

Experts' Beliefs on Physiotherapy for Patients with Ankylosing Spondylitis: Results of ASAS Questionnaire

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The ASAS questionnaire "Experts' Beliefs on Physiotherapy for Patients with Ankylosing Spondylitis" has been applied between December 15, 2003 and January 10, 2004. The following descriptions and preliminary definitions have been used.

Physiotherapy: Treatment guided by a physiotherapist primarily aiming at improving physical functioning. The physiotherapist may provide specific instructions and education. He or she can work with individual patients or with groups of patients and may act passively or actively ("hands on", e.g., massage). The physiotherapist can also apply particular physical modalities such as heat, cold, electrotherapy, or ultrasound.

Exercises: Active movements by the patient. Exercises may be used both preventively and therapeutically and aim at maintaining normal function or improving impaired physical function. Exercises can be done on their own by individuals or in groups that may or may not be supervised by a physiotherapist. Regular exercises may produce one or more of the following training effects: strength, strength-endurance, endurance (aerobic fitness), mobility, and coordination.

Physical therapy: This comprises *physiotherapy*, *exercises*, and application of physical modalities (heat, cold, electrotherapy, ultrasound).

Spa-therapy: (Out-of-town) application of *physical therapy* supplemented by local natural remedies (e.g., springs, baths).

Rehabilitation: This covers comprehensive multidisciplinary patient-oriented management of functioning with consideration of the condition, personal, and environmental factors with the goal to optimise the participation of the patient.

The request to participate in the ASAS questionnaire has been sent by e-mail to all 71 current ASAS members. Completion of the 28-item questionnaire was done through the ASAS website (www.asas-group.org). The number of responding ASAS members was 53 (response rate 73%). Altogether 94% of the responders regard themselves as expert in the field of clinical care for AS patients.

There is almost unanimous (86-92%) consensus on the efficacy of *physiotherapy* (widely defined) for patient with axial and peripheral joint manifestations of ankylosing spondylitis (AS).

Physiotherapy is considered to be indicated for both early AS [less than 2 years after diagnosis] (88%) and AS of longer duration [2 to 10 years] (94%). This implies that the clinical experts recommend that this non-pharmaceutical intervention should be made available for or should be prescribed to AS patients. This applies both to patients with (98%) and without limitation of spinal movements and normal posture (84%). However, there is considerable *uncertainty* about the efficacy of *physiotherapy* once the spine is completely ankylosed (47% favoring *physiotherapy*).

Also *daily exercises at home* are equally considered indicated for both early [less than 2 years after diagnosis] AS (90%) and AS of longer duration of disease (90%).

Most ASAS experts think that *physiotherapy* should be provided both to individual patients and to groups of AS patients (63%), whereas 23% favor *individual physiotherapy* and 10% *physiotherapy* at the *group* level. Therefore, apart from *physiotherapy* for *individual* patients whenever needed, there is strong support to apply *physiotherapy* to *groups*.

The following are considered important aims for *physiotherapy* in AS: relief of such symptoms as pain (67%) or stiffness (45%), improvement of spinal mobility (82%) and chest expansion (61%), maintenance of good posture (80%) or maintaining or improving physical functioning (92%), physical fitness (92%) or general well-being (92%).

Prevention of structural damage by reduction of syndesmophytosis is not expected (4%). The same low expectation applies to any influence on disease activity (only 4%). One may conclude from this that - in the opinion of the experts - the expectation regarding

maintaining "good posture" is uncoupled from development of spinal syndesmophytes, or to put it differently (and to be *discussed*) "patients who engage intensively in *physiotherapy* and patients who do not do so may have the same degree of ankylosis, but may differ considerably regarding their posture and associated spinal deformities such as increased thoracic kyphosis".

Interestingly, the following health economical advantages due to *physiotherapy* are frequently expected: reduced consumption of NSAIDs and less visits to physicians (57%) and reduction of sick leave (47%).

Improving (or maintaining) physical functioning is by far regarded as the *main target* for *physiotherapy* (53%), *daily exercises at home* (53%) and *Spa-therapy* (55%). Next best score "prevention of spinal deformities" by *physiotherapy* (29%) or *daily exercises at home* (18%), and "improvement in pain" by *Spa-therapy* (24%).

According to the experts individual *physiotherapy* for AS patients should include education and instruction (98%), exercises (100%), hydrotherapy (55%) and aerobics (57%), whereas there is no clear support for massage (18%), friction (2%), traction (4%), ultrasound (16%), or short wave electrotherapy (8%). *Group physiotherapy* should comprise education and instruction (98%), exercises (94%), hydrotherapy (53%), aerobics (61%), and sports such as volleyball (45%).

If current symptoms of AS require so NSAID therapy should be started or continued when *physiotherapy* is to be provided (92%). However, persisting symptoms of active disease such as pain and inflammatory stiffness should not be regarded as contraindication for *physiotherapy* in such patients (71%).

Clinical experts *differ* in their opinion as to the potential of NSAIDs to inhibit the development of syndesmophytes independent of any role in this respect of patients' compliance to *daily exercises at home*. Altogether 33% of the experts think NSAIDs may do so, whereas 37% answer "no" and 30% do not know. Although it might make biological sense that NSAID therapy may inhibit ossification, the degree of compliance to *daily exercises at home* could be a confounding factor, although only 4% of experts think that prevention of syndesmophytes is among the aims of *physiotherapy* for patients with AS. This point might be *discussed* further at the meeting.

A number of questions aimed at *assessing* the dissemination of knowledge from published literature in the field of *physiotherapy* among the clinical members of the "ASsessment in Ankylosing Spondylitis international working group"(ASAS). High-level evidence (Cochrane reviews or publications of one or more randomized controlled clinical trials) favoring efficacy of *physiotherapy* was considered available by 33% of the experts, whereas 43% replied "no" and 24% did not know. In fact, there is a Cochrane review entitled: Dagfinrud H, Hagen K. *Physiotherapy* interventions for Ankylosing Spondylitis (Cochrane Review). In: *The Cochrane Library*. Issue 4, 2001. Oxford. Update Software. The same high-level evidence favoring efficacy of *daily exercises at home* was considered available by 16% of the experts, whereas 49% replied "no" and 35% did not know. The Cochrane review includes the study from Kraag (1990) comparing a home program of therapeutic exercises and disease education with no intervention at all. There was significant improvement in spinal mobility assessed as finger-to-floor distance and physical functioning (23% improvement) favoring the home exercise program. (Kraag G, et al. J Rheumatol 1990;17:228-233).

High-level evidence favoring efficacy of *exercises in groups* was considered available by 51% of the experts, whereas 27% replied "no" and 22% did not know. The Cochrane review includes the study of Hidding (1993) comparing weekly *group physical therapy* with *daily exercises at home* and reports a small (7%) increase in spinal mobility and a 5% increase in physical fitness together with a substantial improvement (28%) in perceived global health of the weekly *group physical therapy* sessions over and above the home program. (Hidding A, et al. Arthritis Care Res 1993;6:117-125).

High-level evidence favoring efficacy of *Spa-therapy* was considered available by 37% of the experts, whereas 39% replied "no" and 24% did not know. A recent randomized controlled trial has shown that a 3-week course of combined *Spa-exercise therapy*, in addition to drug treatment and weekly *group physical therapy* alone provides beneficial effects regarding a pooled index of improvement, but also on instruments such as a

functional index (BASFI), global well-being, and assessments of improvement of pain and morning stiffness. The beneficial effects due to combined *Spa-exercise therapy* may last for at least 40 weeks. (van Tubergen A, et al. *Arthritis Rheum / Arthritis Care Res* 2001;45:430-438. www.spa-therapy.info).

Finally, excluding the costs of the intervention 39% of the experts reported that *Spa-therapy* might reduce such health care costs as usage of NSAIDs, physician visits and ability to work or sick leave, whereas 26% said "no" and 35% did not know. It has now been shown that these economical effects due to combined *Spa-exercise therapy* may indeed occur. Combined *Spa-exercise therapy* besides standard treatment with drugs and weekly *group physical therapy* is more effective and shows favorable cost-effectiveness and cost-utility ratios when compared with standard treatment for AS patients alone. (van Tubergen A, et al. *Arthritis Rheum / Arthritis Care Res* 2002;47:459-467. www.spa-therapy.info).

At the ASAS meeting in Bethesda, January 16, 2004 - after appropriate discussion that - among other things - might include such issues as (i) *physiotherapy* and the ankylosed spine, (ii) correlations between *exercises*, good posture and syndesmophytes, and (iii) correlations between development of syndesmophytes, NSAIDs usage and patients' compliance with regular *exercises* - it should be decided:

- (1) Which results of this consensus workshop could already to be announced as "official ASAS recommendations" (based upon experts' opinion and - if applicable - available evidence),
- (2) What additional research is needed to further increase the validity of the recommendations and how this can be accomplished,
- (3) How the gap between perceived available evidence and published evidence can best be narrowed.