



## Original article

# Measurement of quality of life among patient undergoing arthroplasty of the thumb to treat CMC arthritis<sup>☆</sup>



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## ABSTRACT

**Objective:** To present the clinical and functional results, including measurement of quality of life, of patients undergoing trapeziometacarpal arthroplasty.

**Method:** This was a prospective evaluation on 45 patients (53 thumbs) with a diagnosis of idiopathic rhizarthrosis who underwent resection arthroplasty and interposition of an un cemented Ascension® implant, made of pyrocarbon. The clinical and functional results were analyzed through radiography, range of motion (ROM) in degrees (°), visual analog scale (VAS) for pain and the disability of arm, shoulder and hand (DASH) questionnaire for quality of life. In the group analyzed, 38 were women and seven were men, and their mean age was 63.17 years (range: 50–78). Eight patients were treated bilaterally.

**Results:** After 42.08 months of follow-up (range: 8–73), the subjective pain evaluation (VAS) score was 1.37 (range: 1–4). The complete ROM of the thumb increased to 95.75% (range: 75–100%) in relation to the contralateral side. The mean DASH questionnaire score was 9.98 (range: 1–18). The complication rate (negative events) was 11.32%. Five patients presented dislocation of the thumb prosthesis. All of them were reoperated by means of dorsal capsuloplasty using a portion of the retinaculum of the extensors as a graft, and good clinical evolution was achieved in these cases. One patient presented fracturing of the metacarpal and was treated by means of osteosynthesis using Kirschner wires.

**Conclusion:** This method is effective for treating rhizarthrosis, according to the measurements made on the clinical and functional results, even after taking the complication rate into consideration. Moreover, it provides an improvement of quality of life for these patients.

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## Mensuração da qualidade de vida dos pacientes submetidos a artroplastia do polegar no tratamento da rizartrose

### R E S U M O

**Palavras-chave:**  
Qualidade de vida  
Trapézio  
Artroplastia  
Polegar

**Objetivo:** Apresentar os resultados clínico-funcionais e a mensuração da qualidade de vida dos pacientes submetidos à artroplastia trapézio-metacárpica.

**Método:** Avaliação prospectiva de 45 pacientes e 53 polegares acometidos, com diagnóstico de rizartrose idiopática submetidos à artroplastia de ressecção e interposição, com o implante Ascension®, não cimentado, de pirocarbono. Foram analisados os resultados clínico-funcionais: análise radiográfica, o arco de movimento (ADM) em graus (°), dor (VAS: visual analog score), qualidade de vida (Dash: disability shoulder, arm, and hand questionnaire). No grupo analisado, 38 são mulheres e sete são homens e a idade média é de 63,17 anos (50-78). Foram operados oito pacientes com acometimento bilateral dos polegares.

**Resultados:** Após 42,08 meses (8-73) de seguimento, a avaliação subjetiva da dor (VAS) foi de 1,37 (1-4). O arco do movimento completo do polegar teve um aumento de 95,75% (75-100) do lado contralateral. O questionário Dash foi em média de 9,98 (1-18). A taxa de complicações ou eventos negativos foi de 11,32%. Observamos cinco pacientes com luxações das próteses de polegares. Todos foram reoperados e fez-se a capsuloplastia dorsal, com o uso como enxerto de uma porção da retináculo dos extensores, obteve-se uma boa evolução clínica nesses casos. Um paciente apresentou fratura do metacarpo e foi tratado com osteossíntese com fio de Kirschner.

**Conclusão:** O método é eficaz no tratamento da rizartrose de acordo com os valores apurados dos resultados clínico-funcionais, mesmo considerando-se as taxas de complicações. Além disso, proporciona a melhoria da qualidade de vida desses pacientes.

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## Introduction

Rhizarthrosis is the most common degenerative disease and the one that most restricts the thumb of middle-aged women, especially in the fifth and sixth decades of life. It can also be observed in men with history of repetitive joint use and in young women with ligamentous laxity.<sup>1</sup>

There are many recommended surgical techniques for the treatment of this disease: trapeziectomy; trapezio-metacarpal arthrodesis; ligament reconstruction; partial or total arthroplasty; and arthroscopic resection, replacement, or interposition.

Arthroscopic resection and interposition are well established for the treatment of rhizarthrosis and present good results in 85% of patients. Currently, numerous partial or complete prostheses are being developed and improved to maintain axial length of the first ray of the hand, shorten postoperative recovery time,<sup>2</sup> and allow for a total recovery of pinch strength. However, results are not well documented.<sup>3</sup>

This study aimed to present clinical and functional results and measurement in quality of life of patients undergoing trapezio-metacarpal arthroplasty with uncemented pyrocarbon Ascension® implant.

## Material and methods

The study assessed 65 patients who attended a pre-operative visit in the hand surgery outpatient clinic of the university

hospitals linked to the institution. Forty-five patients and 53 thumbs were selected. However, in the postoperative period, patients were followed-up in a single outpatient clinic. All patients had the diagnosis of primary rhizarthrosis stages II and III according to the Eaton and Littler classification, *apud* Martin-Ferrero et al. (Table 1).<sup>2</sup>

Patients' demography consisted of 38 females and seven males. Eight patients were surgically addressed for both hands. This was a prospective study, with mean follow-up of 42.08 months (8-73). Mean age was 63.17 years (50-78).

Patients were assessed in a preoperative evaluation and in the postoperative period through the following methods:

1. Application of the DASH questionnaire to assess quality of life;

**Table 1 – Eaton and Littler classification *apud* Martin-Ferrero et al.<sup>2</sup>**

Stage	Radiological criteria – Eaton and Littler
I	Normal joint contours; the interlining articulate may be widened secondary to laxity or joint effusion
II	Slight narrowing of the interlining articulate; joint debris and osteophytes <2 mm Normal ST joint
III	Marked degenerative changes with no interlining articulate, geodes, osteophytes, and sclerosis >2 mm; variable degrees of subluxation; normal ST joint
IV	Similar to stage III but with degenerative changes of the ST joint

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