Training on the modular approach on the assessment and management of psoriatic arthritis (PsA) for rheumatology units
Overview of PsA
Psoriatic arthritis (PsA) is a progressive disorder ranging from mild synovitis to severe progressive erosive arthropathy.

PsA is a complex condition that involves many body areas:
- Skin
- Fingernails and toenails
- Peripheral joints
- The axial skeleton (the spine, chest and sacroiliac joint)
- Entire digits (dactylitis)
- Entheses

The prevalence of psoriasis in the general population is estimated at 2–3%, with the prevalence of inflammatory arthritis in people with psoriasis estimated at up to 30%\(^1\)

At least 20% of people with psoriasis have severe psoriatic arthritis with progressive joint lesions\(^1\)
Many patients with PsA remain undiagnosed:

- A European study of 1,511 patients with plaque type psoriasis attending a dermatology appointment found that 20.6% had PsA; only 3% of patients had had the diagnosis of PsA established before the study\(^1\)

PsA can progress notably within the first 2 years of disease onset\(^2\)

Dual skin and joint involvement can have a negative impact on a patient’s quality of life\(^3\)

It is, therefore, critical to diagnose and commence treatment early

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Diagnosis

- Patients may present to either a dermatology or rheumatology clinic depending on their symptoms.

- To optimise best practice, all patients with psoriasis should be screened for PsA to help prevent irreversible joint damage.
PsA Assessment Academy
Objectives of Training

- To provide background information on PsA
- To explain the new modular approach on the assessment of PsA
- To ensure all practitioners are proficient in using the assessment tools
- To agree a standardised assessment protocol for each clinic
PsA Assessment Academy

A group of physician and nurse experts in rheumatology and dermatology met to discuss the assessment of PsA based on the available evidence:

- **Bruce Kirkham***, Consultant Rheumatologist, Guy’s Hospital, London
- **Philip Helliwell***, Consultant Rheumatologist/Senior Lecturer, Leeds University
- **Eleanor Korendowycz***, Consultant Rheumatologist, Royal National Hospital for Rheumatic Diseases, Bath
- **Kate Gadsby***, Rheumatology Consultant Nurse, AbbVie & Honorary Rheumatology Nurse Specialist, Royal Derby Hospital, Derbyshire
- **Liz Parrish***, Past Dermatology Lead Nurse/Matron, East Kent University Hospitals NHS Foundation Trust. Independent Nurse Consultant
- **Sue Oliver**, Past Chair RCN Rheumatology Forum and RCN Fellow. Independent Nurse Consultant

Additional *Outside In* Steering Committee members who have also contributed include:

- **Neil McHugh**, Consultant Rheumatologist, Royal National Hospital for Rheumatic Diseases, Bath
- **Pauline Ho**, Consultant Rheumatologist and Honorary Senior Lecturer, University of Manchester
- **William Tillett**, Consultant Rheumatologist, Royal National Hospital for Rheumatic Diseases, Bath

*Also Steering Committee Members*
Practical recommendations were put forward that could:

• Optimise initial assessment and monitoring of PsA by recommending a standardised approach to assessment
• Improve coordination between rheumatology and dermatology services
Aligning with existing guidelines

The recommendations were developed to build on and align with existing guidelines issued by the:

- British Society of Rheumatology (BSR)
- Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA)
- National Institute for Clinical Excellence (NICE)
- Scottish Intercollegiate Guidelines Network (SIGN)
A Modular Approach
A modular approach for PsA assessment in Rheumatology units was recommended that encourages sharing of knowledge and information, efficient use of time, and prompt referral and treatment of patients.

The approach details the recommended assessments of PsA at three levels: basic, intermediate and advanced.

Over time the components of the modular approach can be added to clinical practice.
Modular approach for PsA managed in rheumatology units

T2T PsA

Minimal Disease Activity (MDA) Assessment

A patient with PsA is in MDA when they meet 5/7 of the following criteria:
- Tender joint count (≤ 1)
- Swollen joint count (≤ 1)
- PASI (≤ 1) or BSA (≤ 3%)
- HAQ (≤ 0.5)
- Tender enthesal points (≤ 1)
- Patient pain VAS (≤ 15)
- Patient global activity VAS (≤ 20)

- Joint Count
- Patient Global Activity VAS*
- Patient Pain VAS*
- DLQI*
- HAQ*

* Patients can complete these prior to the clinic appointment

Standard (minimum) assessment
Intermediate assessment
Advanced assessment

Remember for psoriatic disease: Spine Nails GI tract Ocular Co-morbidities
Applying the modular approach to daily clinical practice

- Agree a **standardised approach** for each test in your clinic
- At an initial consultation it is recommended that patients receive the following:
  - Joint count
  - Patient global activity visual analogue scale (VAS)
  - Patient pain VAS
  - DLQI
  - HAQ
Rheumatology units

At a minimum rheumatology practitioners should be able to perform the – basic or ‘bronze’ level assessments:

- Joint count
- Patient pain VAS
- Patient Global Activity VAS
- DLQI
- HAQ

Over time practitioners can be trained in the additional components of the modular approach:

- 66/68 joint count
- Physician Global Assessment (0-5)
- Patient Global Assessment (0-5)
- Dactylitis
- Tender enthesal points
- PASI or BSA

Some of these assessments are available as videos on the CD-ROM and can be also found on the Outside In website: www.psoriatic-arthritis.co.uk/healthcare-professionals-psa.aspx
Basic assessments for rheumatology clinics
Joint count

- At a basic level, as a minimum, an overview assessment of the joints should be carried out.

- When assessing PsA patients the joints should always be assessed for swelling and tenderness.

- At an intermediate level the 66 swollen and 68 tender joint count should ideally be performed, as recommended by the British Society for Rheumatology (BSR)\(^1\).

Patient global activity visual analogue scale (VAS)

- The patient global activity VAS or patient global assessment of disease activity is a simple VAS which assesses the patient’s general health and the effect of their arthritis at that point in time.

- The VAS is scored by measuring from 0 to where the patient marks on the line.
The proposed definition of low disease activity is ≤2.0 (scale 0–10)\(^1\)

A Likert style score may also be used such as in the PsARC

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The patient pain VAS is a measurement of pain intensity and can be used to assess the presence or absence of arthritis-related pain and its severity¹.

The patient is asked to place a vertical line upon the VAS line at the point that represents their pain intensity, most commonly as experienced within the last 24 hours.

Dermatology Life Quality Index (DLQI)

- The **DLQI** is a quality of life (QoL) measure that can be used across **all skin diseases** and measures different aspects of psoriasis to the **PASI**.
- The DLQI consists of 10 simple questions relating to ways in which skin disease impairs lives.
- The DLQI is calculated by summing the score of each question. The higher the score, the more quality of life is impaired.
  - If the **DLQI >5** the patient should be referred to the dermatology clinic.
The HAQ is patient-oriented outcome assessment tool for measuring overall health status.

It is available as a short 2 page version and a full 5 page version.
- The most frequently used and cited version is the 2 page version which assesses the extent of a patient’s functional ability.

The HAQ is usually self-administered, but can also be asked by a trained receptionist or a healthcare professional in a clinical setting.

The 2-page HAQ contains the:¹

• HAQ Disability Index (HAQ-DI) – assessing a patient’s level of functional ability

• HAQ visual analogue (VAS) pain scale – assessing the presence or absence of arthritis related pain and its severity

• HAQ VAS patient global health scale – assessing overall quality of life

There are two disability indices that can be calculated from the HAQ-DI:

- The Standard HAQ-DI, the preferred method, which takes into account the use of aids/devices
- The Alternative Disability Index, which does not

For either indices the patient must have a score for at least six of the eight categories
Health Assessment Questionnaire (HAQ)

Please check the response which best describes your usual abilities OVER THE PAST WEEK:

**HYGIENE**
- Wash and dry your body?  
- Take a bath?  
- Get on and off the toilet?

**REACH**
- Reach and get down a 5-pound object (such as a bag of sugar) from just above your head?
- Bend down to pick up clothing from the floor?

**GRIP**
- Open car door?
- Open jars which have been previously opened?
- Turn faucets on and off?

**ACTIVITIES**
- Run errands and shop?
- Get in and out of a car?
- Do chores such as vacuuming or yardwork?

Please check any AIDS OR DEVICES that you usually use for any of these activities:
- Cane
- Walker
- Crutches
- Wheelchair
- Devices used for dressing (button hook, zipper pull, long-handled shoe horn, etc.)
- Built up or special utensils
- Special or built-up chair
- Other (Specify:________)

Please check any categories for which you usually need HELP FROM ANOTHER PERSON:
- Dressing and Grooming
- Eating
- Arising
- Walking

We are also interested in learning whether or not you are affected by pain because of your illness. How much pain have you had because of your illness IN THE PAST WEEK?

PLACE A VERTICAL MARK ON THE LINE TO INDICATE THE SEVERITY OF THE PAIN

Considering all the ways that your arthritis affects you, rate how you are doing on the following scale by placing a vertical mark on the line:

*Very Poor*  

*Very Well*
Intermediate assessments for rheumatology clinics
In order to assess and manage PsA, the **66/68 joint count** should be conducted and recorded on each patient at **every** clinic visit.

- **66 joints** are assessed for **swelling**
  - Hip joints are too deep to palpate so are only assessed for tenderness.

- **68 joints** are assessed for **tenderness**
The British Society for Rheumatology (BSR) recommends the use of a 66 swollen and 68 tender joint count.

In DAS 28 test, only joints represented by pale green dots are assessed.

In 66/68 joint count, joints represented by both pale and dark green dots are assessed.
All joints should be assessed separately for tenderness and swelling

Assessing joint tenderness:

- Press on the joint using the thumb and index
- A general guide to the amount of pressure required is press until it causes ‘whitening‘ of the examiner’s nail beds
- The joints are scored for tenderness on a 0-1 scale
  - 0 = no tenderness
  - 1 = tenderness

All joints should be assessed separately for tenderness and swelling

Assessing joint swelling:
- Joint swelling in inflammatory arthritis is typically soft and boggy and not hard or bony
- Fluctuation is a characteristic feature and joint swelling may influence the range of joint movement.
- The joints are scored for swelling on a 0-1 scale
  - 0 = no swelling
  - 1 = swelling

66/68 scoring sheet

Joint Count Scoring Sheet
Tender and swollen measurements

Patient number: ______

Global VAS Pain ___/10

Global PsARC Assessment

Tender Swollen (A-B) Tender Swollen (A-B) PGA PGA PGA PGA

Definition of the arthritis:

Response: Improvement in ≥ 2 of the 4 levels

Improvement is defined as a decrease ≥ 30% in the psoriatic joint scores and tender joint scores in either of the 4 levels.
Temporomandibular joint

- The line of the temporomandibular joint can easily be found by placing the tips of two fingers immediately in front of the tragus of the ear.
- As the patient opens their jaw, the mandibular condyle moves forwards and a depression can be felt.
Sternoclavicular joint (SCJ)

- To palpate the SCJ find the manubrial notch at the top of the sternum
- Move the fingers laterally to the medial end of the clavicle
- To check position ask the patient to shrug their shoulders upwards
Acromioclavicular joint

- Move the fingers laterally along the clavicle until where the end of the clavicle meets the acromion
- The position of the joint line can be checked by asking the patient to shrug their shoulders
- This is usually the site that the bra strap sits in women
Shoulder joint

- Examiner holds slightly flexed arm and place the 4 fingers in the anterior aspect of shoulder joint
- Ensure no pressure on other joints when moving the arm, e.g. holding the wrist or elbow when moving shoulder joint
- Passive abduction movement of patient’s shoulder through from zero to 50°. Observe carefully for swelling
- Note: If shoulder is damaged, pain is inevitable on excessive movement

Elbow joint

- Flex elbow between 70° and 80° (examine not on full flexion)
- Examine with both hands
- Place thumb between olecranon and lateral epicondyle
- Place index fingers in antecubital fossa
Wrist joint

- Examine extended wrist in neutral position
- Use both hands to examine with thumbs on dorsal surface of patient’s wrist and fingers on palmar surface of patient’s wrist
- Gently move wrist through 10° and 20° dorsiflexion and palmar flexion whilst exerting mild pressure from both examining hands

Use supporting hand to keep the patient’s hand extended with MCP joints flexed to about 50°

Examine each joint in turn with patient’s hand extended

Feel right and left posterior joint margins using both thumbs while the fingers are supporting patient’s hand
Proximal interphalangeal (PIP) joint

- Examine each joint in turn with patient’s hand extended
- Feel lateral and medial joint margins with examining hand using thumb and index finger (With index finger and thumb on each hand make a "C" shape)
- Position the other hand to exert pressure alternately on anterior and posterior aspect of joint using thumb and index finger (Forming another "C" shape)
Distal interphalangeal joints

- With index finger and thumb on each hand make a “C” shape
- Position one C anteriorly/posteriorly over the joint line and the other one laterally
- Then ‘ballot’ the joint by squeezing the fingers in turn over the joint line
- If there is an effusion within the joint you will feel the fluid moving below your fingers
The hip joint is too deep seated to palpate, hence 66 swollen versus 68 tender. Therefore only tenderness is assessed.

Tenderness of the hip is classified as pain on movement when flexing and rotating the hip.
Knee joint\textsuperscript{1}

Ideally patient should be assessed on a trolley; where this isn’t practical, and the patient is examined sitting in a chair, avoid raising the knee too high.

**Step 1:** Place thumb and index finger of examining hand along mid-points of medial and lateral tibio-femoral joint margins. This detects tenderness and swelling. With a large joint it may need both hands.

**Step 2:** Subsequently, use second hand to evacuate suprapatellar pouch while examining hand has thumb and middle finger along medial and lateral margins of patello-femoral joint and index finger or thumb superiorly on patella. This detects synovial effusion. If present, the joint is swollen.

\textsuperscript{1}EULAR Handbook of Clinical Assessments in Rheumatoid Arthritis, 2000. Van Zuiden Communications.
Ankle joint

- Place both index fingers on the medial and lateral malleoli and place both thumbs on the midline of the ankle joint.
- Ask the patient to plantar flex and dorsiflex the ankle to ensure you are on the joint line.
Mid tarsal

- From the ankle joint, move both thumbs down the midline of the foot to a point halfway between the ankle and the metatarsophalangeal joints.
- Palpate laterally from the midline with both thumbs for swelling and tenderness.
Metatarsophalangeal joints

- Palpate each metatarsophalangeal joint in turn, both for tenderness and swelling
- This is done by squeezing both thumbs on the plantar aspect and both thumbs on the dorsal aspect of the foot
Proximal interphalangeal joints of feet

- These are done in the same way as assessing distal interphalangeal joints of the hand.
- With index finger and thumb on each toe make a “C” shape.
- Position one C anteriorly/posteriorly over the joint line and the other one laterally.
- Then in turn squeeze the fingers over the joint line.
- Care should be taken when assessing proximal interphalangeal joints as there is less space between the toes.

Patient and physician global assessment

- The patient and physician global assessments are recommended at an intermediate level to assess the patient’s general health.

- The following questions are recommended for the patient and physician using a 0–5-point Likert scale:

  **Patient (PtGA)**
  
  “Considering all the ways your arthritis affects you, how are you feeling today?” (Patient)

  - 0: Very good, no symptoms, no limitations on normal activities
  - 1: Slight limitation in daily activities
  - 2: Moderate limitation
  - 3: Severe limitation
  - 4: Very poor, very severe symptoms which are intolerable, inability to carry out normal activities
  - 5: Very poor, very severe symptoms which are intolerable, inability to carry out normal activities

  **Physician (PGA)**
  
  “Considering all the ways the arthritis affects your patient, how is your patient feeling today?”
Advanced assessments for rheumatology clinics
Leeds Enthesitis Index (LEI)

- The LEI examines **tenderness** at six sites and scores 0-6 depending on severity:
  - 2 sites at each of the **lateral epicondyles of the humerus**
  - 2 sites at each medial **condyles of the femur**
  - 2 sites at each insertion of the **Achilles tendon**

- For **each** entheseseal site, **assessment is made of the adjacent joint** in terms of tenderness and soft-tissue swelling
Lateral epicondyle

- This examination is performed with the patient’s arm flexed at 90°
- The thumb is pressed on the lateral epicondyle with the fingers underneath for support
- Pressure, sufficient to blanch the nail is exerted and the enthesis examined for tenderness
Identify the medial joint line of the knee then move the thumb by about 2-3cm over the femoral condyle to feel for tenderness.

Pressure, sufficient to blanch the nail is exerted and the enthesis examined for tenderness.
Achilles tendon

- Place thumb over posterior aspect of the foot and move up from the calcaneus to feel for tenderness at the site where the Achilles tendon inserts into the calcaneus.

- Pressure, sufficient to blanch the nail is exerted and the enthesis examined for tenderness.
Tender dactylitis count

Dactylitis is the uniform swelling of a whole digit such that the joints cannot be identified. It is commonly known as a sausage finger or a sausage toe.

The tender dactylitis count is a simple count based on the presence or absence of tender joints.

- 20 digits are assessed as entire digits, looking for signs of tender dactylitis.
Tender dactylitis count

The joints of any digits with dactylitis are not scored separately for the purposes of the 66/68 joint count.

The hands and feet should be visually assessed side by side.

Dactylitis of the big toe (above)
Psoriasis Area Severity Index (PASI)

PASI is an index used to express the severity of psoriasis considering the following:

- Severity (erythema, induration and desquamation)
- Percentage of affected area

The body is assessed in four regions:

- Head and neck
- Arms
- Trunk (includes groin and axillae)
- Legs (includes buttocks)
Psoriasis Area Severity Index (PASI)

- Each is assigned a score to reflect extent of affected area, (0 = no skin affected, 6 = all skin affected)
- Severity of psoriasis is assessed with scores assigned to each of redness, thickness and scale (0= least severe, 4 = most severe)
- For each body section (head, arms, trunk and legs) specify:
  - The percentage of area of skin involved
  - The severity of three clinical signs (erythema, induration and desquamation) on a scale from 0 to 4 (from none to maximum)
Psoriasis Area Severity Index (PASI)

- The PASI is the main test used in the clinic to assess total body area affected by psoriasis.
- It can be used to monitor both the patient’s psoriasis and their disease progression and response to treatment over time.
- The test is used to help decide the most appropriate treatment.
Psoriasis Area Severity Index (PASI)

- If the rheumatology clinic is unable to do a PASI or if the DLQI >5 then the patient should be referred to the dermatology clinic.
- Nails should be visually assessed for pitting.
Psoriasis Area Severity Index (PASI)

Psoriasis Area Severity Index (PASI) is defined from skin assessment of the body in four regions: head and neck, arms, trunk, and legs (excluding groin and axillae) and palms. The assessment of the severity of the symptoms, erythema, scaling, and induration is performed separately for each region. The extent to which each of the four regions of the body is affected by psoriasis is also assessed.

**About PASI**

- **Extent score**: 0 to 5
- **Grade**: 0 to 5
- **Severity score**: 0 to 5
- **Scaling**: 0 to 5
- **Induration**: 0 to 5

**Plaque location**

Even minor psoriasis can have a serious impact on a patient if it’s in a visible area such as the face. This chart enables you to record the location of a patient’s plaques at each visit to accurately track their progress.

Reference:
Body surface area (BSA)

- The body surface area (BSA) is an estimation of the percentage of the body affected by psoriasis.
- The surface of palm plus five digits is generally assumed to be approximately equivalent to 1%\(^1\) allowing calculation of the BSA.
- It should be noted that the palm has been found to be slightly less than 1% in some studies\(^1,2\) and therefore, for the most accurate estimation, the patient’s hand should be used as a measure.

Additional tests
Additional tests

Over time practitioners can be trained in the additional components of the modular approach:

• Modified Schöbers test
• Cervical rotation

Assessments are available in the training manual or as videos on the CD-ROM and can also be found on the Outside In website: www.psoriatic-arthritis.co.uk/healthcare-professionals-psa.aspx
Modified Schöbers test

The modified Schöber test assesses the amount of lumbar flexion.

To perform this assessment:

- Mark the lumbosacral junction by locating the dimples of Venus and mark on each side and then mark a line between the two points.
- Measure upwards from this line 10cm (superior) and also below this line 5cm (inferior) and mark each point.
- Ask the patient to lean forward to touch their toes holding the tape measure close to the skin. As the patient flexes the spine as far as possible, measure and record the distance between the superior and inferior marks.
- A normal modified Schöbers is an increase of 5 cm or more between the two points.
Cervical rotation can be measured using a **goniometer**. To perform this assessment:

- With the patient seated, place the goniometer on the top of the patient’s head and **line up with the patient’s nose**
- Ask the patient to turn their head to the right. Move the arm of the goniometer and align the arm with the patient’s nose. Measure the angle of the goniometer
- Ask the patient to turn their head to the front, neutral position. Align the arms of the goniometer with the patient’s nose
- Ask the patient to turn their head to the left, move the arm of the goniometer to align with the patient’s nose and measure the angle of the goniometer
- Take the average of the two readings, **a normal cervical rotation is ≥70°**
Assessing treatment response
Psoriatic Arthritis Response Criteria (PsARC)

PsARC is used to assess **response to treatment** and is generally conducted after **12 weeks of treatment**\(^1,2,3\)

As part of the PsARC assessment, the patient’s general health is assessed by **both** the **patient and physician**

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**Global assessment: Recommended questions:**
As part of the PsARC assessment, the patient’s general health is assessed by both the patient and physician. Below are recommended questions for your patient and the physician using a 5-point Likert scale.

“Considering all the ways your arthritis affects you, how are you feeling today?” (Patient)

“Considering all the ways the arthritis affects your patient, how is your patient feeling today?” (Physician)

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1. NICE Technology appraisals TA199, August 2010.
2. NICE Technology appraisals TA220, August 2010.
Psoriatic Arthritis Response Criteria (PsARC)

An adequate response is defined as an improvement in at least two of the four PsARC criteria, (one of which has to be joint tenderness or swelling score) with no worsening in any of the four criteria

Improvement in at least 2 of 4 criteria, including:

- Physician global assessment (0-5)
- Patient global assessment (0-5)
- 66 Swollen joint score (≥ 30%)
- 68 Tender joint score (≥ 30%)
Psoriatic Arthritis Response Criteria (PsARC)

According to NICE guidance Anti-TNF treatment should be discontinued in people whose psoriatic arthritis has not shown an adequate response using the PsARC at 12 weeks.

An adequate response is defined as:

- An improvement in at least two of the four PsARC criteria, (one of which has to be joint tenderness or swelling score) with no worsening in any of the four criteria.

- People whose disease has a Psoriasis Area and Severity Index (PASI) 75 response at 12 weeks but whose PsARC response does not justify continuation of treatment should be assessed by a dermatologist to determine whether continuing treatment is appropriate on the basis of skin response.

1. NICE Technology appraisals.TA199, August 2010.
Minimal disease activity (MDA)

- The MDA incorporates the scores from assessments at all levels, and is the key disease activity target at the advanced assessment level; the equivalent ‘gold standard’ of outcome assessment.

- A patient is classified as achieving MDA when meeting 5 of the 7 following criteria:
  1. Tender joint count ≤ 1
  2. Swollen joint count ≤ 1
  3. Psoriasis Activity and Severity Index ≤ 1 or body surface area ≤ 3%
  4. Patient pain visual analogue score (VAS) ≤ 15
  5. Patient global disease activity VAS ≤ 20
  6. Health assessment questionnaire ≤ 0.5
  7. Tender enthesal points ≤ 1

Training materials
Training materials

A selection of training materials are available on the CD-ROM
Summary

- To optimise best practice all patients with psoriasis should be screened for PsA
- Agree a standardised approach for each test in your clinic
- The new Modular Approach suggests that a minimum:
  - Rheumatology clinics perform the joint count, patient global activity VAS*, patient pain VAS*, DLQI* and HAQ* for each patient regardless of size of the clinic

*Patients can complete these prior to the clinic appointment