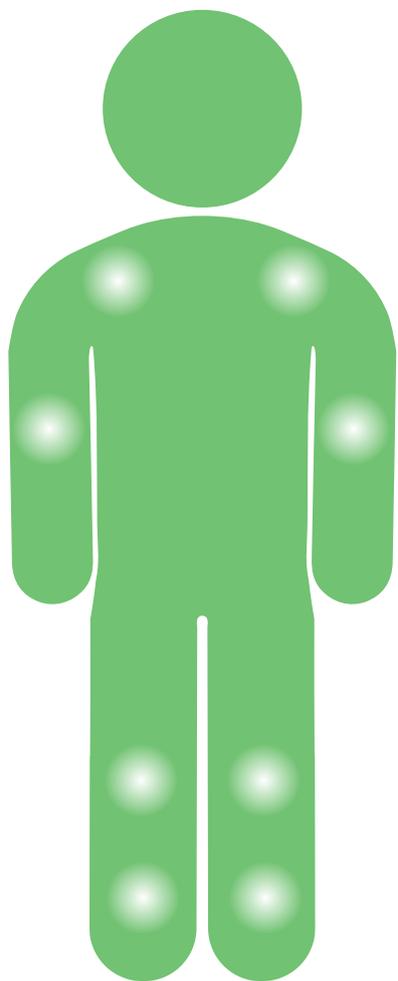


A Patient's Guide to **Treatments for Psoriatic Arthritis**



GRAPPA

GROUP FOR RESEARCH
AND ASSESSMENT OF PSORIASIS AND PSORIATIC ARTHRITIS

Who should read this guide?

This guide is aimed at people with psoriatic arthritis (abbreviated as PsA), or those who care for a person with this disease. Its purpose is to explain the most up-to-date recommendations and options available for the medical treatment of psoriatic arthritis.

The guide has been written by people with psoriatic arthritis. It is based upon the published 2015 edition of the GRAPPA Recommendations for Treating Psoriatic Arthritis amended by the minor updates of 2016 and 2017. GRAPPA (the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis) is a worldwide organization of over 500 rheumatologists, dermatologists, and patient research partners.

What is Psoriatic Arthritis?

Psoriatic arthritis is a disease that can exhibit very different signs and symptoms from one patient to another. Additionally, disease progression can vary greatly between patients.

The disease may be divided into six disease subtypes*:

- **Peripheral arthritis** (inflammation in the joints of the hands, wrists, elbows, shoulders, feet, ankles and knees)
- **Axial arthritis** (inflammation in the spine causing a stiff, painful back or neck)
- **Enthesitis** (inflammation at the point of attachment of a tendon that connects skeletal muscles to bone)
- **Dactylitis** (sausage-like swelling in the fingers or toes)
- **Skin disease** (psoriasis, usually plaque type but can be others)
- **Nail disease** (lifting, pitting, thickening, discoloured nails)

* Disease subtypes are also referred to as "domains".

Non-Joint Aspects

• Fatigue

• Skin Psoriasis (multiple sites on the body)

Dactylitis

Nail Psoriasis

Enthesitis

Joints Affected

Neck

Shoulders

Elbows

Base of Spine

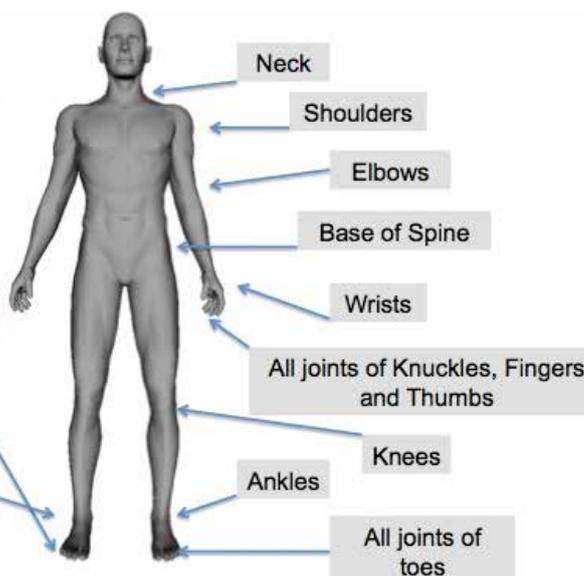
Wrists

All joints of Knuckles, Fingers and Thumbs

Knees

Ankles

All joints of toes



What are the goals of your treatment?

The GRAPPA recommendations define the goals of treatment as follows:

- To achieve the lowest possible level of disease activity in all the subtypes of the disease for the patient
- To help the patient retain (or regain) as much of his or her physical capabilities as possible, improve quality of life and well-being, and minimize joint damage to the greatest extent possible
- To avoid or minimize complications, whether from untreated active disease (joint damage) or from therapy (side-effects)



What should the patient assessment include?

GRAPPA's recommendations to doctors for patient assessment are as follows:

- a. All subtypes of the disease, namely peripheral arthritis, axial arthritis, enthesitis, dactylitis, psoriasis, and nail disease should be assessed.
- b. The impact of disease on pain, daily function, quality of life, and structural joint damage should be examined.
- c. A comprehensive assessment of relevant comorbidities including but not restricted to obesity, metabolic syndrome (a group of risk factors for heart disease, diabetes, and stroke), gout, diabetes, cardiovascular disease, liver disease, uveitis, inflammatory bowel disease, depression and anxiety should be undertaken and documented.

Note: Certain other diseases may occur more commonly in patients with psoriatic arthritis, though it is not clear whether psoriatic arthritis is the cause of this. Such diseases are called comorbidities.

- d. A comprehensive history and physical examination, often supplemented by laboratory tests and imaging techniques, e.g. x-ray, ultrasound, MRI (magnetic resonance imaging).
- e. Patients should be enabled to report regularly on the impact of their disease regarding pain, function, and quality of life.
- f. For some cases, patients will benefit substantially from having their care managed by a team comprising specialists from differing medical and healthcare areas.

Note: The most widely accepted measurement methods that have been proven for use in psoriatic arthritis should be utilized whenever possible.



The patient's therapy

GRAPPA's recommendations for patient therapy are as follows:

- a. Treatment decisions need to be tailored to the individual, and should be made jointly by the patient and their doctor. Treatment should reflect patient preferences, with the patients provided with the best information available and relevant options.

Treatment choices may be influenced by various factors, including how active the disease is, predicted outcome for the individual, joint damage, comorbidities, success or failure of any previous treatments, and whether the treatment is available locally.

- b. Patients should be evaluated promptly, offered regular re-evaluation by appropriate specialists, with treatments being modified, refined or changed as needed in order to achieve therapeutic goals.

- c. Many patients suffer from more than one of the disease subtypes and the choice of treatment should be considered carefully to ensure that it addresses as many of those disease subtypes as possible. For example, a patient with both moderate to severe peripheral arthritis and psoriasis who did not respond to methotrexate, might be recommended to use a TNFi (tumor necrosis factor inhibitor), since both of these disease subtypes often respond to a TNFi.

**Early diagnosis
and treatment
is likely to be
of benefit**

Within this consideration, it is likely that selection of therapy will be driven by the most severe element of a person's disease.

- d. Identifying comorbidities is critical to achieving the most appropriate management and treatment of psoriatic arthritis. Those comorbidities** that might impact treatment decisions should ideally be evaluated before starting treatments.

*** comorbidities: see page 3 point (c) for explanation.*

- e. Before starting any treatments that may affect normal immune response, it is strongly recommended that screening for tuberculosis, HIV, hepatitis B and C viruses be conducted in accordance with local guidelines and standards of medical practice.

What types of medicines are used to treat Psoriatic Arthritis?

A wide range of medication classes is used to treat psoriatic arthritis. This is at least in part due to psoriatic arthritis being such a diverse disease, having six distinct disease subtypes. Some medication classes are only applicable to a single subtype of psoriatic arthritis. Others may be applied to multiple subtypes.

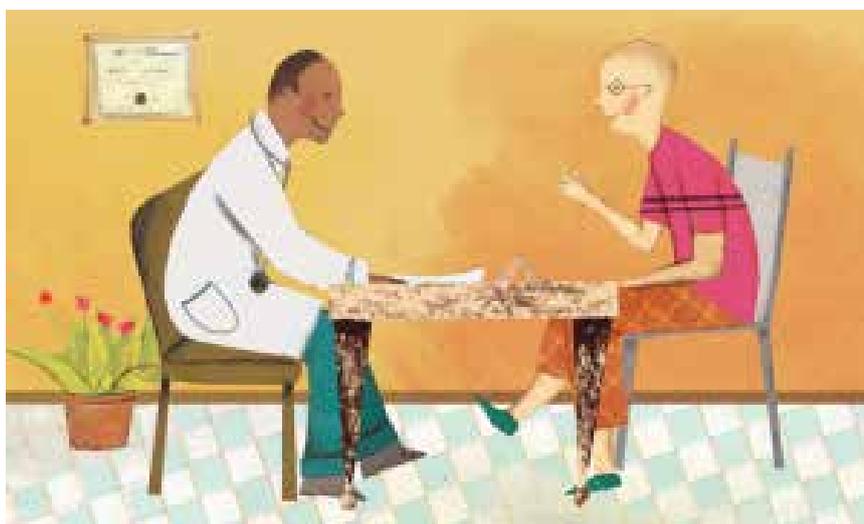
Table 1

Medication Class	Examples of Medications in Class	
NSAIDs – Nonsteroidal anti-inflammatory drugs.	Ibuprofen Naproxen	
DMARDs – Disease-modifying antirheumatic drugs. These are a class of drugs that, as well as treating the symptoms, also influence the disease process itself. There are two types: biologic and synthetic (synthetic are further divided into traditional and targeted).	Traditional: Methotrexate Cyclosporine Acitretin	Sulfasalazine Leflunomide
	Targeted: PDE4i (phosphodiesterase 4 inhibitor)	Apremilast (Otezla)
Biologics – A type of DMARD that are manufactured using components from biological sources. Currently there are three classes of biologic: TNFi, IL-17, IL-12/23. There may be a number of medications available in each class. Each class of biologic uses a different method to work, e.g. A TNFi works by blocking the actions of tumor necrosis factor, a substance made by cells of the body, which has an important role in promoting inflammation.	TNFi (tumor necrosis factor inhibitor)	Adalimumab (Humira) Certolizumab (Cimzia) Etanercept (Enbrel) Golimumab (Simponi) Infliximab (Remicade)
	IL-17 (interleukin 17 inhibitor)	Secukinumab (Cosentyx) Ixekizumab (Taltz) Brodalumab (Siliq)
	IL-12/23 (interleukin 12/23 inhibitor)	Ustekinumab (Stelara) Guselkumab (not yet approved at the time of release of this guide)
Corticosteroids – A class of drugs based on hormones formed in the adrenal gland. They are used to reduce inflammation.	Depomedrol injections Oral prednisone or prednisolone	
Topical treatments – Creams or ointments applied to the skin.	Moisturisers, steroids, vitamin D treatments, keratolytics	
Phototherapy – The use of special ultraviolet lamps to treat psoriasis.		

Which medicines are used for each subtype of the disease?

Table 1 explains the various medicines available to treat psoriatic arthritis overall. When it comes to the treatment of each individual patient, the doctor, with the patient's agreement, will usually start by addressing the disease subtype that is the most serious for the patient. When the patient suffers from more than one subtype of the disease, the doctor will try to select a treatment that also addresses the additional subtypes. While making these choices, the doctor may also need to take into account any other illnesses the patient has, or medications he or she may be taking, and whether co-morbidities are a factor.

The medications available to treat each subtype of the disease may usually be divided into two categories: those that are strongly recommended to treat



the disease subtype, and those that are conditionally recommended. There are a number of reasons why a medicine might be classed as conditional, for example it might be a new medicine that looks very promising, but

hasn't been through sufficient large-scale tests yet.

Sometimes, the initial treatment selected may not work sufficiently well for the patient. For some of these treatments that “fail”, there is often a recommendation available as to which treatment type should be tried next. Generally the doctor will start with the medication that is likely to work for the patient, is less likely to have side effects, and has a lower cost.

The treatment recommendations made by GRAPPA to doctors were only made after they have been proven by evidence from large studies of patients using the treatment. For the lesser number of cases where large-scale studies were not available, recommendations were based upon a consensus of expert opinion.

Why are the 2015 treatment recommendations important?

The GRAPPA Recommendations for Treating Psoriatic Arthritis (2015) were written after GRAPPA undertook a major review of all research that was based upon evidence from large scale studies of treatments for psoriatic arthritis. The review included all such research since its last major review in 2009 up to November 2015, and was published in early 2016 in the “Arthritis and Rheumatism” journal.

The objective of the GRAPPA Recommendations 2015 is to assist rheumatology and dermatology doctors by providing an up-to-date systematic guide for the treatment and management of adult patients with psoriatic arthritis that is based on the best up to date evidence available.



The 2015 recommendations take into account significant recent developments relating to psoriatic arthritis:

- a. We now understand much better how psoriatic arthritis may develop and progress. Doctors now understand much better the functioning of the body and its parts, and the physical and chemical factors and processes involved, that relate to psoriatic arthritis.
- b. There are better tools available now to assess disease activity and impact that allow doctors to better understand psoriatic arthritis.
- c. Doctors now understand that psoriatic arthritis may make some patients more vulnerable to developing certain other diseases.
- d. Several additional medicines have been approved for the treatment of psoriatic arthritis since the older 2009 recommendations. These are now included in these 2015 recommendations.

Additional therapies

This guide concentrates on what pharmaceutical treatments are available for psoriatic arthritis. There are other therapies of significant value that may complement the medical treatments and help the patient to manage his or her disease such as:

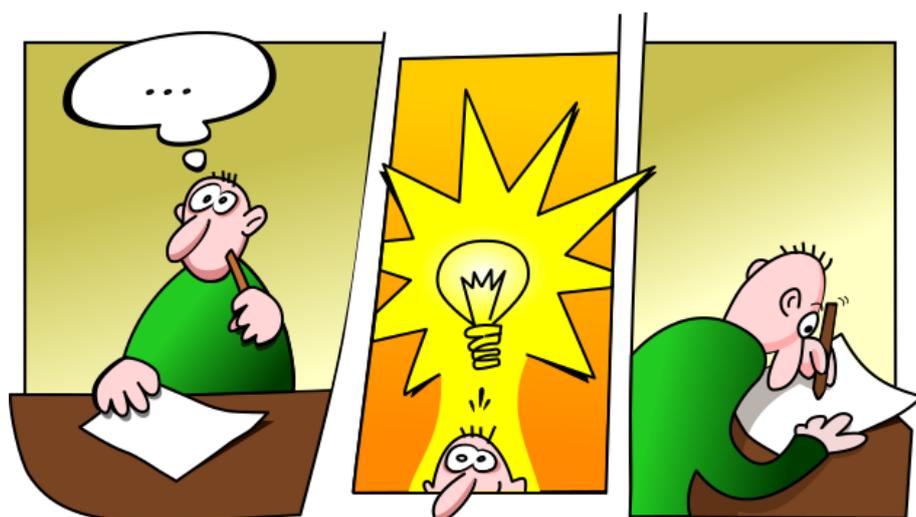
- **Physiotherapy**
- **Occupational therapy**
- **Self-management**
- **Life style, such as regular physical exercise, not smoking, healthy diet and weight control**



There are many resources (books, web sites, etc.) that deal with the above options and your doctor should also be able to provide guidance regarding these areas.

Future Developments

Tremendous advances have been made in the approach to Psoriatic Arthritis treatment since the 2009 recommendations. Indications are that such advances will continue into the future. Better methods are being developed



to measure how much change has been made in a patient's condition (over time) due to medical intervention. This is important both to monitor patient treatment, and for research.

There is significant potential to advance individualized patient

treatment if "biomarkers" linked to psoriatic arthritis can be identified. These biomarkers are molecules in the body that we may be able to use to assess the current state of your disease and to also predict its future state.

As we learn more about psoriatic arthritis, and as more medications become available, it enables the medical community to aim for higher standards of treatment. This should mean that patients suffer less pain from the disease, and that it impacts less upon their daily lives.

Further information

This guide can only give a brief overview of recent advances in the treatment of psoriatic arthritis. Your doctor should be willing to answer any questions you have. There is considerable additional information about Psoriatic Arthritis available on many excellent websites. To view links to a number of patient-focused sites with information on psoriatic arthritis, visit our website at www.grappanetwork.org/related-organizations.

We hope that this guide has been helpful to you, and wish you the best in managing your psoriatic arthritis.

From,

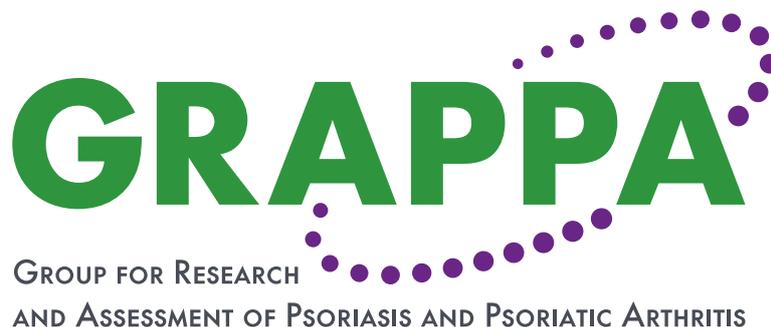
Denis O'Sullivan

On behalf of GRAPPA's team of Patient Research Partners.

Notes

<i>How to print this guide as a booklet.</i>	
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Group for Research and Assessment of Psoriasis and Psoriatic Arthritis

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GRAPPA Mission

GRAPPA (Group for Research and Assessment of Psoriasis and Psoriatic Arthritis) is organized exclusively for non-profit, educational, and scientific purposes, specifically to facilitate sharing of information related to psoriasis and psoriatic arthritis, networking among different medical disciplines that see psoriasis and psoriatic arthritis patients, and to enhance research, diagnosis and treatment of psoriasis and psoriatic arthritis.