Materials Design Analysis Reporting (MDAR) Checklist for Authors

The MDAR framework establishes a minimum set of requirements in transparent reporting applicable to studies in the life sciences (see Statement of Task: doi:10.31222/osf.io/9sm4x.). The MDAR checklist is a tool for authors, editors and others seeking to adopt the MDAR framework for transparent reporting in manuscripts and other outputs. Please refer to the MDAR Elaboration Document for additional context for the MDAR framework.

Materials

Antibodies	Yes (indicate where provided: section/paragraph)	n/a
For commercial reagents, provide supplier name, catalogue number and		No antibodies were used in this study.

Cell materials	Yes (indicate where provided: section/paragraph)	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		No cell lines were used in the study.
Primary cultures: Provide species, strain, sex of origin, genetic		No primary cultures were used in the study.

Experimental animals	Yes (indicate where provided: section/paragraph)	n/a
L: Provide species, strain, sex, age, genetic modification status. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		No laboratory animals were necessary in the study.
Animal observed in or captured from the field: Provide species, sex and age where possible		No laboratory animals were used in the study.
Model organisms: Provide Accession number in repository (where relevant)		No model organisms were used in the study.

Plants and microbes	Yes (indicate where provided: section/paragraph)	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild		No plants were used in the study.
Microbes: provide species and strain, unique accession number if available,		No microbes were used in the study.

Human research participants	Yes (indicate where provided: section/paragraph)	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Yes Methods/Eligibility criteria/paragraph 1	
Provide statement confirming informed consent obtained from study participants.	Yes Methods/Eligibility	
Report on age and sex for all study participants.	Yes Results/Patient characteristics/paragraph 1	

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		This study is not a clinical trial.

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	Yes Methods/Fracture models, calcaneal templates and fracture mapping	

Experimental study design (statistics details)	Yes (indicate where provided: section/paragraph)	
State whether and how the following have been done**, or** if they were not carried out.	The study was carried out in Shanghai Pudong New Area People's Hospital.	
Sample size determination	Yes Results/Patient characteristics/paragraph 1	
Randomisation		No randomization was used in the study.
Blinding		No blinding was used in the study.
Inclusion/exclusion criteria	Yes Methods/Eligibility criteria/paragraph 1	

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory		The experiment was replicated twice.
Define whether data describe technical or biological replicates		The data described were technically replicated.

Ethics	Yes (indicate where provided: section/paragraph)	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Yes Methods/Eligibility criteria/paragraph 1 No. 2019-16	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		No experimental animals were used in this study.
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.		The permits to use CT images were obtained from the fracture patients.

Dual Use Research of Concern (DURC)	Yes (indicate where provided: section/paragraph)	n/a
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval		The study is not subject to dual use research of concern.

Analysis

Attrition	**Yes (indicate where provided: section/paragraph)**	**n/a**
State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified	Yes Methods/Eligibility criteria/paragraph 1	

Statistics	**Yes (indicate where provided: section/paragraph)**	**n/a**
Describe statistical tests used and justify choice of tests.	Yes Methods/Data analysis	

Data Availability	**Yes (indicate where provided: section/paragraph)**	**n/a**
State whether newly created datasets are available, including protocols for access or restriction on access.	Yes Introduction/ paragraph 4	**n/a**
If data are publicly available, provide accession number in repository or DOI or URL.	Emails address: gendianqing@163.com.	**n/a**
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Emails address: gendianqing@163.com.	**n/a**

Code Availability	**Yes (indicate where provided: section/paragraph)**	**n/a**
For all newly generated code and software essential for replicating the main findings of the study:	Yes Methods/Fracture models, calcaneal templates and fracture mapping	
State whether the code or software is available.	The software is available in the market.	
If code is publicly available, provide accession number in repository, or DOI or URL.		The software is commercial product but not publicly available, which can be buy from professional companies.

Reporting

Adherence to community standards	Yes (indicate where provided: section/paragraph)	n/a
MDAR framework recommends adoption of discipline-specific guidelines, established and endorsed through community initiatives. Journals have their own policy about requiring specific guidelines and recommendations to complement MDAR.		
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	ICMJE guidelines were followed as the journal follows ICMJE guidelines for publication.	

Article information: http://dx.doi.org/10.21037/atm-20-7824