

## Clinical Images/Spotters

# A boy with type 1 diabetes who could not do ‘Namaste’!

Sayan Banerjee<sup>1</sup>, Jaivinder Yadav<sup>1</sup>, Rakesh Kumar<sup>1</sup>

<sup>1</sup>Department of Pediatrics (Advanced Pediatrics Centre), Post Graduate Institute of Medical Education and Research, Chandigarh, India.



### \*Corresponding author:

Jaivinder Yadav,  
Department of Pediatrics  
(Advanced Pediatrics Centre),  
Post Graduate Institute of  
Medical Education and  
Research, Chandigarh, India.  
jai1984yadav@gmail.com

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## ABSTRACT

Limited joint mobility (LJM) is a common manifestation of chronic suboptimal glycemic control in type 1 diabetes (T1D). The LJM can be elicited with simple clinical signs. We describe a 13-year-old boy with T1D and LJM.

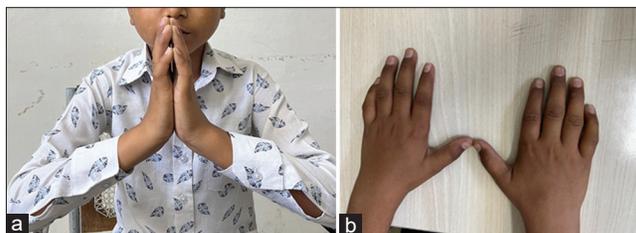
**Keywords:** Limited joint mobility, Diabetes, Glycemic control

## INTRODUCTION

Limited joint mobility (LJM) is a common manifestation of long-term suboptimal glycemic control in individuals with type 1 diabetes (T1D).<sup>[1]</sup> The syndrome of LJM was described in pediatric literature in 1974 in a series of cases with juvenile diabetes mellitus, short stature, LJM, and sclerodactyly.<sup>[1]</sup> The LJM can be elicited with simple clinical signs. We describe a 13-year-old boy with T1D and LJM.

## CASE DESCRIPTION

A 13-year-old boy (weight-35 kg [-0.9 Z], height 143 cm [-2.41 Z]) with T1D for six years complained of difficulty in finger movements of both hands. He was on a basal-bolus regimen and had suboptimal glycemic control over the years (mean hemoglobin A1c 10.2%, ranging between 9.5% and 11.5%). On examination, the child had contractures and flexion deformity of all interphalangeal joints with wrist joint involvement. The prayer sign and tabletop test were positive [Figure 1]. With all the consistent features and poorly controlled diabetes, the child was diagnosed with LJM. The screening for microvascular and macrovascular complications of T1D was negative.



**Figure 1:** (a) Prayer Sign - Flexion at metacarpophalangeal, interphalangeal joint, and inability to approximate one or more fingers of both hands by opposition of palmar surfaces of proximal and distal interphalangeal joints with palms pressed together and fingers fanned. (b) Table top sign-Inability to place the fingers or palm flat on the table.

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## DISCUSSION

The LJM or cheiroarthopathy is a complication of long-term, poorly controlled diabetes. The diagnosis is based on typical painless progressive joint stiffness of hands leading to flexion contractures, but other joints such as wrists, shoulders, and feet may also get involved. The condition occurs as a result of the deposition of advanced glycation products and abnormal cross-linking of increased collagen in joints due to prolonged hyperglycemia.<sup>[2]</sup>

Tabletop test (putting the palm against a flat surface) and the "Namaste" prayer position are standard clinical methods to detect the condition. However, individual joint examination at the metacarpophalangeal joint, proximal and distal interphalangeal joint, or any other joint for a range of motion and resistance is also recommended.<sup>[3,4]</sup>

Some studies have shown an association between disease duration, metabolic control, and microvascular complications.<sup>[5]</sup> The condition is usually irreversible in late stages due to extensive fibrosis and is managed with supportive care and improving glycemic control.<sup>[6]</sup>

## CONCLUSION

We can detect limited joint mobility among children with long-term poor glycemic control using simple signs in clinics.

### Ethical approval

The Institutional Review Board approval is not required.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript, and no images were manipulated using AI.

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