

PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 42135

Title: Inter- and intra-rater reliability of vertebral fracture classifications in the Swedish fracture register

Reviewer's code: 01213075

Reviewer's country: Taiwan

Science editor: Ying Dou

Date sent for review: 2018-09-21

Date reviewed: 2018-09-23

Review time: 2 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Summary: This manuscript reported a study aimed to investigate the inter- and intra-rater reliability of the vertebral fracture classifications used in the Swedish fracture register. The authors studied on radiological images of consecutive patients with cervical

spine fractures (n=50) and thoracolumbar fractures (n=50). Five investigators with different experience levels classified these images at two occasions. Cohen's kappa was used to calculate the inter- and intra-rater reliability. The results showed that the mean kappa coefficient for inter-rater reliability ranged between 0.54 and 0.79 for the cervical fracture classifications, between 0.51 and 0.72 for the thoracolumbar classifications (overall and for different subclassifications), and between 0.65 and 0.77 for the presence or absence of signs of ankylosing disorder in the fracture area. The mean kappa coefficient for intra-rater reliability ranged between 0.58 and 0.80 for the cervical fracture classifications, between 0.46 and 0.68 for the thoracolumbar fracture classifications (overall and for different subclassifications) and between 0.79 and 0.81 for the presence or absence of signs of ankylosing disorder in the fracture area. The authors concluded that the classifications used in the Swedish fracture register for vertebral fractures have an acceptable inter- and intra-rater reliability with a moderate strength of agreement.

Comments: This manuscript reported a study on the inter- and intra-rater reliability of the vertebral fracture classifications used in the Swedish fracture register. The results showed overall inter- and intra-rater reliability had a moderate strength of agreement for both cervical and thoracolumbar fracture classifications. The authors mentioned that (in the conclusion section) "with specific training or many years of experience, a higher consistency in inter-rater reliability could be achieved. The results indicate that the Swedish Fracture Register data may be used for studies on epidemiology." This study provided some information about the register of vertebral fractures. However, some issues needed to be addressed before considering publication in World Journal of Orthopaedics.

1. The gold standard was the key element for assessing inter- and intra-rater reliability in this study. How did the authors confirm the final "accurate" diagnosis of these studied radiograms? Did the authors check the diagnosis using other image modalities, e.g., CT scans?
2. Page 12 The authors mentioned that "with specific



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training or many years of experience, a higher consistency in inter-rater reliability could be achieved". Therefore, the readers will be interested to know how much the difference was. In addition, can we improve it? 3. The results showed that the mean kappa coefficient for inter-rater reliability and intra-rater reliability ranged from 0.51 to 0.80. For the epidemiological studies, a low kappa coefficient may not reach the requirement. Therefore, it would be better to mention more detail the coefficient for various fracture types of fractures in text and provided clear statement. 4. For study design, it would be better to do the third or more test and compared the results. This design may help assessing the learning effect.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 42135

Title: Inter- and intra-rater reliability of vertebral fracture classifications in the Swedish fracture register

Reviewer's code: 02444715

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Science editor: Ying Dou

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SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
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			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

the paper Inter- and intra-rater reliability of vertebral fracture classifications in the Swedish fracture register is well written I think it worth publication despite the limited value to many readers maybe if the authors discuss the inter and intra observer



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reliability in other registers and different classification systems that could add more value But I understand this data may not be available

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

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- ☐ No