Aims
Several models addressing the mechanisms behind the development of neck myalgia includes biochemical changes within the muscles or joints. Methods used for investigating musculoskeletal disorders would greatly benefit if improving were based on the knowledge about mechanisms behind musculoskeletal disorders. In this pilot study existing imaging technology is used to objectivity assess the presence of receptors for pain producing substances in neck muscles and joints.

Methods
The imaging technique used in the pilot study is the combination of PET (Positron Emission Tomography) and CT (Computed Tomography). With the use of a PET scan biological functions of the body may be demonstrated whereas CT on the other hand provides information about the body's anatomy such as size, shape and location. Using PET/CT there is the possibility to simultaneously investigate several muscle and joints at different depths in the neck. Other methods using muscle biopsies or micro dialysis to investigate muscle biochemistry are limited to a very small area of investigation and muscle closer to the surface.

In this pilot study 6 subjects with unilateral neck myalgia with a pain duration of no more than 6 months are included. In order to verify the pain distribution the subjects complete a pain drawing on an anatomical map and a clinical examination by experienced physiotherapist is conducted. The subjects also rate the current pain and the pain over the last week on a VAS-scale and the pain pressure threshold on specific points are measured. The subjects are injected intravenously with a radioactive tracer that binds to the NK 1 receptor and the PET/CT scans are performed. In the analysis the non-painful side is used as a control.

Results
The study is ongoing and no results have been compiled at the time of abstract submission

Conclusions
PET/CT is as a technique with the possibility to localize biochemical changes to specific areas or structures. Since the technique is routinely used in other areas, mainly cancer diagnostics, is available in many hospitals. The main use with in the field of musculoskeletal disorders should be as a tool for evaluation of either interventions or treatments in an objective manner. However, the technique is relatively expensive and is limited by the availability of proper tracers.