toward less successful cannulation in patients with type II periampullary diverticula.

Antonios Vezakis, PhD  
Vasilios Panteris, MD  
Tzaneio General Hospital  
Piraeus, Greece

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Extension of an excellent pilot study to a quantitative analysis of the pathophysiology of de Quervain disease associated with colonoscopy

To the Editor:

In the article by Shergill et al,1 they analyze right thumb pinch force using a thumb-force sensor applied to the right thumb and analyze muscle activity of left and right forearm muscles using electromyography during colonoscopy. They report that activity of the left abductor pollicis longus muscle during colonoscopy exceeds the American Conference of Industrial Hygienists, hand activity level action limit. This finding supports that excessive, repeated abduction and extension of the left thumb during colonoscopy may cause de Quervain disease (tenosynovitis of the left thumb), as I2 and others3,4 have previously clinically reported.

An association between de Quervain disease of the left thumb and colonoscopy may be further confirmed by extending their experiments to include left thumb strain measurements (as they report for the right thumb), with the colonoscope held with the left hand outside a patient (as they report during actual colonoscopy on a patient), during maximal colonoscope tip deflection of both turn dials applied by the left thumb, and while recording subjective sensations of left thumb strain.

Mitchell S. Cappell, MD, PhD  
Division of Gastroenterology  
William Beaumont Hospital  
Royal Oak, Michigan, USA

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2. Cappell MS. Colonoscopist’s thumb: DeQuervain’s syndrome (tenosynovitis of the left thumb) associated with overuse during endoscopy. Gastrointest Endosc 2006;64:841-3.

doi:10.1016/j.gie.2009.03.034

Response:

We appreciate the interest of Cappell et al in our research on pinch force and forearm muscle load during colonoscopy. We agree that DeQuervain’s tenosynovitis of the left thumb may be caused by the repeated abduction and extension and applied thumb force required to manipulate the turn dials. We also agree with the need to directly measure left thumb forces, but we were unable to do this for technical reasons in this pilot study. In the next phase of our research, we plan to quantify left thumb forces during routine colonoscopy in a larger cohort of gastroenterologists, and to also assess subjective measures of musculoskeletal strain and fatigue. We further plan to videotape the colonoscopies so that the measured forces can be correlated to the subtasks performed. As Dr Cappell suggests, maximal rotation of both dials, which may occur while negotiating flexures or performing polypectomy, may increase left thumb strain. We believe further study will identify the subtasks during colonoscopy that put endoscopists at greatest risk for overuse injury, including DeQuervain’s tenosynovitis.

Amandeep K. Shergill, MD  
Division of Gastroenterology  
Department of Medicine  
San Francisco Veterans Affairs Medical Center  
University of California, San Francisco  
San Francisco, California, USA

 Krishna R. Asundi, PhD  
Department of Environmental Health  
Harvard School of Public Health  
Boston, Massachusetts, USA

Alan Barr, MS  
Division of Occupational Medicine  
Department of Medicine  
University of California, San Francisco  
San Francisco, California, USA

Division of Bioengineering  
University of California, Berkeley  
Berkeley, California, USA