

## WARM UP

## A stitch in time

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Once upon a time getting the stitch (or “side stitch” if you prefer the American vernacular) during school sports seemed to be particularly common, at least to me. As I look back at those halcyon days, I suspect that this particular disability may have held me back from Olympic performance. At least that is what I can tell my children. As I get older, the very existence of this entity seems inexplicably to have gone the way of the dodo.

I had wrongly assumed that the lack of the stitch in my daily life had something to do with my ever-slowng running speed or perhaps my increasing girth. As an aside, I note for the record that my running style was recently rudely described by a colleague as an “over-elaborated power walk”. I was relieved to see in a recent article that the “stitch” still exists, and in fact a thriving research industry exists studying the phenomenon.<sup>1</sup> The old fashioned “stitch” just has a new politically correct name: exercise-related transient abdominal pain (ETAP). You have no idea how glad that makes me feel, and even more so when I realise that schoolchildren of today can dazzle their teachers with an impressive new excuse to get out of sports or physical education. It makes it sound like a proper condition.

Rather pleasingly for me, it seems to have little to do with age or body composition but much to do with what we eat pre-exercise.

For the younger readers, I am referring to that sharp transient twinge of pain just

below the rib cage, usually on the right, which is particularly common in runners. The pain is vexing and performance-limiting, but fleeting and benign. Over the years the cause has been ascribed to diaphragmatic cramp, diaphragmatic ischaemia, irritation of the parietal peritoneum, jolting of the liver, trigger points (of course) and peritoneal ligament stretching.<sup>1</sup>

In a questionnaire-based survey,<sup>2</sup> ETAP was reported by participants in a surprisingly large range of sports including running (69% of respondents), swimming (75%), cycling (32%), aerobics (52%), basketball (47%) and horse riding (62%). ETAP appeared to be most prevalent in activities involving repetitive torso movement, either vertical translation or longitudinal rotation. Similar findings have also been reported in large surveys of “fun runs”.<sup>3</sup>

Interestingly, ETAP was described by respondents as a well-localised pain (79%), mostly experienced in the right or left lumbar regions of the abdomen (78%), with 14% of respondents indicating that they also experience shoulder-tip pain in association with the abdominal sensation.<sup>2</sup> Although ETAP often interfered with performance, the complaint decreased with increasing age of the athletes ( $p < 0.01$ ) and was unrelated to gender, body mass index or the time taken to complete the event.<sup>3</sup>

These studies also suggested that the timing of the pre-event meal seemed to be

related to the onset and severity of ETAP, and a further study also confirmed the fact that consuming reconstituted fruit juices, and beverages high in carbohydrate content and osmolality, shortly before and during exercise triggered the symptoms, at least in susceptible individuals. This effect was independent of the gastric volume explanation of symptoms.<sup>4</sup>

So can we stop the symptoms? It seems there are a few basic points that may be of use:<sup>1 5 6</sup>

- time your eating before exercise
- don't drink reconstituted fruit juices and beverages high in carbohydrate content and osmolality pre-exercise
- if a stitch occurs, stopping, bending over and tightening the abdominal muscles will terminate the symptoms
- grow old, as stitches are less common with ageing
- if repeated stitches bother you, stop running and take up one of those other high-impact sports such as chess or darts.

Isn't it nice to know that some things never change?

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## ***Expression of concern about content of which Dr Paul McCrory is a single author***

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This paper is authored by Dr Paul McCrory. During 2021 and 2022 there was an investigation by BJSM and BMJ which found that some of his work was the product of publication misconduct. Such misconduct includes plagiarism, duplicate publication, misquotation and misrepresentation in publications in respect of which he was listed as the sole author.<sup>1</sup> We are placing a notice to readers on all content in relation to which he is identified as the sole author to alert them to the conclusions of our investigation.

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### **REFERENCE**

- 1 Macdonald H, Ragavooloo S, Abbasi K. Update into the investigation of former BJSM editor-in-chief Paul McCrory. *Br J Sports Med* 2022.