Session # 1: *September 27th, 2016*

- *Introduction and discussion of session objectives*
- *Diagnosis of inflammatory arthritis with emphasis on RA and PsA*
- *The need for new models of care*
- *Who and when to refer to secondary care*
- *Overview of DMARDs and Biologic drug use with emphasis on the role of primary care in sharing the care*
- *Examination of the hands*

Following this section of the talk, participants should be able to:

- Identify signs and symptoms that may indicate RA
- Obtain pertinent history and perform appropriate physical/laboratory/imaging exams in order to diagnose RA more quickly and more accurately
- Appreciate the potential ramifications of delayed diagnosis and treatment
- Recognize when to refer a patient to a rheumatology colleague, & what information to include in a referral

ORA Mission

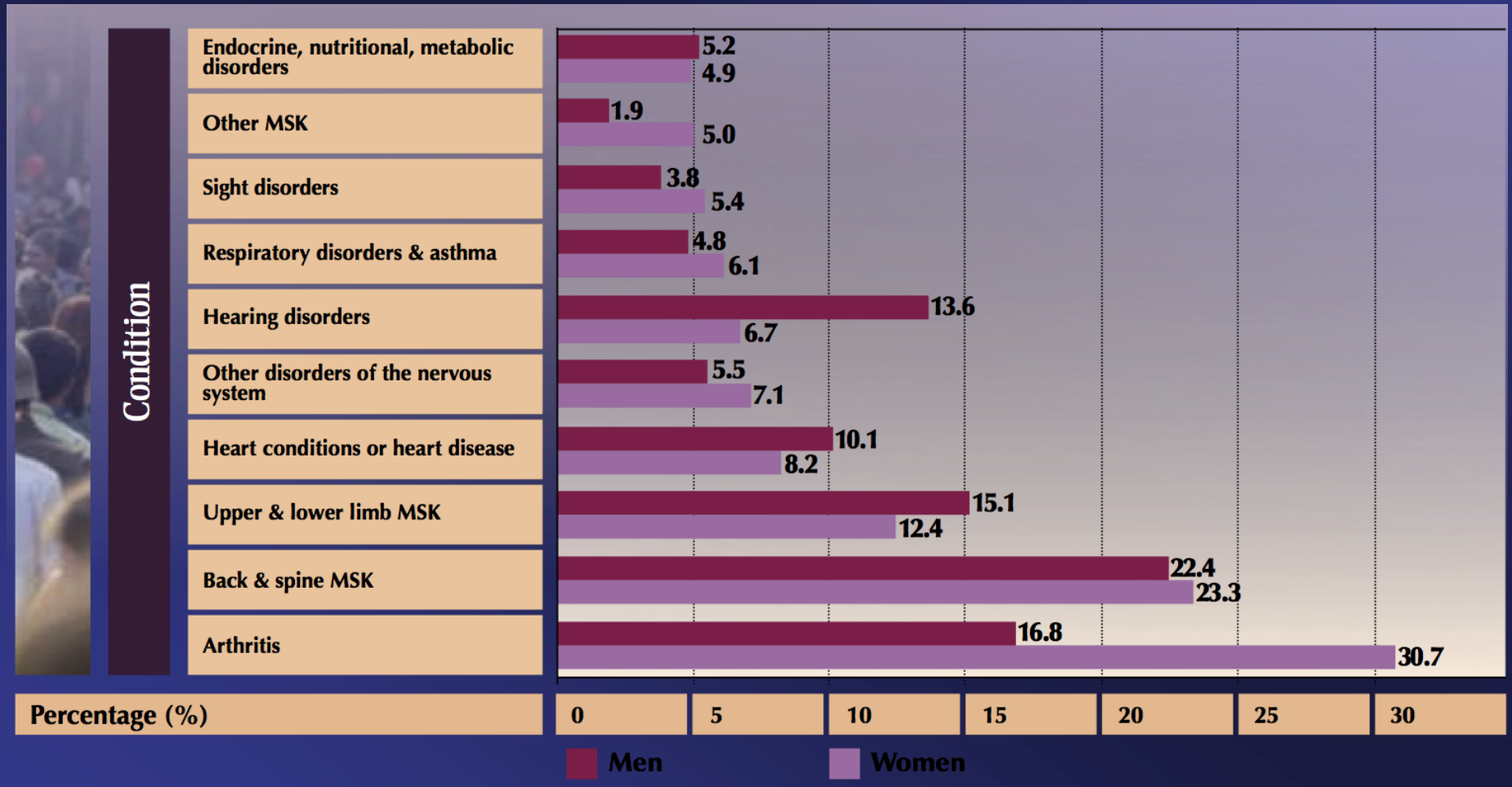

Ontario Rheumatologists
Pursuit of Excellence of Arthritis Care
Leadership
Advocacy
Education
Communications

Current Burden of Arthritis in Canada

Living with arthritis	OA: 2010 – 1 in 8 By 2040 1 in 4 RA: 2010 – 1 in 136 By 2040 1 in 68
Direct health care costs	$12.6 billion in 2010 for both OA and RA
Loss of productivity	OA $17.3 billion (1.0% CA GDP in 2010) RA $3.3 billion (0.2% CA GDP in 2010)

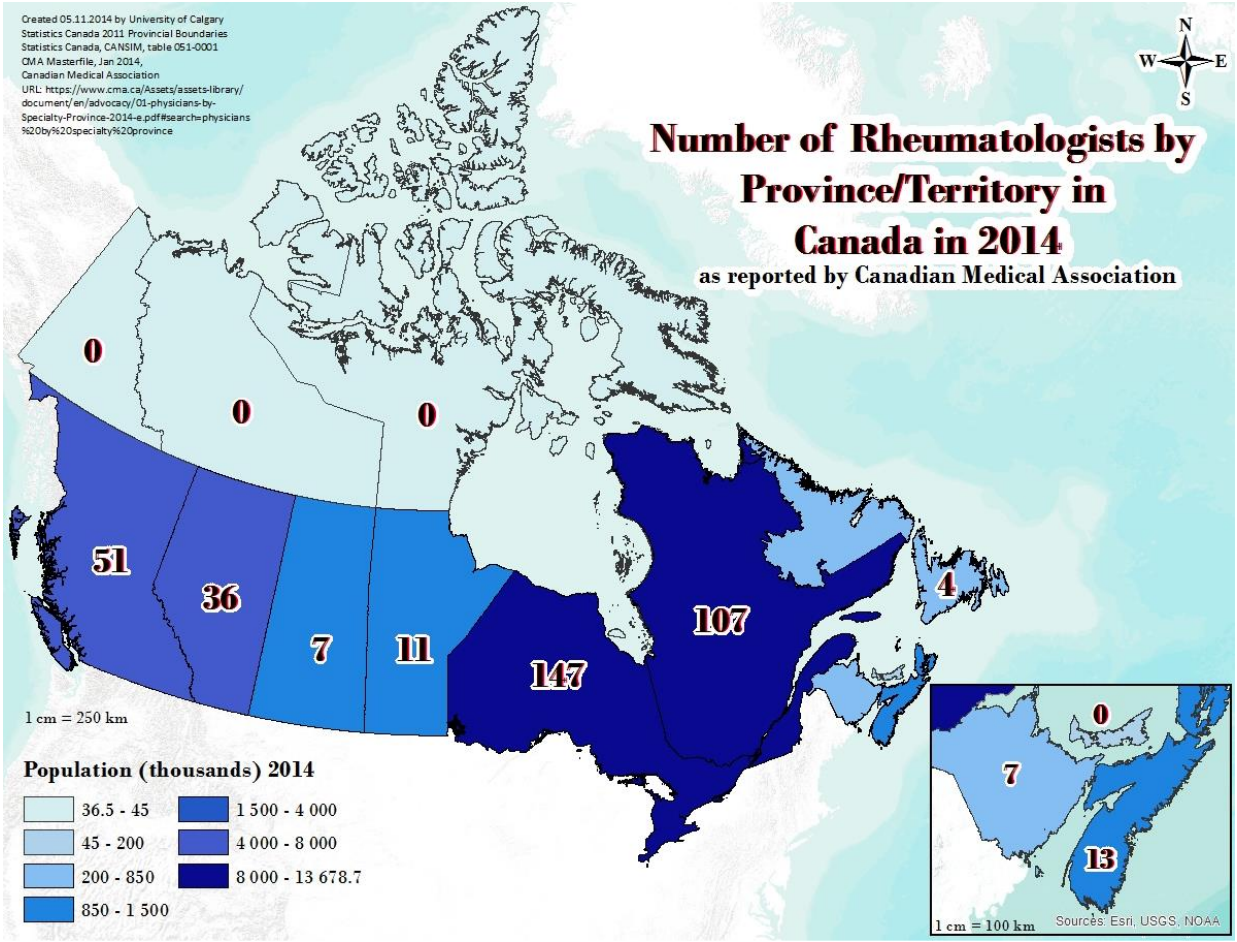
Arthritis, is the leading cause of disability in Canada

Top ten causes of disability among men and women aged 15 years and over, 2001



Source: Public Health Agency of Canada, *Life with Arthritis in Canada*, 2010

Geographic Distribution of Rheumatologists



Putting patients 1st…improved outcomes through a shared-care management model

Patient focused

Evidence-based

Quality-driven

Shared accountability

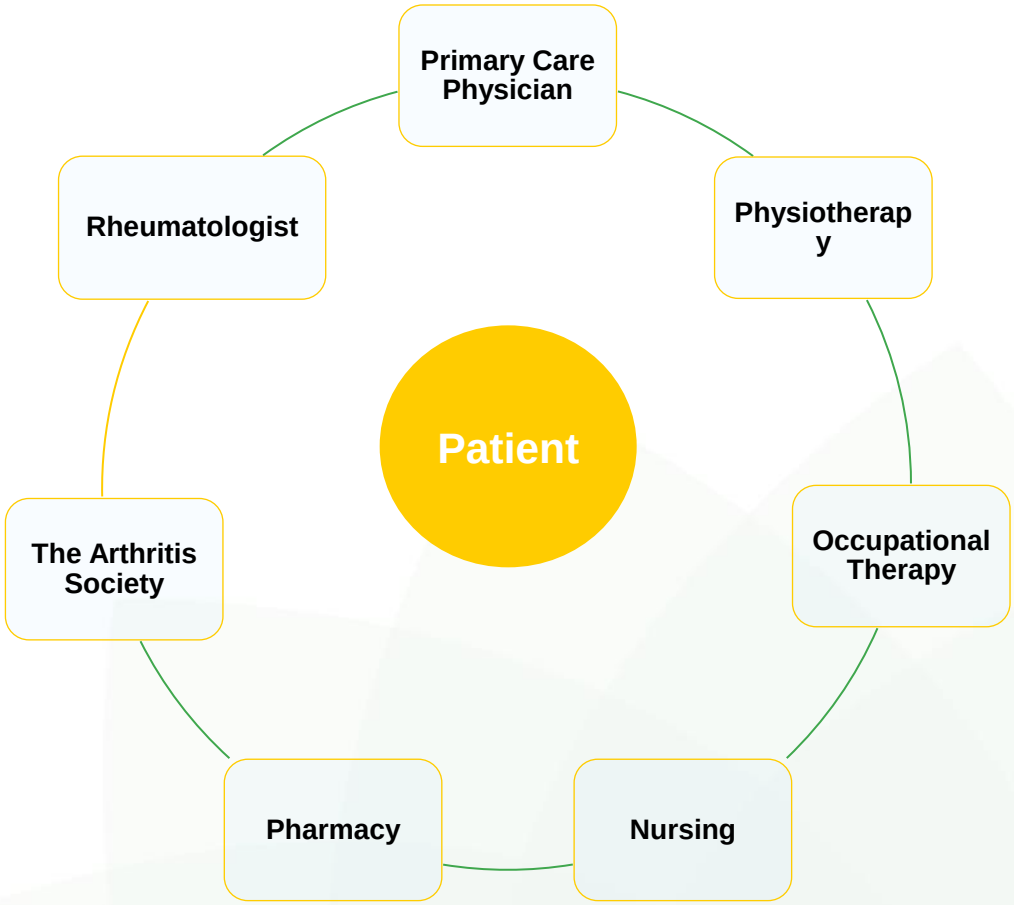
Optimal use of existing resources

Coordinated services

Outcome measurement

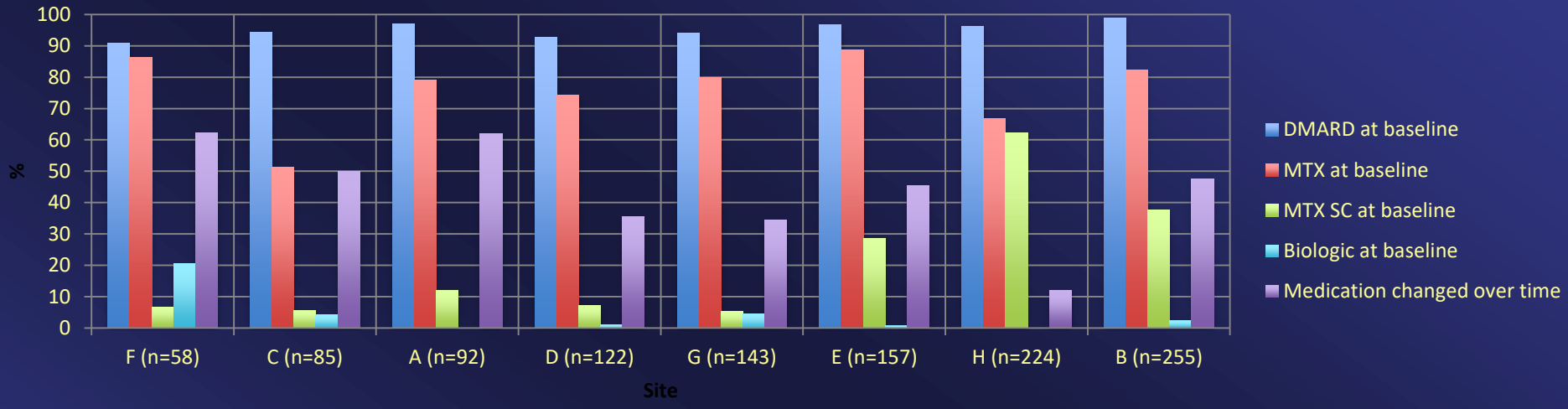
Better patient experiences

Value for Health Care Dollars

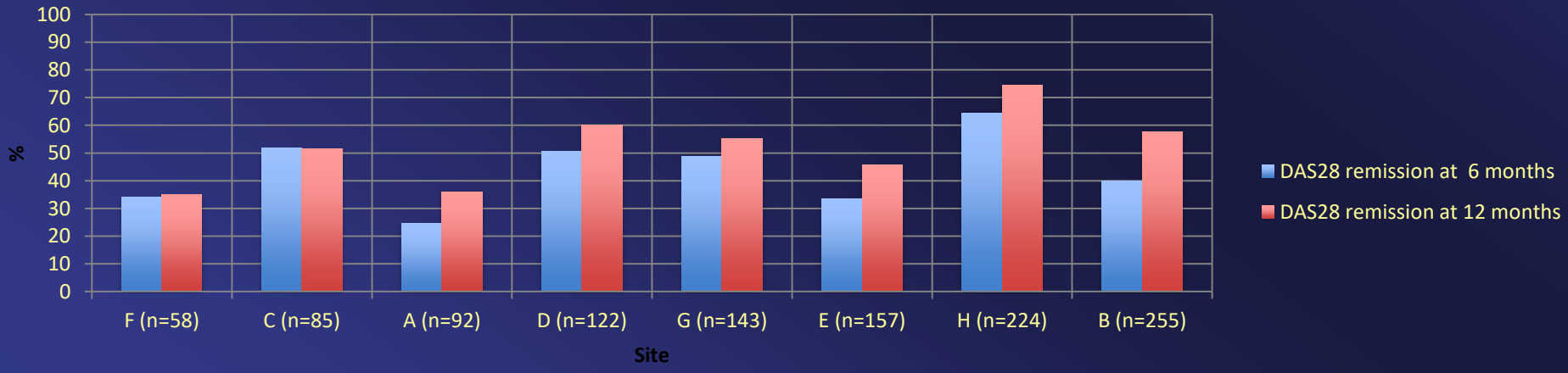


CATCH

Variation in Care: Prescribing Practices at Baseline



Variation in Patient Outcomes: Proportion of Patients in Remission at Followup



A pan-Canadian Approach to Inflammatory Arthritis Models of Care www.arthritisalliance.ca

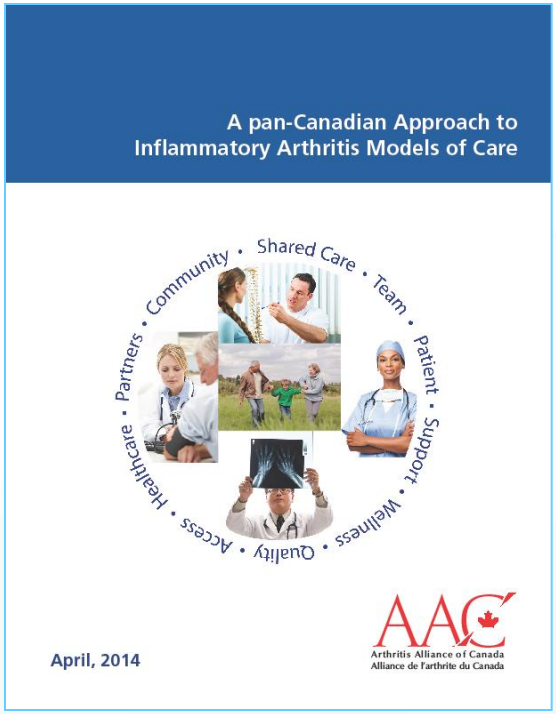
PURPOSE:

Establishment of a framework for the development of high quality models of care that are evidence informed & reinforced by best practices.

TARGET USERS:

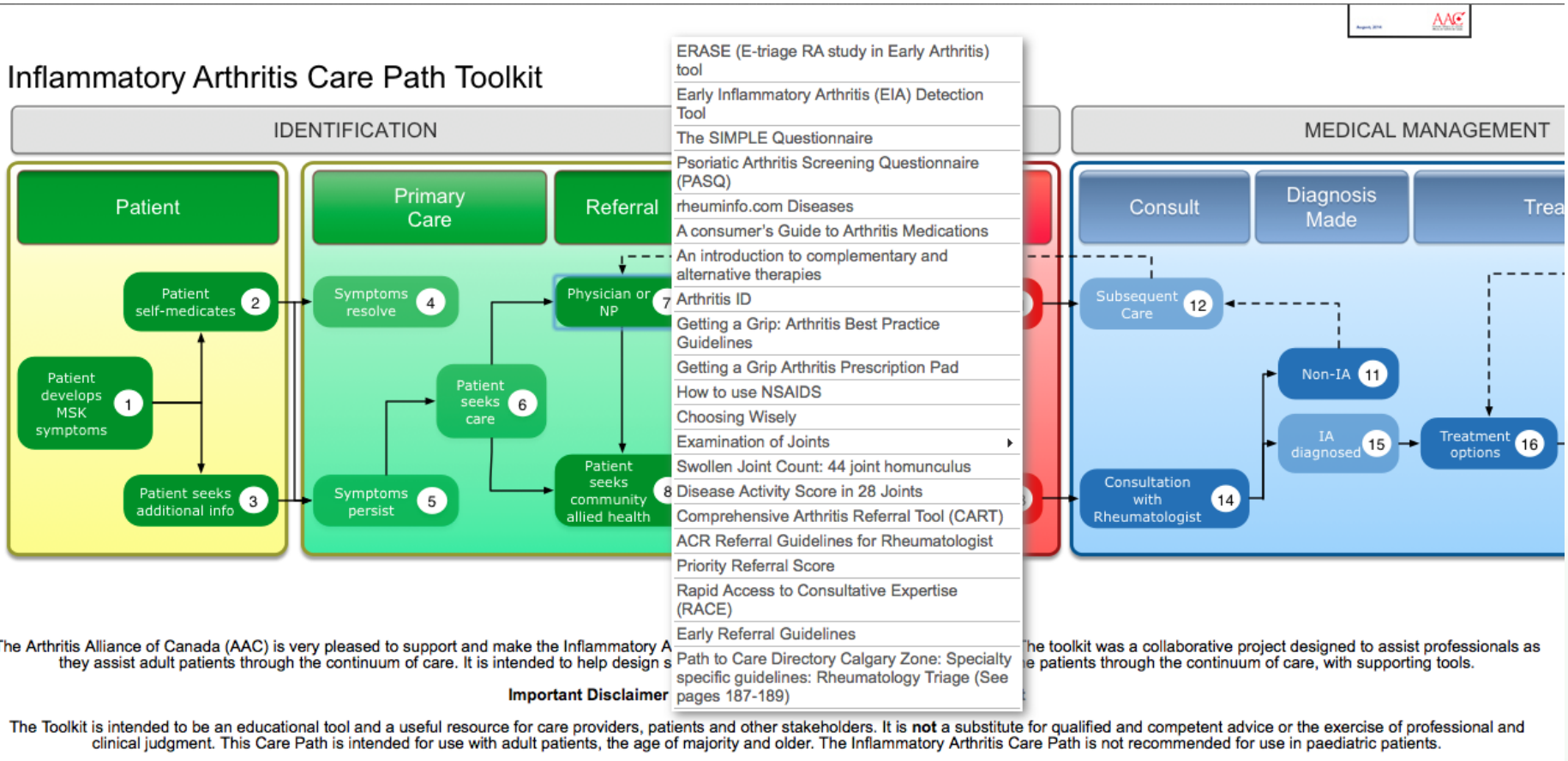
Health policy decision-makers and system planners; rheumatologists, allied health providers and other primary care providers; and, people living with arthritis.

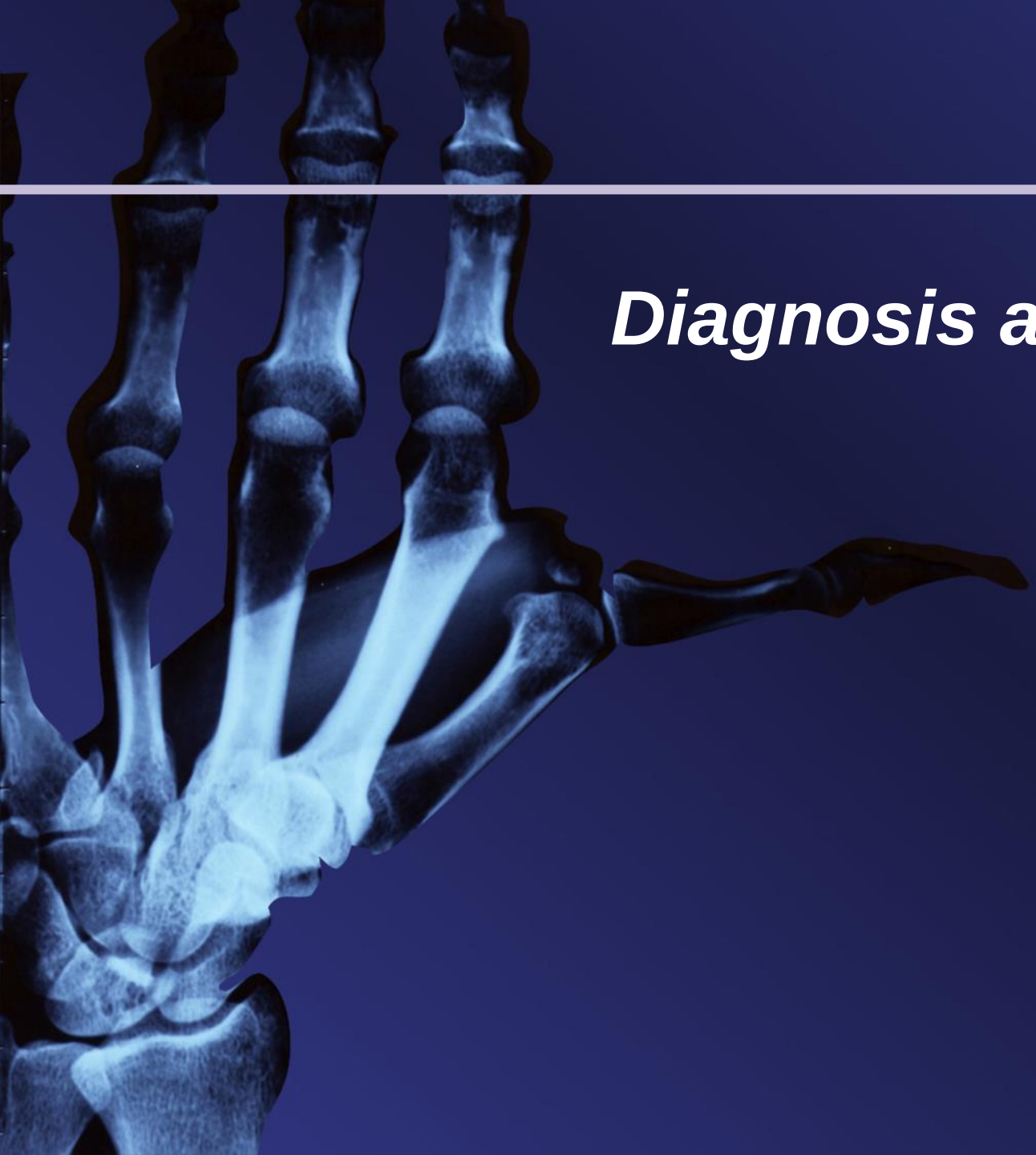
Report Web Launch April 2014: www.arthritisalliance.ca



IA Care Path and Toolkit- Web based version

www.arthritisalliance.ca





Diagnosis and Referral

Do you find it difficult to distinguish mechanical from inflammatory arthritis?

What questions would you ask your patients in order to make the distinction?

Let’s meet a patient with joint pain…

Ask the Right Questions to Distinguish Mechanical from Inflammatory Pain

Key questions:

- Where exactly does it hurt and for how long?
- When does it hurt most (i.e., with activity, at rest, both)?
- Do you suffer from morning stiffness lasting for more than 30 minutes?
- Is pain improved upon movement?
- Have you seen any swelling? Where?

Steering committee, personal communication, September 2014.

Ask some other questions

Key questions:

- Pain /10
- Function

Steering committee, personal communication, September 2014.

Discriminating Inflammatory from Non-inflammatory Joint Pain

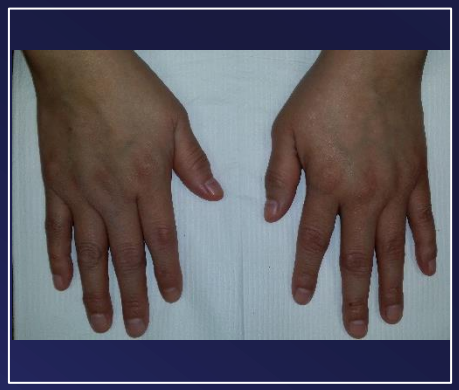
Use clues from the patient's history and exam to generate a differential diagnosis:

Feature	Inflammatory	Non-inflammatory
Joint pain	Usually improves with activity	Usually worsens with activity
Joint swelling	Soft tissue	Bony
Joint deformity	Common	Common
Local erythema	Sometimes	Absent
Local warmth	Frequent	Absent
Morning stiffness	> 30 minutes	< 30 minutes
Systemic symptoms	Common, especially fatigue	Absent

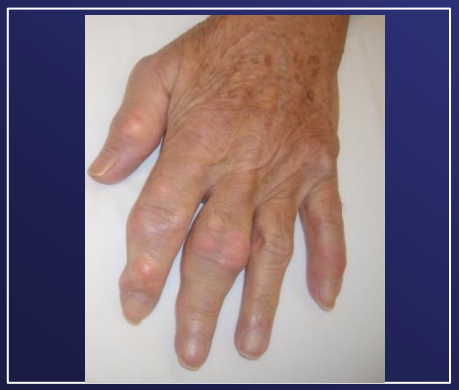
BC Ministry of Health: http://www.bcguidelines.ca/guideline_ra.html; Suresh E. *J Roy Soc Med* 2004;97:421-4.

Patterns of Joint Involvement

What does each of these images indicate? Why?

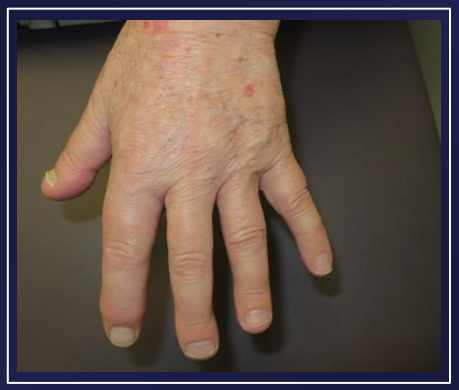


Early RA



Osteoarthritis

Late RA



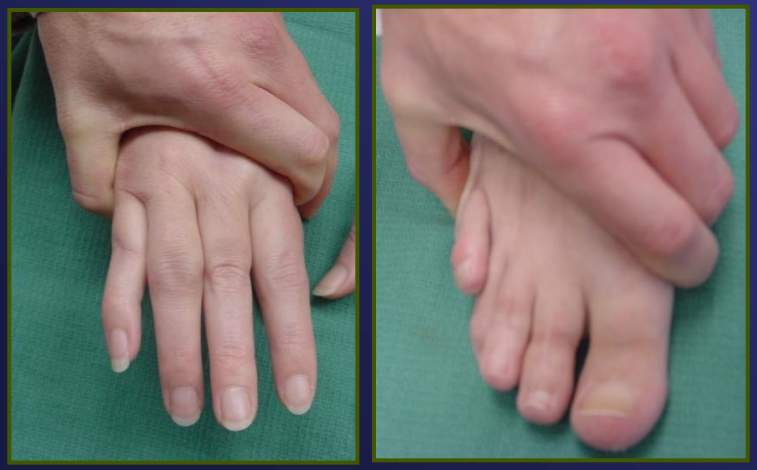
Psoriatic arthritis

Figures courtesy of Dr. H.L. Averns. Reprinted with permission.

Important Considerations in RA Assessment

*Clinical suspicion of RA is supported by the presence of **ANY** of the following*

- ≥ 3 swollen joints
- MTP/MCP involvement
  - Positive squeeze test
- Morning stiffness ≥ 30 mins



Squeeze test

Emery P et al. *Ann Rheum Dis* 2002;61:290-7.

Inflammatory Features Suggesting Diagnosis Other than RA

System	Feature
Skin	▪ Mucosal ulcers ▪ Photosensitivity ▪ Psoriasis ▪ Skin rashes
Eye	▪ Uveitis
Bowel	▪ Inflammatory bowel disease ▪ Infectious diarrhea
Other	▪ Raynaud's ▪ Urethritis – new sexual partners? ▪ Self-limiting post-viral symptoms

BC Ministry of Health: http://www.bcguidelines.ca/pdf/rheumatoid_arthritis.pdf; Suresh E. *J Roy Soc Med* 2004;97:421-24.

Diagnostic Laboratory and Imaging Tests

Recommended for initial evaluation of RA[1]

CRP	Often increased
ESR	Often increased to > 30 mm/hr
Hemoglobin/ hematocrit	May be decreased
Liver function	Normal or slightly elevated alkaline phosphatase
Platelets	Usually increased
WBC	May be increased – usually non contributory
Radiographic findings of involved joints	May be normal or show osteopenia or erosions near joint spaces in early disease

1. Adapted from Rindfleisch JA, Muller D. *Am Fam Phys* 2005;72(6):1037-47.

Time for a blood test quiz…….

Auto-antibodies: RF and Anti-CCP

	Sensitivity[1] (% of RA patients who are positive)	Specificity[1] (% of non-RA patients who are negative)
RF	~60-65%	~80%
Anti-CCP	~68%	~95%

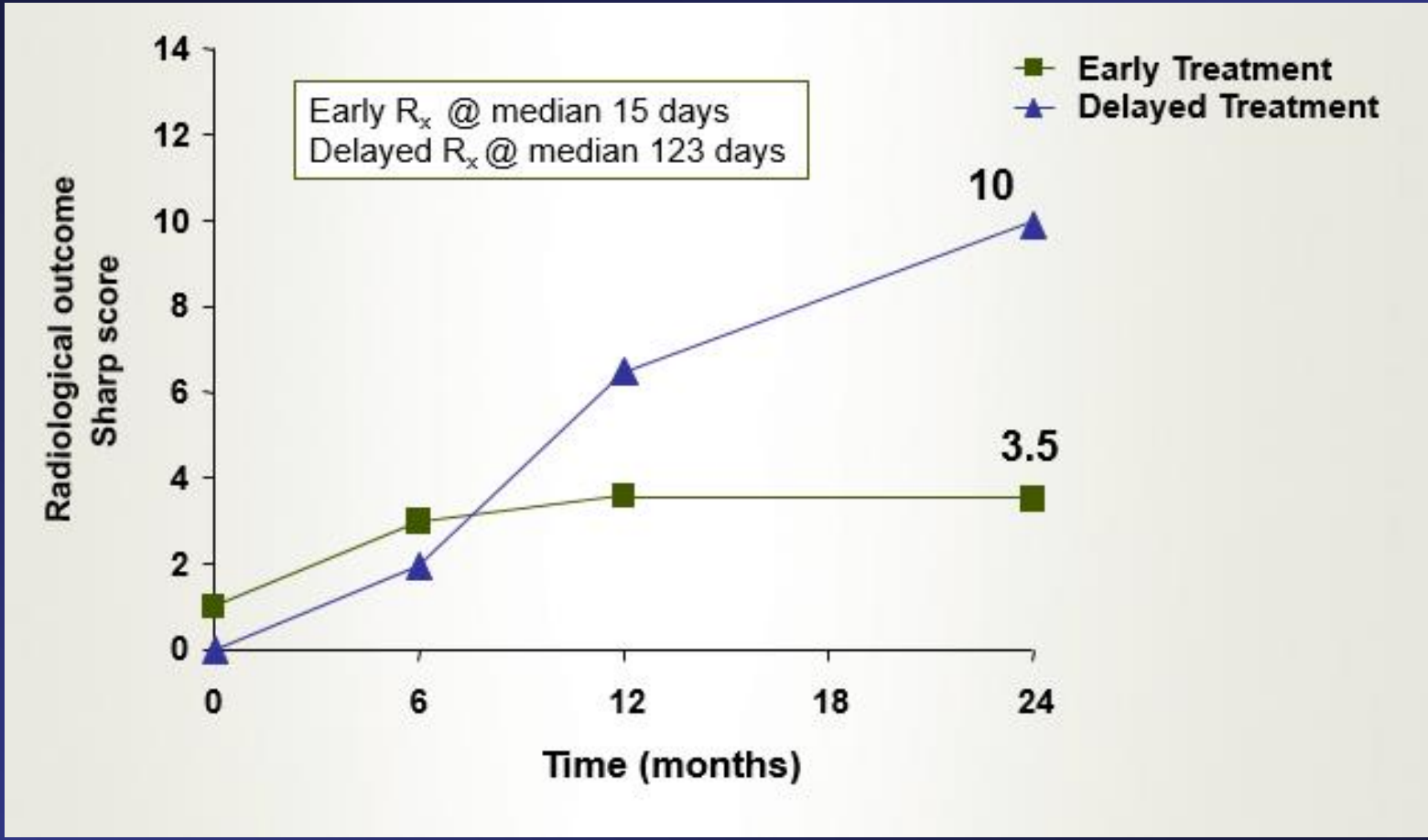
- Even when these tests are negative, the patient may still have RA[1]
- Anti-CCP is highly specific for RA, but may also be found in other types of inflammatory arthritis[2]
- Both RF and anti-CCP seropositivity are associated with more severe disease[2]

1. Avouac J, et al. *Ann Rheum Dis* 2006;65(7):845-51.
2. Demoruelle MK, Deane K. *Curr Rheumatol Rep* 2011;13:421-30.

When should a patient be referred to a rheumatologist?

Why is referral important?

Brief Delay of Therapy Affects Radiographic Outcomes



Lard LR, *et al*. *Am J Med* 2001; 111(6):446-51.

Important Considerations for Referral

- > 12 weeks delay in treatment results in a missed opportunity to improve long-term outcomes[1]
- RF positivity, raised acute phase response, and erosions on x-ray are associated with poor outcomes[1]
- Ongoing/untreated systemic inflammation is associated with increased comorbidities (cardiovascular disease, cancer) in patients with RA[2,3]

- Corticosteroids should generally be avoided without a confirmed diagnosis of RA[1]

1.Emery P et al. *Ann Rheum Dis* 2002;61:290-7; 2. Gabriel SE. *Ann Rheum Dis* 2008;67(Suppl 3):iii30-34;
3. Llorca J et al. *Semin Arthritis Rheum* 2007;37:31-8.

Referral Information Needed by Rheumatologist

- Reason for consultation
- Duration of symptoms
- Duration of morning stiffness
- Limitation of daily/work activities
- Involved joints
- Laboratory tests
  - RF
  - CRP
  - ESR

Canadian Rheumatology Association. http://rheum.ca/images/documents/Referral_Letter.pdf.

Therapeutic Management

Therapeutic Management – Learning Objectives

Following this section of the talk, participants should be able to:

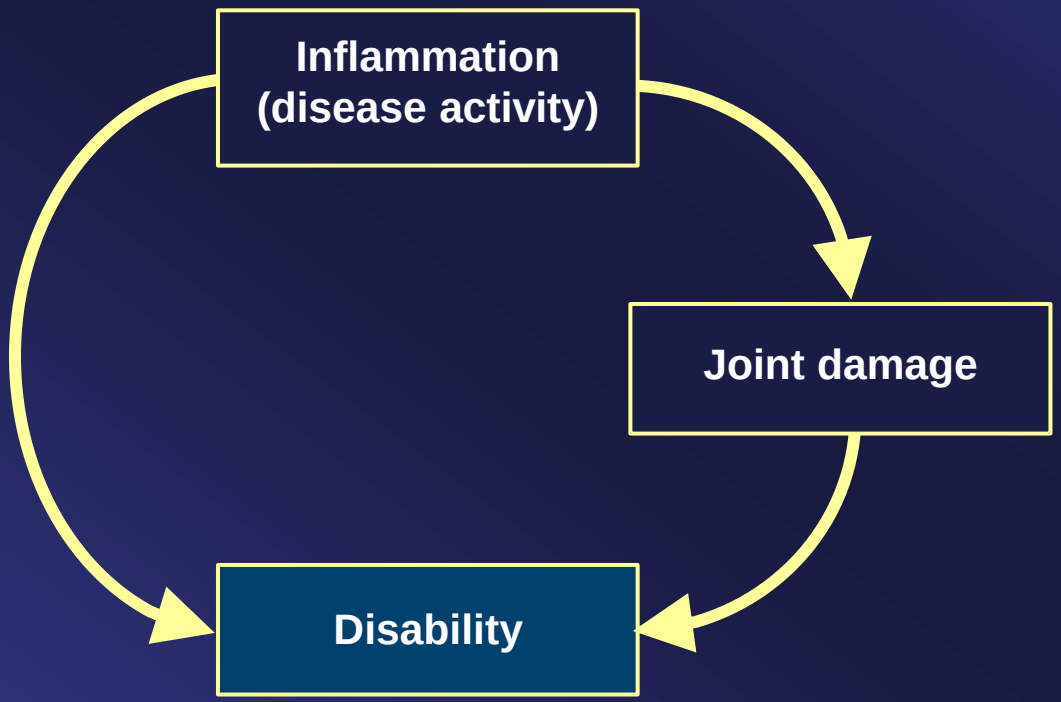
- Appreciate the fundamental concepts that guide RA treatment
- Specify the key components of the CRA RA treatment algorithm
- Evaluate appropriate usage of glucocorticoids
- Differentiate biologic and non-biologic DMARDS used to treat RA
- Describe common measures of disease activity

Your patient has significant joint involvement and you suspect RA; however, she is reluctant to see a rheumatologist.

What would you say to her?

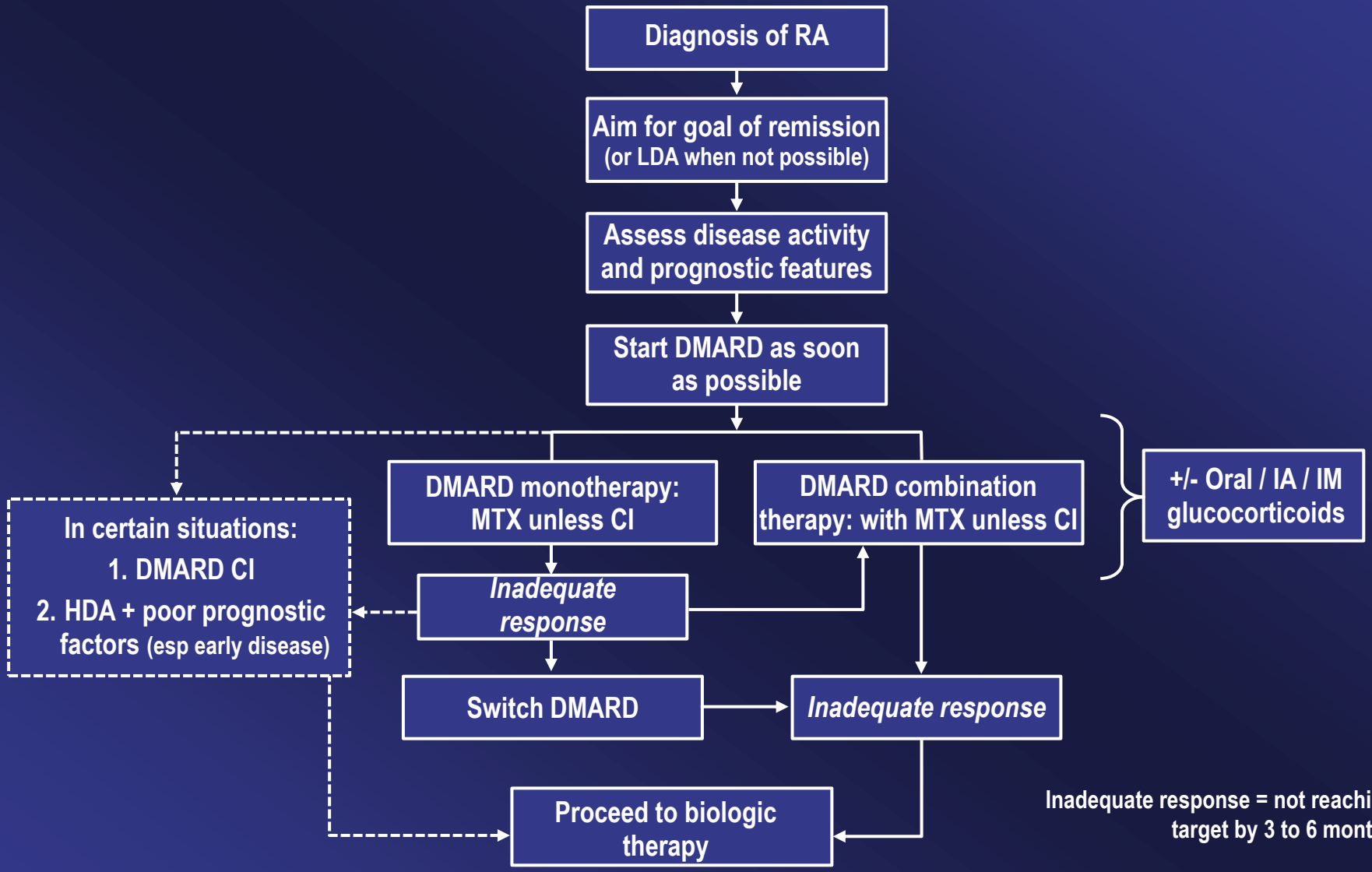
Management of RA: Fundamental Concept

Tight control of inflammation improves outcomes and requires structured protocols and regular review



Kiely PDW, et al. *Rheumatology* 2009;48:675-72; HLA Averns, personal communication, August 2009;
Figure reproduced from Smolen JS et al. *Ann Rheum Dis* 2009;68:159-62.

CRA Guidelines: Initial Treatment of RA



Inadequate response = not reaching target by 3 to 6 months

Adapted from Bykerk VP, et al. *J Rheumatol*. 2011;38:2095-104.

Non-biologic DMARDs

Most commonly used DMARDs

- Methotrexate
- Sulfasalazine (Salazopyrin®)
- Hydroxychloroquine (Plaquenil®)
- Leflunomide (Arava®)
- Tofacitinib (Xeljanz®)
- Gold (Myochrisine®)

Double and triple combinations regimens are also available

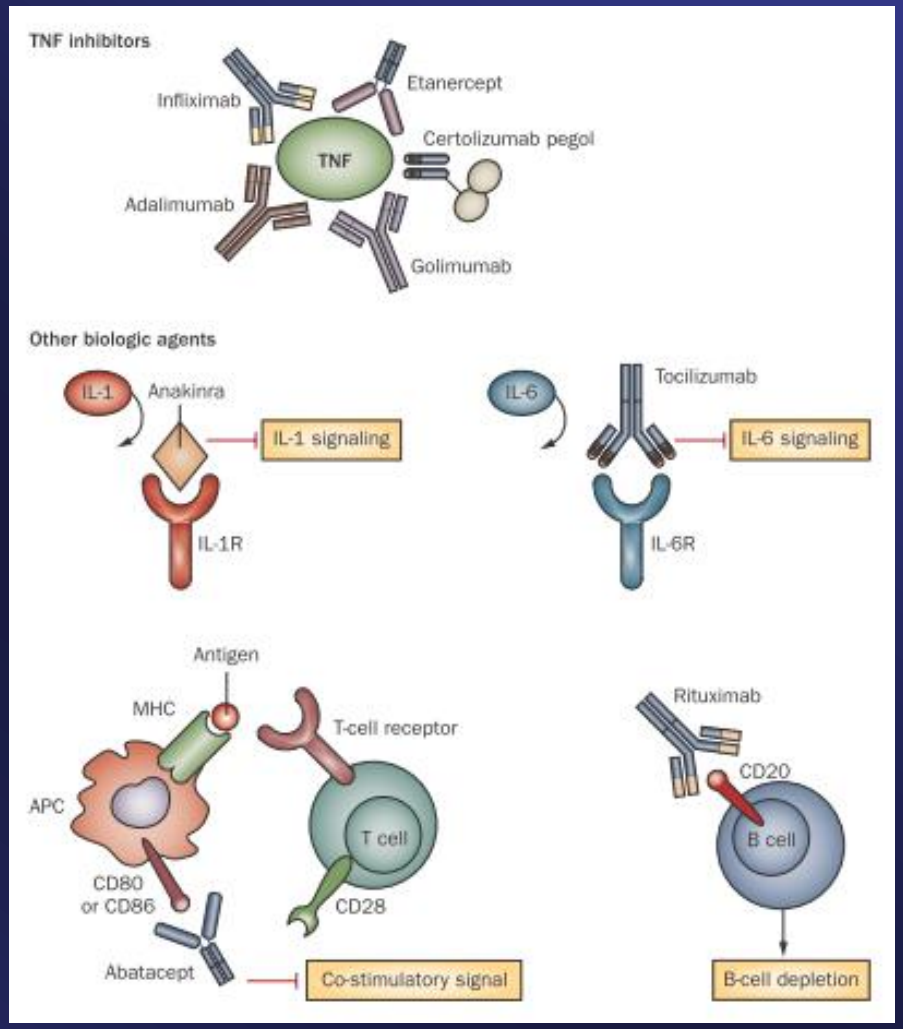
Roughly 2/3 of patients initially respond to non-biologic DMARD monotherapy (approximately 60% reduction in pain, swelling and stiffness)

Combination DMARDs may offer an advantage for some patients

Kiely PDW, et al. *Rheumatology* 2009;48:675-72; HLA Averns, personal communication, August 2009.

Biologic Agents Used in RA and their Mechanisms of Action

- Biologics are large, complex proteins grown through biological processes using living cells (from mice, humans, or microorganisms)
- They reduce inflammation by blocking key molecules involved in the pathogenesis of RA



Woodrick RS, Ruderman EM. *Nat Rev Rheumatol* 2011;7(11):639-52.

Biologic Options for RA

Mechanism of action	Name	Trade name	Administration	
			Route	Frequency*
Inhibits tumour necrosis factor	Adalimumab[1]	Humira	SC	Every other week
	Certolizumab pegol[1]	Cimzia	SC	Every 2 to 4 weeks
	Etanercept[1]	Enbrel	SC	1X or 2X/week
	Golimumab[1]	Simponi	SC	Once a month
	Golimumab[1]	Simponi IV	IV	Weeks 0 and 4, and every 8 weeks thereafter
	Infliximab[1,2]	Remicade Inflectra	IV	Every 8 weeks
Inhibits interleukin-6	Tocilizumab[2]	Actemra	IV	Every 4 weeks
			SC	Every other week (weight < 100 kg) Weekly (weight > 100 kg)
Inhibits interleukin-1	Anakinra	Kineret	SC	Daily
Inhibits T cell activation	Abatacept[1]	Orencia	IV	Every 4 weeks
			SC	Weekly
Depletes B cells	Rituximab[2]	Rituxan	IV	2 courses 2 weeks apart; can be repeated after ≥ 16 weeks

Full reference list provided in the slide notes.

*Maintenance frequency except for rituximab

Evaluating Disease Activity: Functional and Joint Assessments

What we do here….

1. Maska L et al. *Arthritis Care Res*. 2011;63:S4-S13; 2. Starz TW, et al. *J Musculoskel Med.* 2011;28:79-84; 3. Sokka T, Pincus T. *Clin Exp Rheumatol*. 2005;23:S58-S62.

Evaluating Disease Activity: Key Composite Disease Activity Measures

Measure (score range)	Assessments included	Scores for disease activity levels			
		High	Moderate	Low	Remission
CDAI (0 – 76)	TJC, SJC, PGA,* PhGA	>22	>10 – 22	>2.8 – 10	≤2.8
DAS28 (0 – 9.4)	TJC, SJC, ESR, PGA†	>5.1	>3.2 – 5.1	2.6 – 3.2	<2.6
SDAI (0.1 – 86)	TJC, SJC, PGA,* PhGA, CRP	>26	>11 – 26	>3.3 – 11	≤3.3

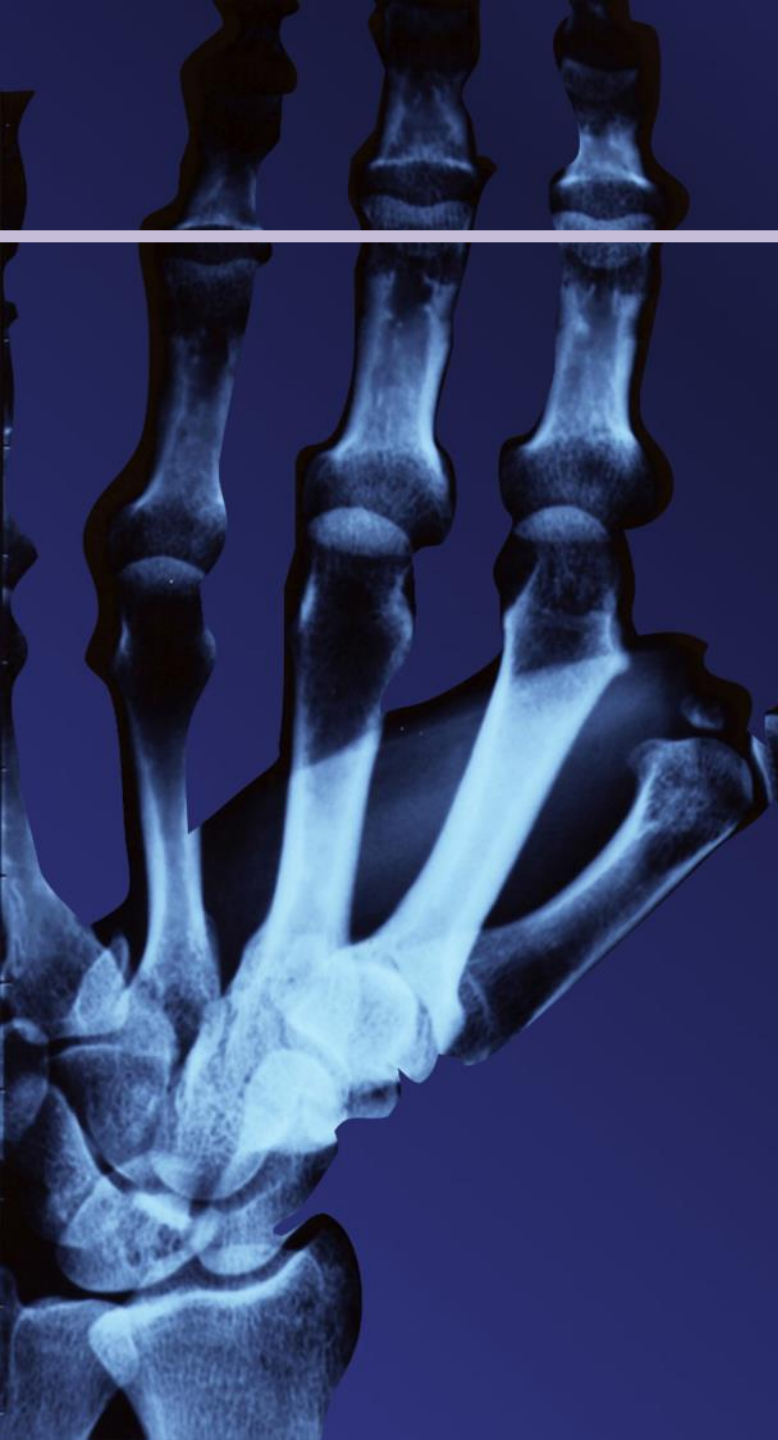
- The goal of treatment is remission

Adapted from Bykerk VP, et al. *J Rheumatol* 2011;38:2095-104.

*On a scale of 0 to 10 cm; †On a scale of 0 to 100 mm

Summary

- Minimizing cumulative inflammation has the potential to reduce or prevent joint damage and disability
- Once RA is confirmed, the CRA recommends starting DMARD therapy as early as possible
  - Several biologic and non-biologic DMARDs are currently available
  - DMARD therapy should be switched if response is inadequate
  - Glucocorticoids should be used sparingly and only under specific circumstances



The PCP's Role in Ongoing Management

We will discuss this next time!

The PCP's Role in Ongoing Management – Learning Objectives

Following this section of the talk, participants should be able to:

- List vaccinations required by RA patients before and during immunosuppressive therapy
- Recognize the importance of careful pregnancy planning and management in women with RA
- Manage infections in patients with RA on immunosuppressive therapy
- Assess the need for perioperative management of drug therapy in patients with RA

Non-biologic DMARDs

PRODUCT	Dose	Time to onset
Methotrexate (po or sc)	Up to 25 mg per week	4 to 6 weeks
Hydroxychloroquine	200 to 400 mg QD	4 to 12 weeks
Sulfasalazine	1 g BID to QID	5 to 10 weeks
Leflunomide	10 to 20 mg daily	4 to 12 weeks
Cyclosporine	2.5 to 5 mg/kg/d 2 intakes	6 to 12 weeks
Azathioprine	50 to 150 mg QD	6 to 12 weeks
Gold salts(i.m.)	25-50 mg q2-4 weeks	3 to 6 months
Tofacitinib	5 mg twice daily	2 to 12 weeks

Live Vaccines: Must Not be Given During Anti-TNFα Therapy

Live vaccines	Suggested alternative
Oral live polio vaccine (OPV)[a]	Inactivated polio vaccine (IPV)
Measles, mumps, rubella (MMR)[b]	
Yellow fever	
Live typhoid vaccine	Inactivated vaccine (but only 70% protective)
Chickenpox/shingles (Varicella)	
Bacillus Calmette-Guérin (BCG)	

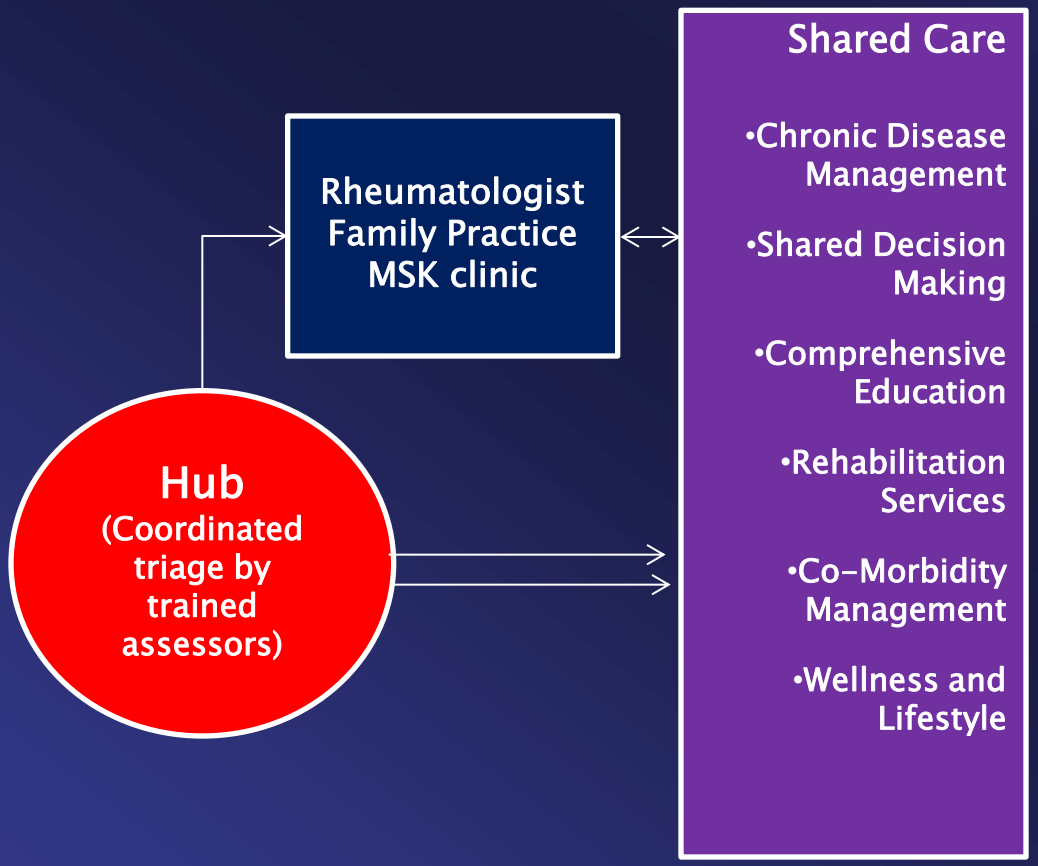
[a]Must not be given to patient OR household contacts
[b]Must not be given to patients; household contacts OK

If the patient is travelling to an endemic region, please consult your travel/ID expert for further management information

British Society for Rheumatology. *Vaccinations in the Immunocompromised Person: Guidelines for the Patient taking Immunosuppressants, Steroids and the New Biologic Therapies*. January 28, 2002; *Canadian Immunization Guide* (2014). Public Health Agency of Canada, Ottawa; van Assen S et al. *Ann Rheum* Dis 2011;70:414-22.

Step 4 Shared Care

Value Through Collaborative Care



Shared care – Stable patients

- Treat-to-target
- Monitoring
- Adherence
- Patient support
- Education

Multiple patient touch-points between specialist visits

Sharing of information between primary care, specialist and other providers

Care plan support, education, disease management tools

Cross-referral back to specialist as needed

MedsCheck

-
-
-
-

ble if needed

Standard template that patients can take to their pharmacists

Sunnybrook
HEALTH SCIENCES CENTRE

April 2015

Dr. Mary J Bell, Division of Rheumatology
M1-401 – 2075 Bayview Avenue
Toronto, ON, Canada
M4N 3M5 Tel 416.480.4580 Fax 416.480.4233

Dear Pharmacist:

I am kindly referring to your care, _____(patient name), who has been diagnosed with a chronic rheumatic disease and is on multiple medications.

I have discussed with _____(patient name) the importance of having a complete MedsCheck with a pharmacist. Please book my patient an appointment with you to receive a:

- ☐ MedsCheck Review
- ☐ MedsCheck Follow-up (subsequent to referral request)
- ☐ MedsCheck Annual Review

Once you have completed the MedsCheck, please **FAX (416 480-4233) back to me** the following information:

- Complete list of prescription medication filled or refilled in the past 3 months
- A copy of the "MedsCheck" encounter form
- Any additional information related to my patients medications

If you have any questions or would like to discuss any specific health related issues regarding my patient, I would welcome your call at 416 480-4580

I look forward to working collaboratively with you to ensure that our patients receive excellent care and the best health outcomes to manage their chronic rheumatic conditions

Thank you for your cooperation.
Yours very truly,

Mary J. Bell, M.D., FRCPC
ORA Ontario Rheumatology Association

Standard template that Rheumatologists can give to their patients about MedsCheck

Sunnybrook
HEALTH SCIENCES CENTRE

April 2015

Dr. Mary J Bell, Division of Rheumatology
M1-401 – 2075 Bayview Avenue
Toronto, ON, Canada
M4N 3M5 Tel 416.480.4580 Fax 416.480.4233

Dear _____(Patient/Name)

You have been diagnosed with a chronic rheumatic condition which may require you to take a number of different medications.

As part of your rheumatology care, I am referring you to book an appointment with your Pharmacist to provide you with a complete MedsCheck. The MedsCheck is a free consultation service provided by any community pharmacist in Ontario.

During your Medscheck appoint you will be able to review your prescriptions, any over-the-counter and alternative medications you are taking and how they may be interacting with each other. At the end of the private one-on-one interaction with the pharmacist, you will receive:

- A complete and accurate medication list (including over the counter medications, and vitamins)
- Medication adherence support for your medications
- Suggestions for managing adverse events that you may experience
- Support to help avoid and/or manage drug interactions you may experience

Upon completion of the MedsCheck session, your pharmacist will send me a follow up note. Together we will work collaboratively to ensure that you continue to receive excellent care and the best health outcomes to manage your chronic rheumatic condition.

Should you have any questions please do not hesitate to contact me at any time.
Yours very truly,

Mary J. Bell, M.D., FRCPC
ORA Ontario Rheumatology Association