



Guideline



The SCARE 2020 Guideline: Updating Consensus Surgical CAse REport (SCARE) Guidelines

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ABSTRACT

Introduction: The SCARE Guidelines were first published in 2016 and were last updated in 2018. They provide a structure for reporting surgical case reports and are used and endorsed by authors, journal editors and reviewers, in order to increase robustness and transparency in reporting surgical cases. They must be kept up to date in order to drive forwards reporting quality. As such, we have updated these guidelines via a DELPHI consensus exercise.

Methods: The updated guidelines were produced via a DELPHI consensus exercise. Members were invited from the previous DELPHI group, as well as editorial board members and peer reviewers of the International Journal of Surgery Case Reports. The expert group completed an online survey to indicate their agreement with proposed changes to the checklist items.

Results: A total of 54 surgical experts agreed to participate and 53 (98%) completed the survey. The responses and suggested modifications were incorporated into the new 2020 guideline. There was a high degree of agreement amongst the SCARE Group, with all modified SCARE items receiving over 70% scores 7–9.

Conclusion: A DELPHI consensus exercise was completed and an updated and improved SCARE Checklist is now presented.

1. Introduction

The SCARE Guidelines were initially published in 2016 and were the first surgical case report guidelines developed through a DELPHI consensus exercise [1]. They were updated in 2018 [2], and have now been cited over 3,000 times as they have been utilised by authors submitting case reports to a number of journals [3]. The guidelines were also listed on the EQUATOR Network website and have been endorsed by multiple journals. The value of the guidelines was underscored by follow-up work that demonstrated their importance in improving the reporting quality of surgical case reports [4]. In the two years since their last update, we have received feedback on the guidelines from users. Here, we update the guidelines through a new DELPHI consensus exercise.

2. Methods

The same DELPHI methodology was utilised as per the original guideline [5]. Members from the last DELPHI group were invited to participate again but additional individuals were invited to participate to help increase the depth and breadth of the group. Such people were drawn from the editorial board and reviewer base of the *International Journal of Surgery Case Reports*, a key supporter of the guidelines and where they have been implemented as a mandatory requirement for

submission. Potential contributors were contacted by email and the survey was distributed using Google Forms. Members scored the suggested changes on a scale from 1 (strongly disagree) to 9 (strongly agree). As per the previous update, consensus was defined as greater than 70% agreement (scoring between 7 and 9) for an item change. If this was not reached, the item would remain unchanged.

3. Results

In total, 54 people agreed to participate and 53 (98%) completed the DELPHI survey. A summary of the scores is shown below (Table 1),

Table 1
 SCARE 2020 DELPHI scores. Items listed correspond to individual sections of SCARE. Scores ranged from 1 (strongly disagree) to 9 (strongly agree).

| Item | 1-3 (%) | 4-6 (%) | 7-9 (%) |
|------|---------|---------|---------|
| 1 | 9.5 | 7.6 | 83.0 |
| 2 | 5.7 | 5.7 | 88.7 |
| 3a | 0.0 | 13.2 | 86.8 |
| 3b | 7.6 | 17.0 | 75.5 |
| 3c | 1.9 | 7.6 | 90.6 |

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Table 1 (continued)

| Item | 1-3 (%) | 4-6 (%) | 7-9 (%) |
|------|---------|---------|---------|
| 3d | 1.9 | 7.6 | 90.6 |
| 3e | 5.7 | 11.4 | 83.0 |
| 4 | 0.0 | 11.3 | 88.6 |
| 5a | 5.7 | 17.0 | 77.3 |
| 5b | 1.9 | 18.8 | 79.2 |
| 5c | 3.8 | 15.1 | 81.1 |
| 5d | 3.8 | 22.6 | 73.6 |
| 5e | 5.7 | 22.6 | 71.7 |
| 6 | 7.6 | 13.2 | 79.3 |
| 7 | 1.9 | 11.3 | 86.8 |
| 8a | 0.0 | 17.0 | 83.0 |
| 8b | 3.8 | 16.9 | 79.3 |
| 8c | 1.9 | 17.0 | 81.1 |
| 8d | 5.7 | 11.4 | 83.0 |
| 9a | 1.9 | 15.1 | 83.1 |
| 9b | 0.0 | 13.2 | 86.8 |
| 9c | 3.8 | 5.7 | 90.6 |
| 9d | 1.9 | 7.5 | 90.6 |
| 9e | 1.9 | 11.3 | 86.8 |
| 10a | 0.0 | 3.8 | 96.2 |
| 10b | 3.8 | 13.2 | 83.0 |
| 10c | 0.0 | 11.3 | 88.7 |
| 10d | 0.0 | 9.4 | 90.6 |
| 11a | 3.8 | 18.9 | 77.4 |
| 11b | 1.9 | 11.3 | 86.8 |
| 11c | 1.9 | 5.7 | 92.4 |
| 11d | 5.7 | 17.0 | 77.4 |
| 11e | 3.8 | 9.4 | 86.8 |
| 12 | 7.5 | 20.8 | 71.7 |
| 13 | 3.8 | 11.3 | 84.9 |
| 14 | 3.8 | 7.5 | 88.7 |
| 15 | 3.8 | 3.8 | 92.5 |
| 16 | 1.9 | 11.3 | 86.8 |

Table 2
The full revised SCARE 2020 Checklist.

| SCARE 2020 Checklist | | | |
|----------------------|-----------|--|-------------|
| Topic | Item | Checklist Item Description | Page Number |
| Title | 1 | - The words ‘case report’ should appear in the title. The title should also describe the area of focus (e.g. presentation, patient population, diagnosis, surgical intervention or outcome). | |
| Key Words | 2 | - Include three to six keywords that identify what is covered in the case report (e.g. patient population, diagnosis or surgical intervention). - Include ‘case report’ as one of the keywords. | |
| Abstract | 3a | Introduction and Importance - Describe what is important, unique or educational about the case, and what does this add to the surgical literature. | |
| | 3b | Case Presentation - Presenting complaints, clinical and demographic details, and the patient’s main concerns. | |
| | 3c | Clinical Findings and Investigations - Clinical findings, investigations performed, main differentials, and subsequent diagnosis. | |
| | 3d | Interventions and Outcome - Describe the rationale for choosing the intervention. - Describe what was the end result. | |
| | 3e | Relevance and Impact - Describe the main take-away lessons or potential implications for clinical practice (minimum of three). | |

Table 2 (continued)

| SCARE 2020 Checklist | | | |
|---|---|--|-------------|
| Topic | Item | Checklist Item Description | Page Number |
| Introduction | 4 | Background - Describe briefly the area of focus and the relevant background contextual knowledge. Rationale - Describe why the case is different to what is already known and why it is important to report? - Is the case rare or interesting for the specific healthcare setting, population or country, or is it applicable globally? | |
| | | Guidelines and Literature - Give reference to relevant surgical literature and current standards of care, including any specific guidelines. | |
| Patient Information | 5a | Demographic Details - Include de-identified demographic details of the patient (e.g. age, sex, ethnicity, occupation). - Where possible, include other useful pertinent information (e.g. body mass index, hand dominance, income, level of education, marital status). | |
| | | 5b Presentation - Describe the patient’s presenting complaint. - Include a collateral account of the history if relevant. - Describe the patient’s mode of presentation (e.g. self-presentation, ambulance or referred by family physician or other hospital clinicians). | |
| | 5c Past Medical and Surgical History - Include any previous interventions and relevant outcomes. | | |
| | 5d Drug History and Allergies - Specify any acute, repeat, and discontinued medications. - Include any allergies and/or adverse reactions. | | |
| | 5e Family History - Health information regarding first-degree relatives, specifying any inheritable conditions. Social History - Indicate smoking, alcohol, and recreational drug use. - Level of social independence, driving status, and type of accommodation. Review of Systems - If appropriate, report on any other information gathered outside of the focused history. | | |
| Clinical Findings | 6 | - Describe the general and significant clinical findings based on initial inspection and physical examination. | |
| Timeline | 7 | - Summarise the sequence of events leading up to the patient’s presentation. - Delays from presentation to diagnosis and/or intervention should be reported. - Use tables or figures to illustrate the timeline of events if needed. | |
| Diagnostic Assessment and Interpretation | 8a | Diagnostic Assessment - Bedside (e.g. urinalysis, electrocardiography, echocardiography). - Laboratory (e.g. biochemistry, haematology, immunology, microbiology, histopathology). - Imaging (e.g. ultrasound, X-ray, CT/MRI/PET). - Invasive (e.g. endoscopy, biopsy). | |
| | | 8b Diagnostic Challenges | |

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Table 2 (continued)

| SCARE 2020 Checklist | | | |
|----------------------|------------------------|---|---|
| Topic | Item Checklist | Item Description Page Number | |
| Intervention | | - Where applicable, describe what was challenging about the diagnoses (e.g. access, financial, cultural). | |
| | 8c | Diagnostic Reasoning - Describe the differential diagnoses, why they were considered, and why they were excluded. | |
| | 8d | Prognostic Characteristics - Include where applicable (e.g. tumour staging). | |
| | 9a | Pre-Operative Patient Optimisation - Lifestyle (e.g. weight loss). - Medical (e.g. medication review, treating any relevant pre-existing medical concerns). - Procedural (e.g. nil by mouth, enema). - Other (e.g. psychological support). | |
| | 9b | Surgical Interventions - Describe the type(s) of intervention(s) used (e.g. pharmacological, surgical, physiotherapy, psychological, preventative). - Describe any concurrent treatments (e.g. antibiotics, analgesia, antiemetics, venous thromboembolism prophylaxis). - Medical devices should have manufacturer and model specifically mentioned. | |
| | 9c | Specific Details regarding Interventions - Describe the rationale behind the treatment offered, how it was performed and time to intervention. - For surgery, include details on the intervention (e.g. anaesthesia, patient position, preparation used, use of other relevant equipment, sutures, devices, surgical stage). - The degree of novelty for a surgical technique/device should be mentioned (e.g. 'first in human'). - For pharmacological therapies, include information on the formulation, dosage, strength, route, and duration. | |
| | 9d | Operator Details and Setting of Intervention - Where applicable, include operator experience and position on the learning curve, prior relevant training, and specialisation (e.g. 'junior trainee with 3 years of surgical specialty training'). - Specify the setting in which the intervention was performed (e.g. district general hospital, major trauma centre). | |
| | 9e | Deviation from Initial Management Plan - State if there were any changes in the planned intervention(s), and describe these alongside the rationale (e.g. delays to intervention). | |
| | Follow-Up and Outcomes | 10a | Specify Details regarding the Follow-Up - When (e.g. how long after discharge, frequency, maximum follow-up length at time of submission). - Where (e.g. home via video consultation, primary care, secondary care). - How (e.g. telephone consultation, clinical examination, blood tests, imaging). - Any specific long-term surveillance requirements (e.g. imaging surveillance of endovascular aneurysm repair or clinical exam/ultrasound of regional lymph nodes for skin cancer). - Any specific post-operative instructions (e.g. post-operative medications, targeted physiotherapy, psychological therapy). |

Table 2 (continued)

| SCARE 2020 Checklist | | | |
|----------------------|---------------------|--|---|
| Topic | Item Checklist | Item Description Page Number | |
| Discussion | 10b | Intervention Adherence and Compliance - Where relevant, detail how well the patient adhered to and tolerated the advice provided (e.g. avoiding heavy lifting for abdominal surgery, or tolerance of chemotherapy and pharmacological agents). - Explain how adherence and tolerance were measured. | |
| | 10c | Outcomes - Expected versus attained clinical outcome as assessed by the clinician. Reference literature used to inform expected outcomes. - When appropriate, include patient-reported measures (e.g. questionnaires including quality-of-life scales). | |
| | 10d | Complications and Adverse Events - Precautionary measures taken to prevent complications (e.g. antibiotic or venous thromboembolism prophylaxis). - All complications and adverse or unanticipated events should be described in detail and ideally categorised in accordance with the Clavien-Dindo Classification (e.g. blood loss, length of operative time, wound complications, re-exploration or revision surgery). - If relevant, was the complication reported to the relevant national agency or pharmaceutical company. - Specify the duration of time between completion of the intervention and discharge, and whether this was within the expected timeframe (if not, why not). - Where applicable, the 30-day post-operative and long-term morbidity/mortality may need to be specified. - State if there were no complications or adverse outcomes. | |
| | 11a | Strengths - Describe the relevant strengths of the case. - Detail any multidisciplinary or cross-speciality relevance. | |
| | 11b | Weaknesses and Limitations - Describe the relevant weaknesses or limitations of the case. - For novel techniques or devices, outline any contraindications and alternatives, potential risks and possible complications if applied to a larger population. | |
| | 11c | Relevant Literature - Include a discussion of the relevant literature and, if appropriate, similar published cases. - Describe the implications for clinical practice guidelines and any relevant hypotheses generated. | |
| | 11d | Provide a rationale for the conclusions drawn from the case. | |
| | 11e | Take-Away Lessons - Outline the key clinical lessons from this case report. - Discuss any differences in approach to diagnosis or patient management which the authors might adopt in future similar cases, based on their experience of the case. | |
| | Patient Perspective | 12 | - Where appropriate, the patient should be given the opportunity to share their perspective on the intervention(s) they |

(continued on next page)

Table 2 (continued)

| SCARE 2020 Checklist | | | |
|----------------------------|------|---|-------------|
| Topic | Item | Checklist Item Description | Page Number |
| Informed Consent | 13 | received (e.g. sharing quotes from a consented and anonymised interview). | |
| | | - The authors must provide evidence of consent, where applicable, and if requested by the journal. - State the method of consent at the end of the article (e.g. verbal or written). - If not provided by the patient, explain why (e.g. death of patient and consent provided by next of kin). If the patient or family members were untraceable then document the tracing efforts undertaken. | |
| Additional Information | 14 | - Please state any author contributions, acknowledgments, conflicts of interest, sources of funding, and where required, institutional review board or ethical committee approval. - Disclose whether the case has been presented at a conference or regional meeting. | |
| Clinical Images and Videos | 15 | - Where relevant and available, include clinical images to help demonstrate the case pre-, peri-, and post-intervention (e.g. radiological, histopathological, patient photographs, intraoperative images). | |
| | | - Where relevant and available, include a link (e.g. Google Drive, YouTube) to the narrated operative video can be included to highlight specific techniques or operative findings. - Ensure all media files are appropriately captioned and indicate points of interest to allow for easy interpretation. | |
| Referencing the Checklist | 16 | - Include reference to the SCARE 2020 publication by stating: 'This case report has been reported in line with the SCARE Criteria [include citation]' at the end of the introductory section. | |

which demonstrate greater than 70% agreement on all items. Following this, the revised SCARE guidelines are shown (Table 2).

4. Discussion

The SCARE guidelines have provided a useful guidance to those writing case reports. Previous research on their implementation has found a statistically significant 10% increase in reporting completeness when utilized [4].

Surgical journals have been slow to take up reporting guidelines. We have previously shown how the majority (62%) of the 193 surgical journals listed in the surgery category in the Journal Citation Report 2014, made no mention of reporting guidelines within their guide for authors at all [6].

This update to the SCARE guidelines will help further improve the reporting quality of case reports and we encourage authors, reviewers, editors and journals to adopt them. Authors should cite the guidelines in their methods section and upload a completed check list of compliance for reviewers and editors to inspect. Such checklists will be provided in a variety of formats for easy usage on the SCARE website (<https://www.scareguideline.com>).

5. Conclusion

Updated SCARE 2020 guidelines are presented which should now be implemented by authors, reviewers, editors and journals with the aim of improving reporting quality.

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Author contribution

RAA: Concept and design, data interpretation and analysis, drafting, revision and approval of final manuscript. TF, CS, GM, AK: Design, data collection, data interpretation and analysis, drafting, revision and approval of final manuscript.

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The data in this guideline is derived from individual responses to the survey, and so is confidential and not in the public domain.

Declaration of competing interest

None declared - the authors have no financial, consultative, institutional, and other relationships that might lead to bias or conflict of interest.

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