# Effectiveness and safety of photobiomodulation for treating masticatory muscle spasticity in children with cerebral palsy. Systematic review protocol

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**Abstract:**

The aims of this systematic review will be to evaluate the effects (benefits and harms) of photobiomodulation for treating masticatory muscle spasticity in children with cerebral palsy. This review will follow the recommendations of the Cochrane Handbook for Systematic Reviews of Interventions and PRISMA statement, and will be registered at the PROSPERO platform. A comprehensive search of the literature will be performed using an electronic search (MEDLINE, Embase, Cochrane Library, LILACS, BBO, Clinicaltrials.gov, and WHO/ICTRP) with no restriction regarding date and language. The grey literature will also be screened via OpenGrey. We will consider randomized (RCT) and non-randomized clinical trials (NRCT), that assessed the use of photobiomodulation compared with placebo, no intervention, or another active intervention. Primary outcomes will be muscle spasticity relief, pain intensity, and adverse events; secondary outcomes will be muscle fatigue, amplitude of mouth opening, and tooth wear prevention. Two authors will independently select the references retrieved by search strategy using the software Rayyan and will extract the data from included studies. All discordance will be solved by a third author. The risk of bias assessment will be performed using the RoB tool for RCTs and ROBINS-I for NRCT. For the treatment effects estimative, we will calculate mean differences for continuous outcomes and risk ratios for dichotomous outcomes (CI 95%). When possible, treatment effects will be combined in meta-analysis using the random-effect model in the Review Manager 5.4 software. Heterogeneity between studies will be explored. The certainty of the evidence will be assessed using the GRADE approach.

**Biography:**

Monise Mendes Rocha is a dental surgeon, a master's degree student in Rehabilitation Sciences from Universidade Nove de Julho, a specialist in Public Health from Universidade Nove de Julho and graduated in Dentistry from Universidade Nove de Julho. Monise Mendes Rocha has improvement and complementary courses in the areas of bruxism, minor oral surgery, dental aesthetics, botulinum toxin and facial fillers.