trial in patients with severe pain and limitations in daily activities, but controlled trials will certainly help to establish the effectiveness and cost effectiveness of physiotherapy and injections in patients with mild to moderate shoulder pain. Future trials may also evaluate the effectiveness of combined treatment (injections plus physiotherapy).

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Exercise in juvenile idiopathic arthritis: promise or passé

We were interested in the recently published article in the *Annals* by Takken *et al*.[1] Notwithstanding their substantial work, we have a few comments pertaining to the exercise regimens in children with juvenile idiopathic arthritis (JIA).

Firstly, we did not see any information about whether the patients had ever been following an exercise protocol before they were included in the study and also whether they were prescribed a protocol afterwards. Information about these two points is important for an interpretation of the patients' results and for providing evidence about the practical implications of the study.

Secondly, when mentioning the diminished loadbearing capacity of these subjects owing to their inflammatory disease and the immune suppressive drugs, they drew attention to a study in which weightbearing exercises were shown to improve the aerobic endurance of such patients.[2] At this point, it is noteworthy to add that the myopathic effects of corticosteroids should also be remembered when exercise is prescribed. It is known that eccentric muscle contractions in normal subjects are responsible for a much greater efflux of muscle enzymes into the circulation than is caused by concentric contractions, and are associated with ultrastructural indications of damage to the muscle.[3 4] Thus in patients with JIA—where steroid use is prevalent—concentric types of exercise should preferably be prescribed. These may include simply walking, cycling, or running. However, the list of sports which can be played is endless and there is an excess of activities these—otherwise sedentary—children can be encouraged to take part in to obtain exercise.[5] In this way not only will there be an increase in their aerobic capacities but also they will encounter fewer disabilities related to muscle anaerobiosis—much more common in children who use much more energy than adults during daily activities.

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Authors' reply

We would sincerely like to thank Özçakar and Özçakar for their response.

Firstly, the patients studied did not actively participate in endurance sports activities at the time of measurement. However, some of the patients had taken part in some sports activities in the period before the disease onset, but not in the six months before our study was performed. It is known from the literature that there is a rapid diminution in fitness once training stops.[1]

We did not prescribe exercises based on the current findings. The Caltrac is a portable electronic activity monitor that measures movements in the vertical plane. It sums and integrates the absolute value of the acceleration versus time curve and derives a numerical count that is displayed on the monitor. There are no normal values for this instrument. The described data were baseline data from a randomised controlled trial for the effectiveness of aquatic exercise therapy.[2] Secondly, we did not discuss the effects of corticosteroid treatment on aerobic fitness, because only a small minority of our patients (four) had systemic juvenile idiopathic arthritis (JIA), in which steroids are the preferred treatment. In other JIA subgroups, non-steroidal anti-inflammatory drugs and methotrexate are the common treatment in our country nowadays. A discussion on the effects of drugs and inflammation on exercise capacity can be found elsewhere.[3 4]

We could not comment on the paper cited by the authors because it had not yet been published when we wrote this letter. Furthermore, we would like to add that JIA and juvenile dermatomyositis (JDM) are distinct diseases and that the exercise capacities of these patients do differ significantly, with patients with JDM being more affected than patients with JIA.[5] Therefore, the exercise prescription for patients with JIA and JDM should be different, and adapted to the individual patients needs and capacity.

Moreover, we are not aware of studies showing an anaerobiosis in muscles of patients with JIA during activities of daily living.

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Progressive multifocal leucoencephalopathy and immunosuppression

We report an immunocompromised patient with progressive multifocal leucoencephalopathy (PML), who demonstrates the usefulness and limitation of the algorithm of Warnatz *et al*[1] for investigation of patients with pre-existing autoimmune diseases and new onset neuropsychiatric abnormalities. A prerequisite for the use of this algorithm requires a high degree of awareness for infection to prevent misclassification of the underlying problem.

This 61 year old white woman had had dermatomyositis since 1996 as manifest by Gottron's papules, heliotrope rash, proximal muscle weakness, and antinuclear antibody (ANA) titre 1/1280 speckled pattern. Previous management included azathioprine, methotrexate, hydroxychloroquine, and intravenous immunoglobulin; the disease was controlled for the previous 20 months while receiving cyclophosphamide 100 mg and prednisone 5 mg daily.

One week before admission the patient developed dizziness, weakness, and left sided hearing loss. Meclizine was prescribed for possible Ménière's disease. Facial weakness and dysarthria developed. A physical examination showed left sided hearing loss, left facial droop, left hemiparesis with concomitant graphaesthesia, and impaired stereognosis; left patella hyperreflexia was also present. Magnetic resonance imaging (MRI) of the brain was performed at an outlying facility and was felt to demonstrate a subacute infarct. There was increased signal intensity in the right posterior temporal lobe measuring 4 cm in diameter without mass effect or haemorrhage, and an additional temporoparietal lesion. Punctate areas of increased signal were seen in the mid-portion of the pons (fig 1A). She was admitted for further evaluation of stroke. Laboratory data included normal complete blood counts,