CHKB-Myo Survey

**Study Title:** Late-Onset and Paediatric Presentations of CHKB-Related Myopathy: A Multicentre Retrospective Survey

**Short project name:** CHKB-Myo Survey

**Scientific background:** CHKB-related myopathy (OMIM 602541) is an ultra-rare autosomal recessive muscle disease, with fewer than 50 patients reported worldwide. Classically it presents as severe congenital muscular dystrophy with neonatal hypotonia, intellectual disability, and cardiac involvement. More rarely, late-onset limb-girdle presentations have also been described and are likely underdiagnosed. No genotype–phenotype correlation has been established, and several clinically relevant features remain insufficiently characterized across the full disease spectrum.

**Objectives:** The primary objective is to comprehensively describe the clinical and paraclinical phenotype of patients with molecularly confirmed CHKB-related myopathy. Secondary objectives include describing disease progression, exploring genotype–phenotype correlations, and comparing paediatric-onset and late-onset presentations.

**Study design and data collection:** This is an international, multicentre, retrospective observational study. No intervention, additional visit, biological sampling, or change in patient management will be performed. Data will be extracted from existing medical records using a standardized Case Report Form (CRF). Collected variables will include demographic, genetic, clinical, cognitive, cardiac, respiratory, neurophysiological, imaging, and histopathological data.

**Study sites and participants:** Participating sites will include neuromuscular reference and expert centres in France and other European countries, identified through established neuromuscular disease networks, including ERN EURO-NMD and FILNEMUS. Inclusion criteria is a previous molecular confirmation of CHKB pathogenic variants. Exclusion criteria are documented opposition to reuse of health data.

**Data processing and analysis:** Data extraction will be performed locally by authorized healthcare professionals. The coordinating centre will receive only pseudonymized data, identified by a study-specific code. The re-identification key will remain exclusively at the local site. Given the rarity of the disease, analyses will be mainly descriptive and exploratory.

**Ethical, privacy, and data protection considerations:** The study is non-interventional and retrospective, with no additional risk or burden for participants. Minors may be included in accordance with applicable regulations. Deceased patients may be included where legally permitted and in the absence of documented objection. Patients or legal representatives retain the right to object to the reuse of health data.

No directly identifying information will be transmitted to the coordinating centre. Data transfer and storage will use secure institutional systems with restricted access. Data retention is planned for 10 years, in accordance with institutional and regulatory requirements.