THE BATH AS DISEASE ACTIVITY INDEX (BASDAI)

(Garrett et al, 1994)

The research team identified that no gold standard was available for measuring disease activity in AS. The authors acknowledged research, from the Royal National Hospital for the Rheumatic diseases, that identified fatigue as a major component of AS. It was therefore suggested that this should be incorporated into measures of disease activity. The BASDAI was subsequently developed. As with the functional index, the research team included major input from patients with AS, to enhance clinical relevance and disease specifity.

Like the BASFI, the BASDAI consists of 10cm visual analog scales used to answer 6 questions pertaining to the 5 major symptoms of AS:

- Fatigue
- Spinal pain
- Joint pain / swelling
- Areas of localized tenderness
- Morning stiffness.

To give each symptom equal weighting, the mean of the two scores relating to morning stiffness is taken. The resulting 0 to 50 score is divided by 5 to give a final 0 – 10 BASDAI score (refer to page 12).

When clinically tested, results showed:

1) BASDAI to be a quick and simple index (taking between 30 secs and 2 mins to complete)
2) BASDAI demonstrated statistically significant ($p<0.001$) reliability.
3) The individual symptoms and the index as a whole demonstrated good score distribution, using 95% of the scale.
4) Following a 3 week physiotherapy course, the BASDAI showed a significant ($p=0.009$) 16.4% score improvement, therefore demonstrating a sensitivity to change.

(Garrett et al, 1994).

By comparison, a previous disease activity index did demonstrate greater sensitivity to change (22.8% improvement being shown) (Garrett et al, 1994). However, the authors recognised that the previous index had a bias towards pain and included a scale measuring patient's sense of well being. It is felt that the BASDAI is superior in terms of symptoms considered and their weighting. This may be due to the input from patients with AS when the index was developed. The BASDAI was also found to be superior in all aspects to the Newcastle Enthesis index (Garrett et al, 1994).

Calin et al (1999) have further assessed the validity of the BASDAI. With a sample size of 473, a double-blind, placebo-controlled study of 6 weeks duration was conducted. Subjects were divided into two groups. One group received a placebo. The other group received an active NSAID. Disease activity was assessed with the BASDAI and by analysing a wide range of individual Symptom components. The authors concluded that BASDAI has excellent content validity.

The BASFI and BASDAI have also been translated into Swedish for use in Sweden. Cronstedt et al (1999) and Waldner et al (1999) have assessed the Swedish version of these two indices. In agreement with the studies at Bath, the Swedish versions of the BASFI and BASDAI proved to be reliable, valid, and sensitive to change following a course of inpatient therapy.

To conclude, the BASDAI is user friendly, highly reliable, reflects the entire spectrum of the disease, and is sensitive to clinical changes (Garrett et al, 1994).

The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)

a **If you are currently taking medication for your AS, please give the name and dose that is on the bottle/packet.**

b **Please mark on the line below to indicate the effectiveness of the medication in relieving your symptoms.**

NO EFFECT _____ VERY EFFECTIVE

Please draw a mark on each line below to indicate your level of ability with each of the following activities during the *past week*

SCORE/10

1 **How would you describe the overall level of fatigue/tiredness you have experienced?**

NONE _____ VERY SEVERE

2 **How would you describe the overall level of AS neck, back or hip pain you have had?**

NONE _____ VERY SEVERE

3 **How would you describe the overall level of pain/swelling in joints other than neck, back or hips you have had?**

NONE _____ VERY SEVERE

4 **How would you describe the overall level of discomfort you have had from any areas tender to touch or pressure?**

NONE _____ VERY SEVERE

5 **How would you describe the overall level of discomfort you have had from the time you wake up?**

NONE _____ VERY SEVERE

6 **How long does your morning stiffness last from the time you wake up?**

_____

0 ½ 1 1½ 2 or more hours

MEAN OF 5&6	
TOTAL OF 1 TO 4 ADDED TO MEAN OF 5&6 (TOTAL OUT OF 50)	
TOTAL / 5 (BASDAI SCORE)	

BASDAI Score Calculation

Score from all questions are calculated using a ruler. The mean measurement (score) of questions 5 and 6 is added to the scores from questions 1 to 4. This total is then divided by 5 to give the average. This is the BASDAI score. The higher the BASDAI score, the more severe the patients disability due to their AS.

Please Note:
When using visual analog scales of a set length (10cm in the case of the Bath Indices), great care must be taken in reproducing assessment paperwork as repeated photocopying, for example, may distort the length of the lines and therefore will affect the accuracy of the scoring.