

# Quality of information about maxillofacial trauma on the Internet

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Accepted 29 September 2016

Available online 28 October 2016

## Abstract

Patients increasingly search the Internet for information about health and potential treatments, but the content and accuracy of some websites are questionable. To evaluate the quality of information on maxillofacial trauma, we searched for the terms “jaw fracture” and “cheekbone fracture” on Google, Yahoo, and Bing. We assessed the first 10 results of each search and excluded duplicates or those that were unrelated. We then used the DISCERN tool and the JAMA (Journal of the American Medical Association) benchmarks to assess those that remained. Of the original 60 found, 38 were excluded (29 duplicates, 9 unrelated). The mean (range) DISCERN score for each search was 38.5 (27–57) for jaw fracture and 41.9 (26–61) for cheekbone fracture. No website achieved an excellent score (more than 63), and over three-quarters were categorised as poor (27–38) or fair (39–50). None met all the JAMA benchmarks, but most adhered to at least two. The standard of online information on maxillofacial trauma varies, but is generally of poor quality. Patients should therefore be advised to be cautious of online sources and should be directed towards higher-quality websites.

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*Keywords:* Internet; Trauma; Maxillofacial; DISCERN

## Introduction

Most of the patients who present with maxillofacial trauma are young men, and the leading causes of injury are interpersonal violence and falls.<sup>1</sup> Patients are increasingly using the Internet to find out about healthcare, and it is estimated that nearly 40% of adults in the UK and 35% in the United States have done so.<sup>2,3</sup> Younger patients, who form a large proportion of those affected by maxillofacial trauma, are also more likely to search for information online.<sup>3</sup> In the past, clinicians usually gave patients information directly in the consultation or on a pamphlet. There is therefore a concern about the quality, accuracy, and possible bias of the information that patients find on the Internet.

Several tools can help both clinicians and patients find good-quality websites on health, and recently they have been used to assess online material on a range of conditions.<sup>4–12</sup> We have evaluated the quality of information on maxillofacial trauma that is available to patients, an area that does not seem to have been examined previously.

## Method

To simulate online searches by patients, we used Google, Bing, and Yahoo<sup>13</sup> to search for the terms “jaw fracture” and “cheekbone fracture”. As it is commonly reported that most users view only the first page of the results, we included only the top 10 websites from each search,<sup>14</sup> and excluded duplicates or sites that were not relevant such as news features and advertisements (Fig. 1). Two of the authors then assessed the remaining websites using the DISCERN tool and

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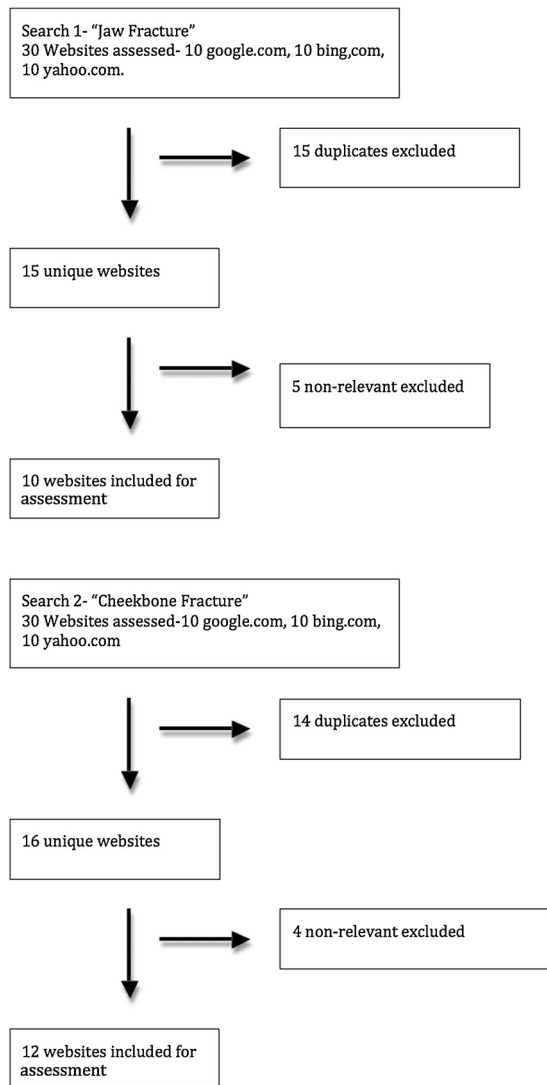


Fig. 1. Search method criteria.

the JAMA (Journal of the American Medical Association) benchmarks.

#### The DISCERN tool

This instrument was originally developed in 1998 by The British Library to assess the quality of published information on healthcare. It has subsequently been validated for the assessment of internet sites, and has been used to assess online information on health in a range of specialties.<sup>4–12,15</sup> In 1999 the tool's creators published details on its development and validation.<sup>16</sup> Statistical analysis showed good inter-user agreement, and this has also been shown by other authors.<sup>17</sup> DISCERN consists of 16 questions (rated on a scale of 1–5) in three sections: reliability (numbers 1–8), treatment choices (numbers 9–15), and an overall rating (question 16). The handbook provides detailed information about each one, and provides instructions and examples.<sup>18</sup> Information is rated as

Table 1

DISCERN grades for websites on “jaw fracture” and “cheekbone fracture”.

Grades	Jaw fracture (n = 10)	Cheekbone fracture (n = 12)
Very poor (16–26)	0	1
Poor (27–38)	6	2
Fair (39–50)	2	7
Good (51–62)	2	2
Excellent (>63)	0	0

very poor (16–26), poor (27–38), fair (39–50), good (51–62), or excellent (63–80).

#### The JAMA benchmarks

The benchmarks were published in the Journal of the American Medical Association in 1997 for use in the assessment of online information.<sup>19</sup> They consist of four key features that should be obvious on a website: authorship, attribution or sources, currency or being up to date (including date of the last update), and disclosure of conflicts of interest. A point is assigned for each one that is clearly presented.

#### Results

The initial searches returned a large number of websites – for example, on Google alone, we found 442 000 on “jaw fractures” and 95 800 on “cheekbone fractures”. After assessing the top 60 across the three search engines, 38 were excluded (29 duplicates and 9 not relevant), which left 10 that pertained to “jaw fracture” and 12 to “cheekbone fracture” (Fig. 1).

#### DISCERN

The mean (range) scores were 38.5 (27–57) for mandibular trauma and 41.9 (26–61) for zygomatic trauma. No website in either search achieved an excellent score (more than 63) (Table 1). Question 14, which related to shared decision making, had the lowest score in both searches, and question 3, which related to relevance, had the highest (Table 2).

#### JAMA benchmarks

Table 3 shows the number of websites that complied with the JAMA benchmarks. No website in either search met them all.

#### Discussion

To our knowledge, this is the first study to assess the quality of online information on maxillofacial trauma. While some can be of high quality, the standard and reliability of others used by patients is poor. The DISCERN tool and the JAMA benchmarks, which have been used in a variety of other spe-

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