**Perceptions of skeletal muscle wasting are negatively associated with physical activity and physical function in patients with chronic kidney disease**

**INTRODUCTION:** Patients with chronic kidney disease (CKD) commonly suffer from skeletal muscle wasting which is associated with morbidity and mortality and reduced quality of life. Despite this, understanding of patient perceptions of muscle wasting symptoms in CKD is limited. We performed a cross-sectional survey to investigate patient reported symptom experiences of muscle wasting and weakness and the relationships with physical activity and physical function.

**METHODS:** 40 CKD patients (25 male, median age 55 [range 23-83], 12 transplant recipients) completedthe Duke Activity Status Index (DASI, a measure of physical capacity/function), the General Practice Physical Activity Questionnaire (GP-PAQ, a measure of physical activity), and the Leicester Kidney Exercise Team Muscle Symptoms Scale (LKET-MS). The LKET-MS is a 10-item scale created in collaboration with patients, to assess perceptions of muscle wasting and weakness. Each item consists of a statement regarding a muscle related symptom and is scored 0-10 with 0 representing the absence of that symptom and 10 the highest possible severity.

**RESULTS:** The median number of symptoms reported by patients was 9 out of a possible 10 (range 2-10). Most commonly reported symptoms were ‘muscle weakness’ (98%), feeling ‘tired when I try to exert myself’ (95%) and muscle ‘aches and pains’ (98%). 85% reported noticing muscle wasting and 68% restless leg syndrome (RLS) in the past 6 months. Symptom severity of all items was ‘Moderate’ to ‘High’, with RLS and ‘limited participation in sport/exercise’ due to muscle symptoms rated highest (median score = 7/10). Average total LKET-MS score was 40 (range 4-100). Spearman’s rho indicated a moderate negative correlation between total LKET-MS score and both the total DASI (*rs*= -.543, *p=*<0.05) and GP-PAQ (*rs*=-.322, *p=*<0.05). The number of reported symptoms negatively associated with DASI score (*rs*= -.397, *p=*<0.05) and positively with total LKET score (*rs*=.789, *p=*<0.05). Eight LKET-MS items showed a significant negative correlation with total DASI and five with total GP-PAQ score. There was no relationship between total LKET-MS and either age or gender.

**CONCLUSIONS:** These results demonstrate a high level of skeletal muscle symptomatology in non-dialysis CKD, which is negatively related to physical function and habitual activity. This highlights muscle wasting as an important co-morbidity in CKD. Further research is warranted to elucidate the impact of muscle symptoms on the lived experience, and to improve management strategies for patient benefit.