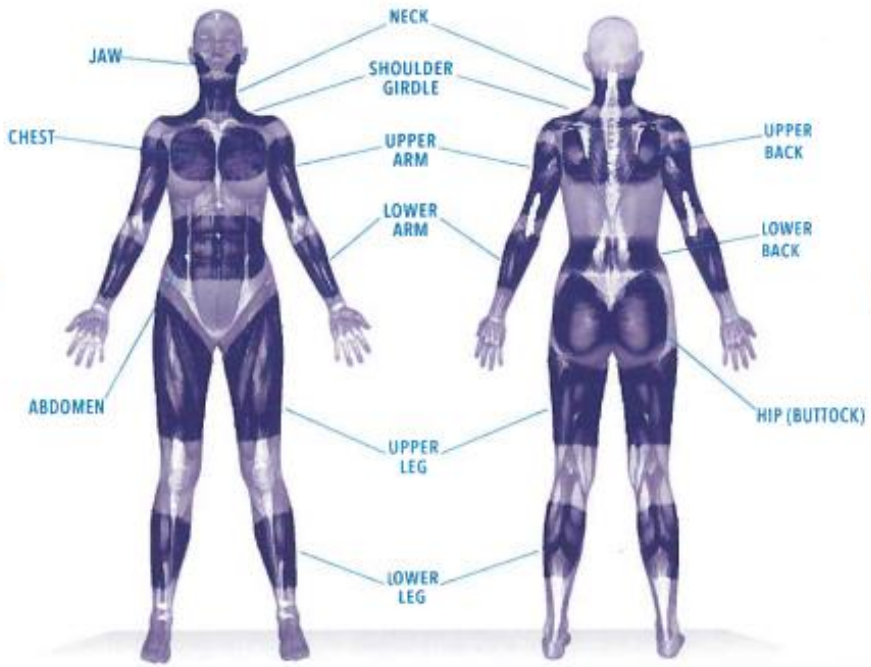
HOW TO CALCULATE THE PATIENT'S WIDESPREAD PAIN INDEX (WPI)

1. Using the list of 19 body areas, identify the areas where the patient felt pain over the **past week**. As a visual aid, front/back body diagrams are included.
   – Each area identified on the list counts as 1
2. Total the number of body areas (the WPI score can range from 0 to 19).

Write the patient's WPI score here: _____.

Identify the areas where the patient felt pain over the past week

❑ Shoulder girdle, left	❑ Lower arm, right	❑ Lower leg, left	❑ Abdomen
❑ Shoulder girdle, right	❑ Hip (buttock), left	❑ Lower leg, right	❑ Neck
❑ Upper arm, left	❑ Hip (buttock), right	❑ Jaw, left	❑ Upper back
❑ Upper arm, right	❑ Upper leg, left	❑ Jaw, right	❑ Lower back
❑ Lower arm, left	❑ Upper leg, right	❑ Chest	



PART 2A: SYMPTOM SEVERITY SCALE (LEVELS OF SEVERITY)

HOW TO MEASURE THE PATIENT'S LEVEL OF SYMPTOM SEVERITY

1. Using a scale of 0 to 3, indicate the patient's level of symptom severity over the **past week** in each of the 3 symptom categories. Choose only 1 level of severity for each category.
   – The score is the sum of the numbers that correspond to the severity levels identified in all 3 categories
2. Total the scale numbers for all the 3 categories and **write the number here:** _____.

Fatigue	Waking unrefreshed	Cognitive symptoms
❑ 0 = No problem	❑ 0 = No problem	❑ 0 = No problem
❑ 1 = Slight or mild problems; generally mild or intermittent	❑ 1 = Slight or mild problems; generally mild or intermittent	❑ 1 = Slight or mild problems; generally mild or intermittent
❑ 2 = Moderate; considerable problems; often present and/or at a moderate level	❑ 2 = Moderate; considerable problems; often present and/or at a moderate level	❑ 2 = Moderate; considerable problems; often present and/or at a moderate level
❑ 3 = Severe; pervasive, continuous, life-disturbing problems	❑ 3 = Severe; pervasive, continuous, life-disturbing problems	❑ 3 = Severe; pervasive, continuous, life-disturbing problems

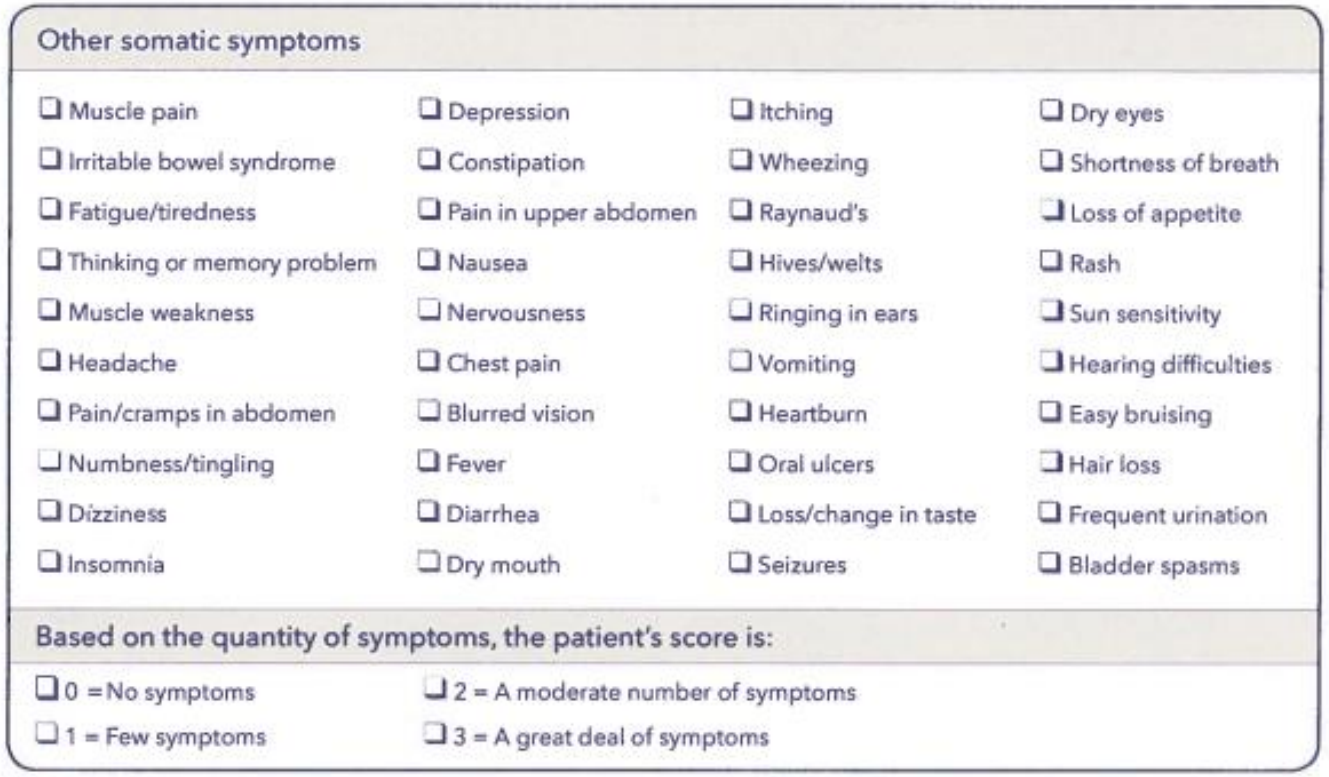
PART 2B: SYMPTOM SEVERITY SCALE (OTHER SOMATIC SYMPTOMS)

HOW TO DETERMINE THE EXTENT OF THE PATIENT'S OTHER SOMATIC SYMPTOMS

Using the symptoms list on the following page, determine the extent of other somatic symptoms the patient may have experienced over the **past week**.

1. Determine the quantity of somatic symptoms using the list on the following page.
2. Using your best judgment, calculate the score that matches the quantity of those somatic symptoms and **write the number here:** _____.

Add the scores from Parts 2a and 2b (the Symptom Severity score, or SS score, can range from 0 to 12.)
Write the patient's SS score here: _____.



Other somatic symptoms

❑ Muscle pain	❑ Depression	❑ Itching	❑ Dry eyes
❑ Irritable bowel syndrome	❑ Constipation	❑ Wheezing	❑ Shortness of breath
❑ Fatigue/tiredness	❑ Pain in upper abdomen	❑ Raynaud's	❑ Loss of appetite
❑ Thinking or memory problem	❑ Nausea	❑ Hives/welts	❑ Rash
❑ Muscle weakness	❑ Nervousness	❑ Ringing in ears	❑ Sun sensitivity
❑ Headache	❑ Chest pain	❑ Vomiting	❑ Hearing difficulties
❑ Pain/cramps in abdomen	❑ Blurred vision	❑ Heartburn	❑ Easy bruising
❑ Numbness/tingling	❑ Fever	❑ Oral ulcers	❑ Hair loss
❑ Dizziness	❑ Diarrhea	❑ Loss/change in taste	❑ Frequent urination
❑ Insomnia	❑ Dry mouth	❑ Seizures	❑ Bladder spasms

Based on the quantity of symptoms, the patient's score is:

❑ 0 = No symptoms	❑ 2 = A moderate number of symptoms
❑ 1 = Few symptoms	❑ 3 = A great deal of symptoms

WHAT THE PATIENT'S SCORE MEANS

The patient's WPI score (Part 1): _____ **The patient's SS score (Parts 2a and 2b):** _____

A PATIENT MEETS THE DIAGNOSTIC CRITERIA FOR FIBROMYALGIA IF THE FOLLOWING 3 CONDITIONS ARE MET:

1a. The WPI score (Part 1) is greater than or equal to 7 **and** the SS score (Parts 2a and 2b) is greater than or equal to 5.

OR

1b. The WPI score (Part 1) is from 3 to 6 **and** the SS score (Parts 2a and 2b) is greater than or equal to 9.

2. Symptoms have been present at a similar level for at least 3 months.

3. The patient does not have a disorder that would otherwise explain the pain.

Take-aways:

- If someone has clear primary fibro and no specific signs of SLE/CTD/RA, **do not send RF/ANA**
- Secondary fibro:
  - If there is clear improvement with activity and clear swollen joints absolutely investigate more
- Treatment:
  - Come to diagnosis of Fibro early and validate; it is NOT a diagnosis of exclusion (telling people does not affect outcome)
  - Graduated exercise, education (chronic pain due to over-active pain signaling, not due to ongoing damage), self-efficacy, CBT (3 weeks can have 1 year of improvement), may be a role for acupuncture, sleep hygiene/CPAP
  - Duloxetine (any SNRI) 60-120 (strong), Pregabalin (gabapentin) 50-200 bid (strong), Weak: Amitriptyline 10-100 mg po qhs, tramadol, cyclobenzaprine, naltrexone

Resources:

- The Pain Management Workbook – by Dr. Rachel Zoffness (Pain Psychologist)
- 8 Steps to Conquer Chronic Pain: A Doctor's Guide to Lifelong Relief – by Dr. Andrea Furlan

Dr. Andrea Furlan ✔

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I am a physician, scientist and professor of Medicine in Toronto, Ontario, Canada. ...more

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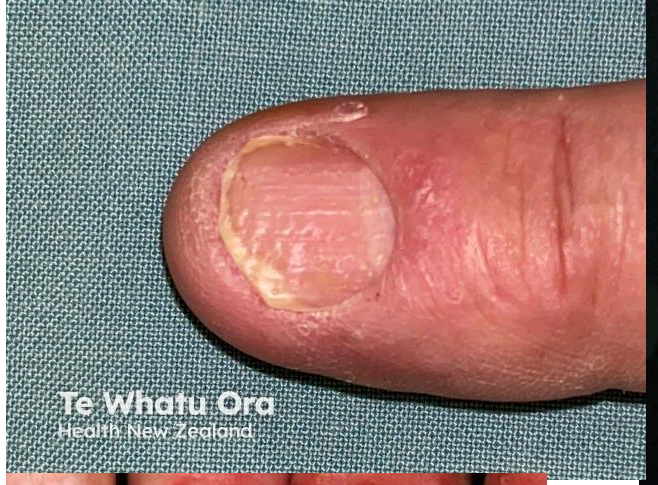
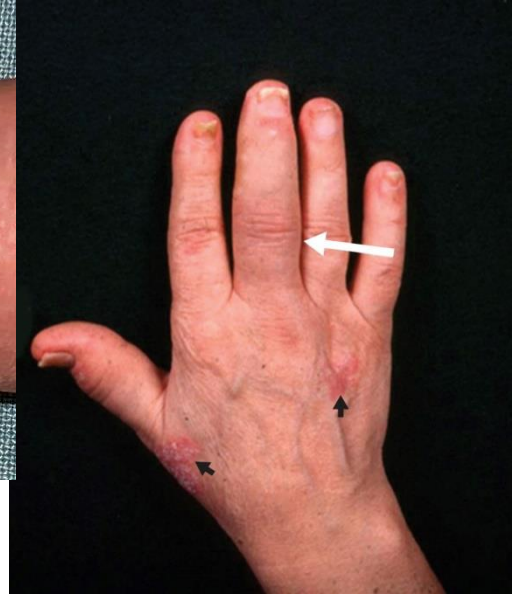
Psoriatic Arthritis

Table 6. The CASPAR criteria*

To meet the CASPAR (ClASsification criteria for Psoriatic ARthritis) criteria, a patient must have inflammatory articular disease (joint, spine, or entheseal) with ≥3 points from the following 5 categories:

1. Evidence of current psoriasis, a personal history of psoriasis, or a family history of psoriasis.
   Current psoriasis is defined as psoriatic skin or scalp disease present today as judged by a rheumatologist or dermatologist.† A personal history of psoriasis is defined as a history of psoriasis that may be obtained from a patient, family physician, dermatologist, rheumatologist, or other qualified health care provider.
   A family history of psoriasis is defined as a history of psoriasis in a first- or second-degree relative according to patient report.
2. Typical psoriatic nail dystrophy including onycholysis, pitting, and hyperkeratosis observed on current physical examination.
3. A negative test result for the presence of rheumatoid factor by any method except latex but preferably by enzyme-linked immunosorbent assay or nephelometry, according to the local laboratory reference range.
4. Either current dactylitis, defined as swelling of an entire digit, or a history of dactylitis recorded by a rheumatologist.
5. Radiographic evidence of juxtaarticular new bone formation, appearing as ill-defined ossification near joint margins (but excluding osteophyte formation) on plain radiographs of the hand or foot.



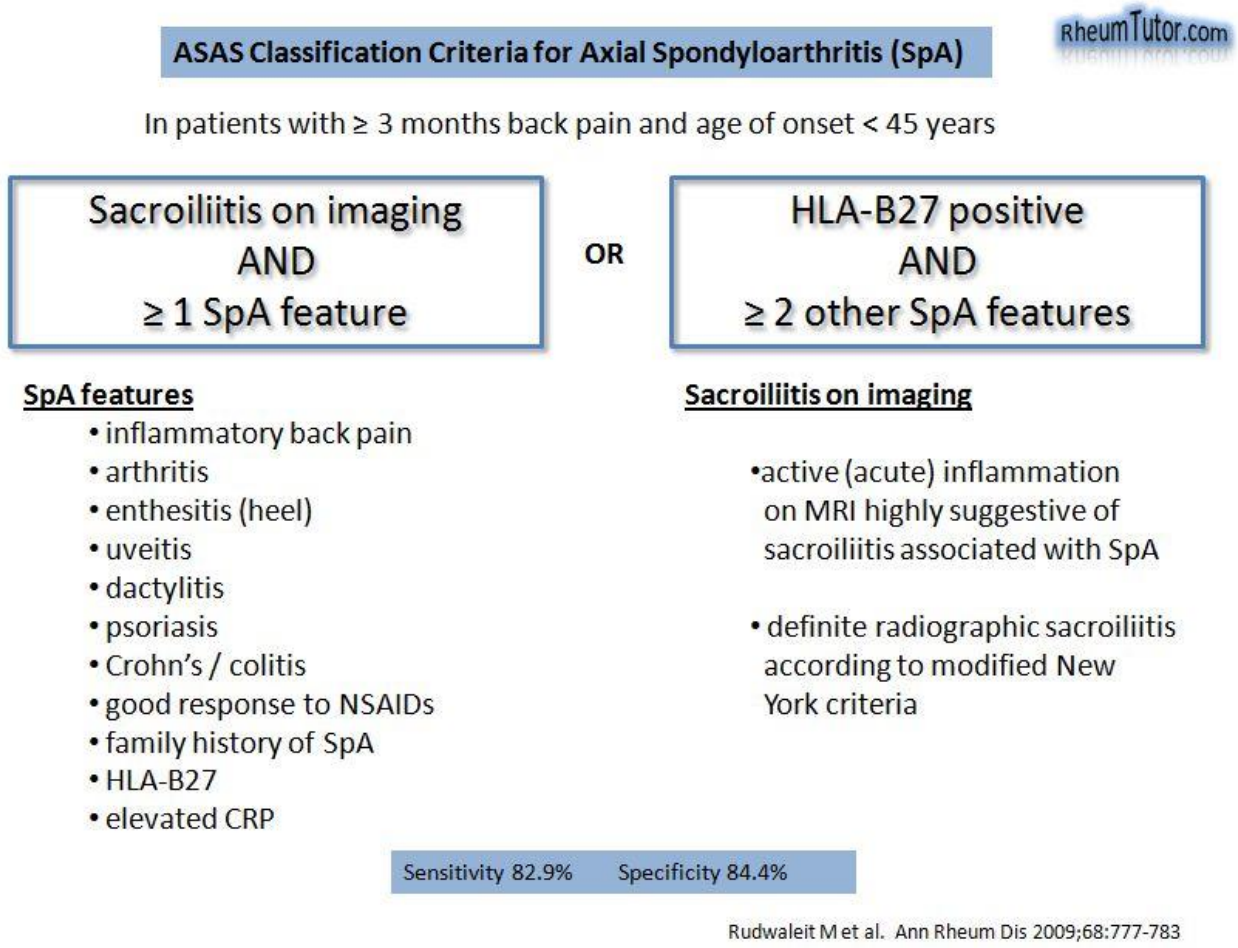


Taylor W, Gladman D, Helliwell P, Marchesoni A, Mease P, Mielants H; CASPAR Study Group. Classification criteria for psoriatic arthritis: development of new criteria from a large international study. Arthritis Rheum. 2006 Aug;54(8):2665-73. doi: 10.1002/art.21972. PMID: 16871531.

Inflammatory Low Back Pain

- Must be chronic >3 months and...
- 4/5 of the following:
  - Age of onset <40 years
  - Insidious onset
  - Improvement with exercise
  - No improvement with rest
  - Pain at night (with improvement on rising)
- Sn: 77%
- Sp: 91%

Inflammatory Low Back Pain



Definition of "Good Response to NSAID":
24-48 hours after full dose of an NSAID, the back pain is not present any more or is much better (>80%)

Arthritis: Past or present peripheral arthritis (usually asymmetric/predominant lower limb)
Enthesitis: Past or present spontaneous pain or tenderness at examination of an enthesis
Uveitis: Past or present uveitis anterior, confirmed by an ophthalmologist
Dactylitis/Psoriasis: Past or present, diagnosed by a doctor
IBD: Past or present Crohn's disease or UC diagnosed by a doctor
Preceding Infection: Urethritis/cervicitis or diarrhoea within 1 month before the onset of arthritis/enthesitis/dactylitis.
Family history for SpA: Presence in first-degree or second-degree relatives of any of the following: (1) ankylosing spondylitis, (2) psoriasis, (3) acute uveitis, (4) reactive arthritis, (5) IBD
HLA-B27: Positive testing according to standard laboratory techniques
Sacroiliitis by Imaging: Bilateral grade 2–4 or unilateral grade 3–4 sacroiliitis on plain radiographs, according to the modified New York criteria, or active sacroiliitis on MRI according to the ASAS consensus definition

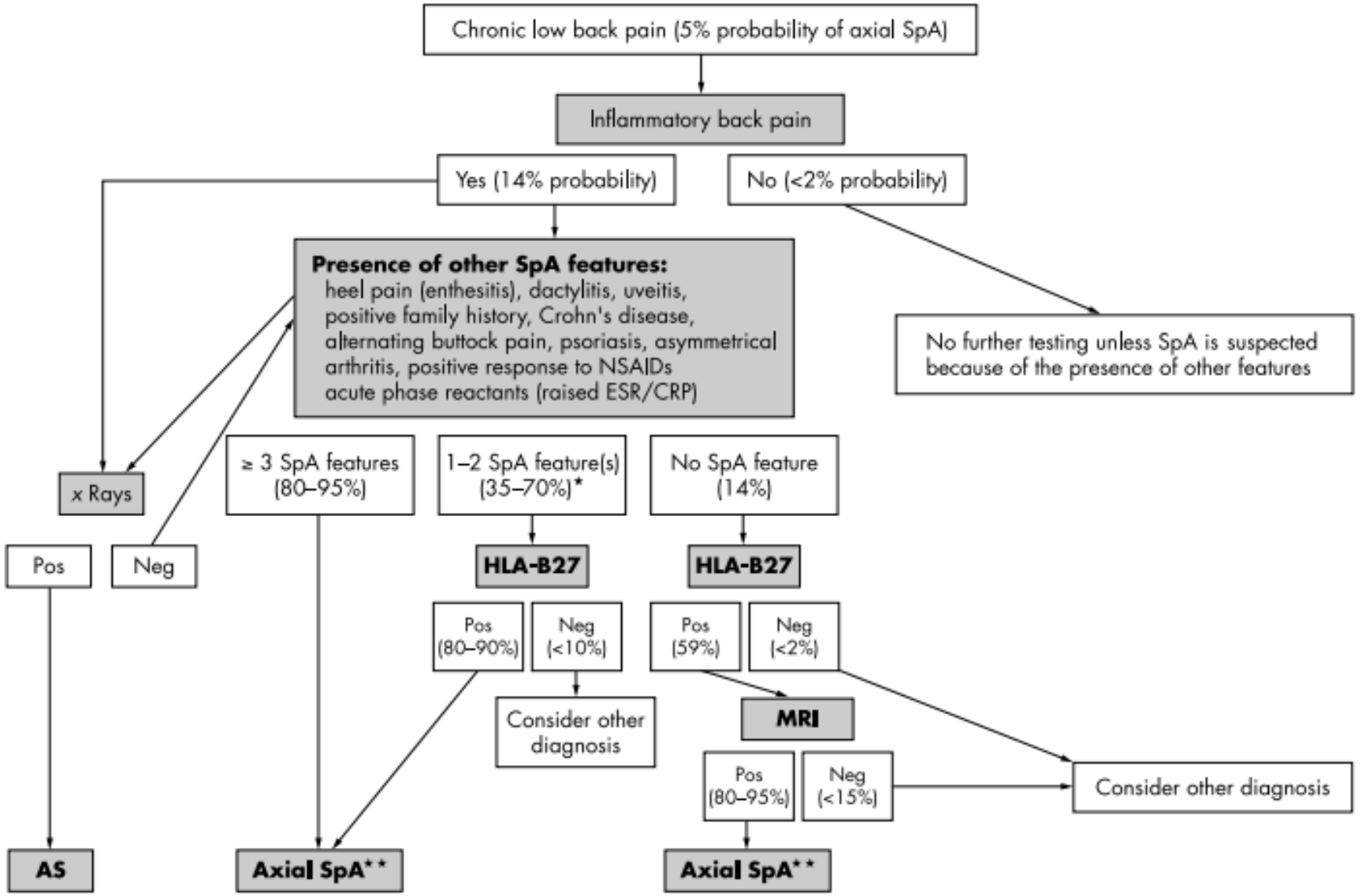


Figure 1 Decision tree on diagnosing axial SpA. Starting point is the presence or absence of inflammatory back pain (IBP) in patients presenting with chronic back pain. In general, for making the diagnosis of axial SpA a disease probability >90% is suggested. *Dependent on which features are positive (table 2). **If the probability of disease exceeds 90% we consider the diagnosis axial SpA as definite, if the probability is 80–90% we consider the diagnosis as probable (see also "Discussion").

Building a case for referral:

- A young person with chronic back pain:
  - Ask the 5 questions (age <40 onset, insidious, improve with exercise, does not get better with rest, nocturnal pain)
  - If 4+, then:
    - Order: x-rays (SI joints/L spine), CRP, HLA B27
    - Ask about (all you really need is 2 or maybe even 1):
      - Related conditions:
        - Uveitis, IBD, Psoriasis, infectious diarrhea/urethritis
      - Family history
      - MSK: Enthesitis, dactylitis, peripheral arthritis
      - Treatment: NSAID response (almost gone? >80% improvement?)
  - If x-rays are convincing (usually aren't early on), don't order an MRI
  - If x-rays don't confirm your suspicions order an “MRI MSK Full Spine with STIR”, there is a tick box for ?SpA that speeds things up. Specify in comments to include SI joints.
- **Do not order an RF, CCP, or ANA for back pain**

How to treat while waiting:

- Refer all patients to PT – exercises are extremely important at maintaining functionality
  - Active>Passive
  - Land-based>Aquatic
- Start any NSAID at full anti-inflammatory dose:
  - Naproxen 500 mg po bid x 4 weeks, then if fails,
  - Celebrex 200 mg po bid x 4 weeks (if this is already tried then it saves us time getting to the biologics)
- 2019 ACR Guidelines suggest NSAID trial x 1 then anti-TNF, HOWEVER
- EAP (Ontario) Requires 4 weeks of 2 different NSAIDs
- ***Guidelines suggest strongly against steroids***

Choosing Wisely

1. **Don't order ANA as a screening test in patients without specific signs or symptoms of systemic lupus erythematosus (SLE) or another connective tissue disease (CTD).**

   ANA testing should not be used to screen subjects without specific symptoms (e.g., photosensitivity, malar rash, symmetrical polyarthritis, etc.) or without a clinical evaluation that may lead to a presumptive diagnosis of SLE or other CTD, since ANA reactivity is present in many non-rheumatic conditions and even in "healthy" control subjects (up to 20%). In a patient with low pre-test probability for ANA-associated rheumatic disease, positive ANA results can be misleading and may precipitate further unnecessary testing, erroneous diagnosis or even inappropriate therapy.

Entry criterion

Antinuclear antibodies (ANA) at a titer of ≥1:80 on HEp-2 cells or an equivalent positive test (ever)

↓

If absent, do not classify as SLE
If present, apply additive criteria

↓

Additive criteria

Do not count a criterion if there is a more likely explanation than SLE.
Occurrence of a criterion on at least one occasion is sufficient.
SLE classification requires at least one clinical criterion and ≥10 points.
Criteria need not occur simultaneously.
Within each domain, only the highest weighted criterion is counted toward the total score§.

Clinical domains and criteria	Weight
Constitutional	
Fever	2
Hematologic	
Leukopenia	3
Thrombocytopenia	4
Autoimmune hemolysis	4
Neuropsychiatric	
Delirium	2
Psychosis	3
Seizure	5
Mucocutaneous	
Non-scarring alopecia	2
Oral ulcers	2
Subacute cutaneous OR discoid lupus	4
Acute cutaneous lupus	6
Serosal	
Pleural or pericardial effusion	5
Acute pericarditis	6
Musculoskeletal	
Joint involvement	6
Renal	
Proteinuria >0.5g/24h	4
Renal biopsy Class II or V lupus nephritis	8
Renal biopsy Class III or IV lupus nephritis	10

Immunology domains and criteria	Weight
Antiphospholipid antibodies	
Anti-cardiolipin antibodies OR	
Anti-β2GP1 antibodies OR	
Lupus anticoagulant	2
Complement proteins	
Low C3 OR low C4	3
Low C3 AND low C4	4
SLE-specific antibodies	
Anti-dsDNA antibody* OR	
Anti-Smith antibody	6

Total score:

↓

Classify as Systemic Lupus Erythematosus with a score of 10 or more if entry criterion fulfilled.

Choosing Wisely

9 **Don't order Rheumatoid factor (RF) and Anti-Citrullinated Protein Antibody (ACPA) unless patients have clinically suspicious arthralgia (CSA) or arthritis on exam.**

Avoid ordering these autoantibodies in patients with arthralgia (joint pain) but who do not meet the CSA criteria or have arthritis (>one swollen joint) on physical exam. EULAR defines CSA at risk for developing Rheumatoid Arthritis (RA) as having 3 or more parameters including new joint symptoms <1 year, symptoms located in metacarpophalangeal (MCP) joints, morning stiffness >60 min, most severe symptoms in the morning, 1st degree relative with RA, and difficulty making a fist and positive MCP squeeze test on physical exam. Even ir CSA with positive RF and ACPA, more than 30%-60% of patients will not develop RA over the next two years. Most musculoskeletal pain causing global disability is not related to rheumatoid arthritis. Inappropriate testing of RF serology in patients with low likelihood of RA is associated with low positive predictive value (PPV) and increased cost.

Labs:

- **ANA** – required for SLE; but is non-specific (positive in any autoimmune disease: SLE/ RA/ Sjogren's/ MCTD/ Scleroderma/ Grave's/ Hashimoto's/ autoimmune hepatitis/ vitiligo, infections: chronic viral/bacterial, cancers, healthy people >10% of healthy population will have an ANA of 1:80. The higher the titre, the more specific. You can check https://www.anapatterns.org/ if you get a weird pattern.
- **RF** – also non-specific (IgM against Fc component of IgG). Seen in RA, SLE, CTD, chronic infections, malignancy. STRONGLY POSITIVE in Sjogren's and cryoglobulinemia (Hep C).
- **CCP** – very specific for RA, however, can be found in lung disease. **$58**
- **DsDNA** – SLE
- **ENA** Panel:
  - Sm – SLE
  - Ro52/60 and La – Sjogren's (most common positive)
  - Anti-RNP – MCTD
  - Anti-Scl70 – Diffuse cutaneous systemic sclerosis
  - Anti-Jo-1 – Anti-synthetase syndrome
- **ESR**: excessive protein (immunoglobulins/fibrinogen) leads to interreference with negative charges between RBCs leading to increased sedimentation. SLE/Sjogren's/Myeloma = +++ESR. If ESR>>CRP, suspect SLE flare, if CRP>>ESR, suspect infection.
- **CRP**: released by liver in response to IL-6. Very high in infections/crystals
- **ANCA**: very specific when cANCA/PR3 or pANCA/MPO, however when mismatched, suspect cocaine or medication-induced.
  - **Don’t order unless there is vasculitis**
- **C3/C4:** Only helpful when they go down. Suggest immune complex formation (SLE).
- **Anti-Cardiolipin/Anti-B2Glycoprotein1/Lupus Anticoagulant:** Antiphospholipid syndrome (positive 3 months apart). Associated with thrombosis and pregnancy loss.

Necessary for Referral:

1. Inflammatory arthritis:
   - CBC, eGFR, ALT, ESR, CRP, RF, CCP, ANA, ENA, dsDNA, C3, C4
   - Xrays of hands, wrists, and feet looking for erosions
   - If all above is negative, then won't accept – can consider ordering MSK ultrasound of "most affected joint" looking for synovitis
2. Possible CTD:
   - Do not send ANA for "fatigue/diffuse ache"
   - If specific features suggestive of CTD, then require the above PLUS urinalysis, ACR, microscopy, CK
3. Back pain:
   - Require ESR, CRP, HLA B27, and a list of "associated symptoms"
   - Xrays of full spine and SI joints looking for inflammatory changes
   - If xrays negative, and no significant "associated symptoms", then will require MRI MSK Full Spine – including SI joints without contrast using STIR protocol

While waiting for consults:

- If heading down the SLE path:
  - ANA+, meets criteria based on CBC, renal function, or extended Ab workup
  - Feel free to start Plaquenil 5mg/kg/day (max 400/day)
    - Easy way to dose: (5xkgx7)/200 = number pills per week.
    - Is the backbone for management of most CTD's.
    - Risks to counsel:
      - Qtc (at our dose 5 mg/kg/day, very low risk of cardiac abn, but your EMRs will alert you)
      - Photosensitivity
      - GI upset/headaches (relatively uncommon)
      - Retinal toxicity:
        - We suggest optometric assessment once yearly, however optho guidelines suggest start at 5 years. At 10 years, there is 1% chance of retinal toxicity. If noted, and plaquenil stopped there is no progression. No monitoring blood work needed.
    - Pick up the phone/page if there is evidence of significant renal involvement (proteinuria, hematuria, worsening renal function).
  - All patients with CTD are tired, this doesn't improve generally.

While waiting for consults:

- For RA:
  - Plaquenil is a safe bet
  - NSAIDS
  - Prednisone (20 mg with taper over 1 month) will work, however try to ensure that they are off by time of rheum assessment so we can see swollen joints.
  - I have seen some Family MDs start MTX (15-25 mg/week), however this is not expected.
  - Get xrays of hands/wrists/feet for baseline
  - Baseline Hep B (SAg, SAb, CAb) and Hep C serology

GCA:

- Patient >50 with new headache:
  - Questions helpful in coming to Dx of GCA:
    - Vision: Diplopia, sudden vision loss (amaurosis fugax) - blurring/floaters not specific
    - Jaw claudication: "when chewing tough food such as steak or gum, do the muscles of your jaw start to ache and become fatigued?" - can do bedside chewing gum test x 5 minutes
    - Headache: must be "new", shouldn't respond to tylenol/advil, should be temporal, however can be occipital or diffuse
    - Scalp tenderness: "when you wash your hair in the shower or brush your hair, do you notice that your scalp is very tender to touch?"
    - "Have you noticed thickening of the blood vessels at your temples?"
    - Ask about limb claudication and assess for bruits/SBP diff >10
    - Ask about PMR symptoms:
      - Hip/shoulder girdle STIFFNESS and pain improving after over 30-45 minutes
- Scalp tenderness and temporal artery abnormalities, e.g. decreased pulse + palpable tenderness, have greatest specificity for diagnosis

Giant Cell (Temporal) Arteritis

- **Diagnosis:**
  - CBC - anemia of chronic disease
  - **ESR, CRP** - markedly elevated, often >100
  - Biopsy temporal artery
    (Dr. Michel Belliveau-Ophtho - (613) 731-9999)

Can calculate pre-test probability here:
https://docs.google.com/spreadsheets/d/1xB2I4waqO5szUqyk2Nx_g_e9kwdBYbKgMq-GfiCTHZY/edit#gid=0

GCA Risk Calculator	
Age	58
Gender	Male
New headache	Yes
Temporal artery tender or ↓pulse	Yes
Jaw / Tongue Claudication	No
Vision Loss (AION, PION, CRAO)	No
Diplopia	No
ESR	3
CRP	0.8
Upper Limit Normal CRP	10
Platelets x 10^9 / L	154
Risk: (Neural Network)	2.1%
Risk: (Logistic Regression)	1.0%
Average Risk using both models	1.6%

Sensitivity	LR Cutpoint	NN Cutpoint
99%	7.4%	6.9%
95%	8.9%	8.1%
90%	10.2%	9.0%

GCA Risk Calculator	
Age	67
Gender	Female
New headache	Yes
Temporal artery tender or ↓pulse	Yes
Jaw / Tongue Claudication	Yes
Vision Loss (AION, PION, CRAO)	No
Diplopia	No
ESR	78
CRP	92
Upper Limit Normal CRP	10
Platelets x 10^9 / L	450
Risk: (Neural Network)	56.4%
Risk: (Logistic Regression)	56.6%
Average Risk using both models	56.5%

Sensitivity	LR Cutpoint	NN Cutpoint
99%	7.4%	6.9%
95%	8.9%	8.1%
90%	10.2%	9.0%

- **Treatment:** URGENT! (prevent visual loss)
  - steroids - prednisone 60mg daily (52 week taper)
  - Tocilizumab (can taper faster 26 weeks)
  - Start Actonel 35 mg po weekly, vitamin D 1000 iu daily, 1200 mg of calcium/day
- Call rheum on call or refer to rheum

Thank you!

- When in doubt – page rheum