**Reviewer Assessment**

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**Free flaps in scar treatment**

DOI 10.1515/iss-2017-0014  
Received March 6, 2017; accepted June 7, 2017

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**Reviewers’ Comments to Original Submission**

**Reviewer 1: anonymous**  
Mar 10, 2017

| Reviewer Recommendation Term: | Accept with Minor Revision |
|-------------------------------|---------------------------|
| Overall Reviewer Manuscript Rating: | 40 |

**Custom Review Questions**

| Question                                                                 | Response |
|-------------------------------------------------------------------------|----------|
| Is the subject area appropriate for you?                                | 5 - High/Yes |
| Does the title clearly reflect the paper’s content?                     | 3        |
| Does the abstract clearly reflect the paper’s content?                  | 2        |
| Do the keywords clearly reflect the paper’s content?                    | 3        |
| Does the introduction present the problem clearly?                     | 2        |
| Are the results/conclusions justified?                                  | 3        |
| How comprehensive and up-to-date is the subject matter presented?       | 3        |
| How adequate is the data presentation?                                  | 2        |
| Are units and terminology used correctly?                               | 3        |
| Is the number of cases adequate?                                        | N/A      |
| Are the experimental methods/clinical studies adequate?                | N/A      |
| Is the length appropriate in relation to the content?                   | 3        |
| Does the reader get new insights from the article?                     | 1 - Low/No |
| Please rate the practical significance.                                 | 3        |
| Please rate the accuracy of methods.                                    | 3        |
| Please rate the statistical evaluation and quality control.            | N/A      |
| Please rate the appropriateness of the figures and tables.             | 3        |
| Please rate the appropriateness of the references.                     | 3        |
| Please evaluate the writing style and use of language.                 | 4        |
| Please judge the overall scientific quality of the manuscript.         | 3        |
| Are you willing to review the revision of this manuscript?              | Yes      |

**Comments to Authors:**

This article is a reflect of surgical techniques proposed in scars  
However Coleman technique is not described and there is no indications of the need for a fine tuning reflexion and adaptability of techniques to the objective, depending on age, anatomical location, etc...
Reviewer 2: anonymous

Mar 25, 2017

Reviewer Recommendation Term: Accept with Minor Revision
Overall Reviewer Manuscript Rating: 80

Custom Review Questions Response
Is the subject area appropriate for you? 5 - High/Yes
Does the title clearly reflect the paper's content? 5 - High/Yes
Does the abstract clearly reflect the paper's content? 4
Do the keywords clearly reflect the paper's content? 5 - High/Yes
Does the introduction present the problem clearly? 5 - High/Yes
Are the results/conclusions justified? 5 - High/Yes
How comprehensive and up-to-date is the subject matter presented? 5 - High/Yes
How adequate is the data presentation? 4
Are units and terminology used correctly? 5 - High/Yes
Is the number of cases adequate? 4
Are the experimental methods/clinical studies adequate? N/A
Is the length appropriate in relation to the content? 5 - High/Yes
Does the reader get new insights from the article? 5 - High/Yes
Please rate the practical significance. 4
Please rate the accuracy of methods. 4
Please rate the statistical evaluation and quality control. N/A
Please rate the appropriateness of the figures and tables. 5 - High/Yes
Please rate the appropriateness of the references. 4
Please evaluate the writing style and use of language. 5 - High/Yes
Are you willing to review the revision of this manuscript? Yes

Comments to Authors:
The authors present their opinion on the value of free flaps in scar management. They develop an algorithm that entails the preservation of functional and aesthetic units of the Body when dealing with scars.

Although it is clear that surgical options are discussed I would suggest that the whole spectrum of conservative treatment methods should be discussed a little more to better clarify the frontier between conservative and surgical indications. It is a well known phenomenon that for instance scar excisions and z- or running-W-plasties can well carry the risk of relapsing scars.

The authors nicely report the variety of common technical surgical options and standard techniques in scar surgery. Due to the standardization of free flap transfer this surgical technique has become comparatively safe in high volume centers. It needs to be acknowledged that the authors point out the influence of the anatomical constitution of various flaps and their respective „flap architecture“.

I would suggest that the authors include a few details on Marjolin’s ulcers in longstanding instable scars.

Please comment why an early and aggressive approach is recommended? given the fact that scars may mature up to 1 1/2 or even 2 years (and become softer and more pliable etc. etc.) it is not quite clear why an early and aggressive approach should be the gold Standard in general. Conservative measures often lead to an improvement but this takes time and it seems important that surgery will not come in the first place. What exactly is meant with early?

Maybe the authors could discuss other reviews from German authors in this context, such as for instance: Arco G, Horch RE: Chirurgie der Narben Grundlagen, Prävention und Behandlungsmethoden. Chirurgische Allgemeine CHAZ (2009) 10,1:17-30 [2009;10(1):17-30; ISSN:1615-5378].

After answering the queries this article seems suitable for ISS because it provides a fine summary of modern plastic and reconstructive surgical concepts along with a proposed algorithm for scar Management and could therefore be helpful for surgeons of all surgical specialties.
Authors’ Response to Reviewer Comments

Mar 30, 2017

Reviewer #1:
1.1“This article is a reflect of surgical techniques proposed in scars However Coleman technique is not described and there is no indications of the need for a fine tuning reflexion and adaptability of techniques to the objective, depending on age, anatomical location, etc....”
1.1 Response
Thank you very much for your thorough review and comments.
To complete the whole spectrum of possible therapies we added a description of the Coleman technique on page 5-6. In addition, we extended the manuscript and added a passage “adaptability of techniques” on page 7. Here we described important influences on surgical outcome.

Reviewer #2:
2.1“The authors present their opinion on the value of free flaps in scar management. They develop an algorithm that entails the preservation of functional and aesthetic units of the Body when dealing with scars.
Although it is clear that surgical options are discussed I would suggest that the whole spectrum of conservative treatment methods should be discussed a little more to better clarify the frontier between conservative and surgical indications. It is a well known phenomenon that for instance scar excisions and z- or running-W-plasties can well carry the risk of relapsing scars.”
2.1 Response
Thank you very much for your review and your comments.
We agree, surely conservative treatments should stand at first-line. We added an overview of conservative treatment options on page 2.

2.2“The authors nicely report the variety of common technical surgical options and standard techniques in scar surgery. Due to the standardization of free flap transfer this surgical technique has become comparatively safe in high volume centers. It needs to be acknowledged that the authors point out the influence of the anatomical constitution of various flaps and their respective “flap architecture”.”
2.2 Response
Thank you for emphasizing this important point. We added a passage on page 4-5 regarding flap architecture and anatomical variability.

2.3 “I would suggest that the authors include a few Details on Marjolin’s ulcers in longstanding instable scars.”
2.3 Response
Thank you for emphasizing this important point. We added an passage and outlined the clinical relevance of Marjolins ulceration on page 7. It is included in the point of surgical scar excision. A radical excision with histopathological free margins should be the aim. We also mentioned the aggressive approach regarding Marjolin ulcer on page 10.

2.4 “Please comment why an early and aggressive approach is recommended? given the fact that scars may mature up to 1 1/2 or even 2 years (and become softer and more pliable etc. etc.) It is not quite clear why an early and aggressive approach should be the gold Standard in general. Conservative measures often lead to an improvement but this takes time and it seems important that surgery will not come in the first place. What exactly is meant with early?”
2.4 Response
Thank you for emphasizing this important point. Treatment priority should be in first line the application of conservative treatment options. A radical and early surgical treatment should be considered in instable scars. We corrected the statement in part of our conclusion and focused more on Majolins ulceration to be treated aggressively.

Kind regards
Reviewers’ Comments to Revision

Reviewer 1: anonymous
Apr 01, 2017

Reviewer Recommendation Term: Accept with Minor Revision
Overall Reviewer Manuscript Rating: 60

Custom Review Questions
Is the subject area appropriate for you? 4
Does the title clearly reflect the paper’s content? 3
Does the abstract clearly reflect the paper’s content? 3
Do the keywords clearly reflect the paper’s content? 3
Does the introduction present the problem clearly? 3
Are the results/conclusions justified? 3
How comprehensive and up-to-date is the subject matter presented? 3
How adequate is the data presentation? 3
Are units and terminology used correctly? 5 - High/Yes
Is the number of cases adequate? N/A
Are the experimental methods/clinical studies adequate? N/A
Is the length appropriate in relation to the content? 4
Does the reader get new insights from the article? 3
Please rate the practical significance. 3
Please rate the accuracy of methods. 3
Please rate the statistical evaluation and quality control. N/A
Please rate the appropriateness of the figures and tables. 4
Please rate the appropriateness of the references. 1 - Low/No
Please evaluate the writing style and use of language. 3
Please judge the overall scientific quality of the manuscript. 3
Are you willing to review the revision of this manuscript? Yes

Comments to Authors:
This article is more in accordance with the consensus on scar management published in 2014 and 2016
However some references (german consensus, international consensus) are still lacking, as well as reference for the Coleman technique
the authors should better describe when a flap is needed and when it is contraindicated

Reviewer 2: anonymous
May 29, 2017

Reviewer Recommendation Term: Accept
Overall Reviewer Manuscript Rating: 70

Custom Review Questions
Is the subject area appropriate for you? 5 - High/Yes
Does the title clearly reflect the paper’s content? 5 - High/Yes
Does the abstract clearly reflect the paper’s content? 5 - High/Yes
Do the keywords clearly reflect the paper’s content? 5 - High/Yes
Does the introduction present the problem clearly? 5 - High/Yes
Are the results/conclusions justified? 5 - High/Yes
How comprehensive and up-to-date is the subject matter presented? 5 - High/Yes
How adequate is the data presentation? 5 - High/Yes
Are units and terminology used correctly? 5 - High/Yes
Is the number of cases adequate? 5 - High/Yes
Authors’ Response to Reviewer Comments

Jun 04, 2017

Reviewer #1:

1.1 Response
Thank you very much for your comments and the revision. We agree to add the mentioned citations regarding current consensus of national and international scar treatment.

On page 1, we added following citations:

3. “Monstrey S, Middelkoop E, Vranckx JJ, Bassetto F, Ziegler UE, Meaume S, et al. Updated scar management practical guidelines: non-invasive and invasive measures. Journal of plastic, reconstructive & aesthetic surgery: JPRAS. 2014;67(8):1017-25.”
4. “Arco G, Horch R. Chirurgie der Narben Grundlagen, Prävention und Behandlungsmethoden. Chirurgische Allgemeine CHAZ.10(1):17-30.”
5. “Nast A, Eming S, Fluhr J, Fritz K, Gauglitz G, Hohenleutner S, et al. Leitlinie AWMF- Therapie pathologischer Narben (hypertrophe Narben und Keloide). AWMF. 2016;013/030.”

Furthermore, we inserted citations regarding the Coleman technique for fat grafting.

16. Coleman SR. Structural fat grafting. Aesthetic surgery journal. 1998;18(5):386, 8.
17. Pu LL, Yoshimura K, Coleman SR. Fat grafting: current concept, clinical application, and regenerative potential, part 1. Clinics in plastic surgery. 2015;42(2):ix-x.
18. Pu LL, Yoshimura K, Coleman SR. Fat Grafting: Current Concept, Clinical Application, and Regenerative Potential, Part 2. Preface. Clinics in plastic surgery. 2015;42(3):xiii-xiv.

Regarding free flap surgery, we believe that we explicitly described the indications and characteristics. On Page 4 and 5 as well as page 9 and 10 we provided a detailed description for free flaps with explanation of the flap architecture and localization of free flap reconstruction. With special consideration in the growing skeleton we described also one further indication of free flaps. Finally, we conclude that free flap surgery takes an “essential role” in modern plastic surgery treatment (Page 11).

Nevertheless, we conducted to consider risks of free flap surgery (page 11) :

“However, risks for free flap surgery should be considered in diseases, which possibly compromise the vessel quality, like peripheral arterial occlusive disease (PAD), diabetes, congenital tendency to bleeding or thrombosis. However, these diseases are by no means an absolute contraindication for free flap plastic surgery, but require precise preoperative diagnostics.”

Reviewer #2:

2.1 Response
Thank you very much for your review and your comments.

Kind regards