

# INPLASY

## Audiologic Features in Patients with Rheumatoid arthritis: A Systematic Review

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### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202460125

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 June 2024 and was last updated on 30 June 2024.

### INTRODUCTION

**Review question / Objective** Will there be any audiology dysfunction associated with rheumatoid arthritis?

**Rationale** Hearing impairment in patients with rheumatoid arthritis had been underestimated for decades. Rheumatoid arthritis could affect both the middle ear (i.e., incudomalleolar and incudostapedial joints) and inner ear (i.e., cochlea and acoustic nerve) simultaneously. Some researchers proposed that it might be due to excessive autoantibody production, direct autoimmune attack, microcirculation disturbance, ossicles joint destruction, and ototoxicity caused by rheumatoid arthritis medications. There had not been a consensus regarding the efficacy of treatments for hearing impairment in patients with rheumatoid arthritis.

**Condition being studied** In this systematic review, we have summarized the currently available evidence on the characteristics, pathophysiology, examination, and treatment of audiology dysfunction related to rheumatoid arthritis.

### METHODS

**Search strategy** This systematic review was conducted by electronically searching the PubMed and other platforms.

**Participant or population** Patients with rheumatoid arthritis.

**Intervention** Not specific.

**Comparator** Healthy controls.

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**Study designs to be included** Case reports/series, observational trial, case-control trial, or randomized controlled trials.

**Eligibility criteria** (a) studies examining audiology issues related to rheumatoid arthritis; (b) case reports/series, observational trials, case-control trials, or randomized controlled trials; and (c) studies including patients with rheumatoid arthritis.

**Information sources** The eligible information could be derived from electronic databases, or contact with authors.

**Main outcome(s)** Data about the characteristics, pathophysiology, examination, and treatment, in patients with rheumatoid arthritis.

**Additional outcome(s)** Prognosis.

**Data management** We manage data via direct input into the manuscript discussion.

**Quality assessment / Risk of bias analysis** All the clinical studies were graded via the Newcastle-Ottawa Scale.

**Strategy of data synthesis** Not done.

**Subgroup analysis** Not done.

**Sensitivity analysis** Not done.

**Country(ies) involved** Taiwan.

**Keywords** Rheumatoid arthritis; cochleopathy; hearing impairment; neuropathy; ossicles; steroid.

**Contributions of each author**

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