

The Quality Of Internet Patient Based Information On Shoulder Replacements: A Cross Sectional Survey

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Citation

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Abstract

Introduction: The quality of non peer reviewed medical online resources tends to be poor. Shoulder replacements are increasingly becoming an important treatment option for debilitating shoulder arthropathy. Previous reviews on many medical related websites have been previously published but none on shoulder replacements. We sought to systemically review this.

Methods: Using a search of the top five search engines, twenty websites were obtained after eliminating duplicated sites. This were then analysed and scored on two scales;- 1) general criteria scale(Sandvik) and 2)derived specific criteria scale(based on BESS guidelines) by two primary authors.

Results: Most of websites studied scored satisfactorily in the general criteria. Navigability and interactivity was found to be good but currency and ownership were not always declared. On the specific scale, most websites did not score satisfactorily in most aspects(particularly on expressing indication and mentioning the potential disadvantages of undergoing the procedure)

Conclusion: Non peer reviewed websites tend to be commercially based. The sites we studied, discussing shoulder replacement tended to present their content frequently in a favourable manner. This can be potentially misleading for the patient. The authors suggest that the information on these websites be subject to better governance and that all relevant information be delivered in a clear and concise manner.

INTRODUCTION

The internet is now the premier source for patients acquiring initial information regarding medical conditions in the western world. The type of information on various websites differs from being targeted to the practising physician to that which is aimed at the patient population. With regards to the latter, there is a need for the information to be delivered in an accurate manner. Whilst its intention is not to replace a consultation with a doctor, the information on these sites must not be misleading or create a false sense of expectation for the patient². These sites tend not to be subject to peer review and hence are poorly regulated⁵. Numerous studies in the past on medical topics and internet use have demonstrated this^{7,8,9,10}.

Shoulder arthropathy is a common ailment. Although, shoulder replacements have been carried out since the mid 1950's, it is not as commonly performed as its lower limb counterparts. There are reasons for this, quite notably

because it is not a weight bearing joint and therefore is not exposed to similar degrees of stress loading¹⁷. Also, the range of movement attainable with the shoulder is far greater in all arcs compared to the hip or knee. Improving this in isolation via a shoulder arthroplasty has not been borne out in practise. Still, it is suggested that around 3000 of this are undertaken in the UK alone each year. Increasingly, with newer variations on the implant choices, it is gaining favour as a viable treatment option for debilitating shoulder arthropathy. In view of its increasing popularity, we sought to critically review the websites that discuss this treatment option to the relevant target population using a set of objective criteria. We also wanted to establish ownership of these websites, as we felt it important to identify the authors credentials, who are making this information available.

MATERIALS AND METHODS

Internet research has identified the most commonly used search engines⁶. Using this list of the top 5, we identified

websites that a patient may retrieve by entering the term “shoulder replacement.” Search results were not inspected beyond the first webpage of results. We sought to retrieve top 5 most popular websites from each search engine. As expected there were often duplication of websites retrieved and these duplicate sites were eliminated. This left us with a final list of 20 which were scored as below.

Each website was assessed in two sub categories. In the primary category, general website quality was assessed via an objective scoring scale based on Sandvik₁. This list is tabled below and the top score possible was 10

Figure 1

Table 1: General Criteria (max 10 points)

| | | Score |
|---------------|--|-------|
| Ownership | 2 = name and type of provider clearly indicated 1 = all other indications of source 0 = no indication of ownership | |
| Authorship | 2 = name and type of provider clearly indicated 1 = all other indications of source 0 = no indication of ownership | |
| Currency | 2 = name and type of provider clearly indicated 1 = all other indications of source 0 = no indication of ownership | |
| Interactivity | 2 = name and type of provider clearly indicated 1 = all other indications of source 0 = no indication of ownership | |
| Navigability | 2 = name and type of provider clearly indicated 1 = all other indications of source 0 = no indication of ownership | |

In the second subgroup, a further rating scale was developed by the authors based on recommendations by the British Elbow and Surgical Society(BESS) regarding shoulder arthroplasty₃. This list is shown below and pertains to what the authors felt were primary information that a prospective patient should be aware of prior to undertaking a consultation with a shoulder surgeon. The top score for this was also 10.

Figure 2

Table 2 : Specific Criteria(max 10 points)

| | 1 for each | Score |
|---------------------|--|-------|
| Indications | 1)Pain not responding to non operative therapy 2)Diagnosis clearly established 3)Specialist shoulder surgeon needed 4)Type of implant will be dictated by state of soft tissues | |
| Advantages | 1)Pain relief 2)Range of movement may improve | |
| Disadvantages/Risks | 1)Infection 2)Loosening/wear 3)Pain/stiffness 4)Nerve injury | |

As a secondary feature, although not strictly computed into the scoring system, we noted whether there was any commercial advertising in each individual website(asterisked*). The two primary authors independently scored each site and inter-observer agreement was estimated using Kappa statistics.

RESULTS

The 5 search engines used were Google, Yahoo, Msn, AOL and Ask. There were no disagreements amongst the authors with regards to scoring. The list of the 20 websites reviewed were as tabled below: The maximum score attainable was 20.

Figure 3

Table 3

| Website | General score(Mean=7.3) | Specific score(Mean=4.9) | Total score |
|---------------------------------------|-------------------------|--------------------------|-------------|
| http://www.patientplus.co.uk | 9 | 6 | 15 |
| http://www.aaos.org | 9 | 5 | 14 |
| http://www.arc.org.uk | 7 | 6 | 13 |
| http://www.shoulderdoc.co.uk* | 7 | 3 | 10 |
| http://www.zimmer.co.uk* | 8 | 3 | 11 |
| http://www.orthop.washington.com | 10 | 8 | 18 |
| http://www.healthline.com | 7 | 5 | 12 |
| http://www.biomet.com* | 5 | 5 | 10 |
| http://www.uihealthcare.com | 7 | 4 | 11 |
| http://www.jri-oh.com | 6 | 6 | 12 |
| http://www.readingshoulderunit.com | 6 | 5 | 11 |
| http://www.nlm.nih.gov | 9 | 5 | 14 |
| http://www.orthopaedics.about.com | 9 | 6 | 15 |
| http://www.keepmeactive.com* | 5 | 2 | 7 |
| http://www.shoulder-info.com | 6 | 4 | 10 |
| http://www.tennent.net | 9 | 6 | 15 |
| http://www.portsmouthshoulderunit.com | 6 | 1 | 7 |
| http://www.orthoassociates.com | 8 | 3 | 11 |
| http://www.jointreplacement.com* | 7 | 8 | 15 |
| http://www.webmd.com* | 7 | 7 | 14 |

Mean for sponsored sites = 11.16 : Mean for non sponsored sites = 12.7

DISCUSSION

Quite evidently, there is marked variation in the quality of information available on the internet. This is paralleled with previous studies on a wide variety of medical topics_{7,8,9,10}. Interestingly, most of those papers were from more than 5 years ago and despite the weighted conclusions from those articles, the quality of information available as noted in this study, carried out in 2006 is still poor. There have been attempts to regulate the quality of information on the internet (Health on the Net Foundation) but this has been found difficult to enforce_{4,11}.

The general scoring system revealed satisfactory scores with navigability and interactivity often achieving top scores. The reason for this is may in part be secondary to feedback over the years on internet sites and that websites in general have evolved for the better. Also, there is vested interest on the part of website owners to continuously improve this, particularly if they establish contact with potential patients. Currency and authorship however were not always declared and we feel that this information needs to be clearly indicated so as to establish a platform by which the patient can then form a good relationship with the doctor and his/her team. It is also important for the potential patient to feel confident that the information he/she is reading is up to date.

Specifically relating to shoulder arthroplasty, one of the

principal issues that needs readdressing, is that a shoulder replacement should only be discussed only when the diagnosis is firmly made and that conservative treatment has failed to provide a satisfactory alleviation of pain¹⁷. The shoulder is made up four different joints that may be contributing to the patients symptoms and hence this needs thorough evaluation. There is also the issue of referred pain. This was poorly demonstrated in the findings of this study. In some cases a shoulder replacement was being implied as a treatment option at the outset. This, the authors feel, is quite unacceptable.

Joint replacement is major surgery and we found it poor that some websites failed to highlight a single operative risk factor¹². Also, when risks factors were mentioned, not all of them were listed. An explanation for this might be because the sites were trying to promote the treatment option. When designed by commercial web engineers, such information may have been strategically left out. The authors feel that advertising an arthroplasty implant needs to be better governed with which guidelines are strictly adhered to.

The evidence from the literature quite clearly states that pain relief is the primary aim in carrying out the procedure. The range of movement may improve but this is not always guaranteed and a lot depends on the level of mobility of the shoulder prior to surgery and how the shoulder in itself responds to surgery¹⁴. Unfortunately it is the authors' opinion that patients are unlikely to be able make this distinction from internet viewing alone as the sites are fuelling this misconception.

CONCLUSION

The internet is an extremely valuable information tool. However as opposed to it's predecessors (i.e the medium of television, newspapers and radio), it is far more difficult to govern and regulate^{4,11}. When the information concerns medical matters, it must be delivered in an accurate and sensitive manner. As mentioned above, its purpose is not to replace the doctor patient relationship but to provide the patient with some core information which can be further developed during the consultation with a doctor. The authors feel that both the patient and the doctor need to be educated to appreciate and understand this better. There needs to be better governance on the information these websites contain.

Shoulder replacements are increasing in popularity as a treatment option for debilitating glenohumeral arthropathy^{15,18}. However, there are numerous points of note as listed in the specific criteria that must be adhered to prior

to publishing such information on the internet. At present, the authors feel that this is of insufficient standard in most of the websites we studied. The issues raised above need to be properly addressed to prevent any potential miscommunication between the patient and the doctor with regards to their eventual treatment.

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