



Leading institutions around the world, such as [ANPAD](#) and [ICMJE](#) (International Committee of Medical Journal Editors), recommend that the authoring authority be based on the following four minimum criteria:

- Substantial contributions to design or work design; or an acquisition, analysis or interpretation of data for the job;
- Develop work or critically review for important intellectual content;
- Final approval of the version to be published;
- Agree to be responsible for all aspects of the work, apply that issues related to the accuracy or integrity of any part of the work be investigated and resolved.

AUTHOR'S CONTRIBUTION – CREDIT TAXONOMY

- **Conceptualization** – Ideas; formulation or evolution of overarching research goals and aims.
- **Data curation** – Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.
- **Formal analysis** – Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.
- **Funding acquisition** - Acquisition of the financial support for the project leading to this publication.
- **Investigation** – Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.
- **Methodology** – Development or design of methodology; creation of models.
- **Project administration** – Management and coordination responsibility for the research activity planning and execution.
- **Resources** – Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- **Software** – Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
- **Supervision** – Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
- **Validation** – Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.
- **Visualization** – Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
- **Writing – original draft** – Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- **Writing – review & editing** – Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages.

RECOMMENDATIONS FOR APPLYING THE CRediT taxonomy are:

- **List all Contributions** – All contributions should be listed, whether from those listed as authors or individuals named in acknowledgements.



- **Multiple Roles Possible** – Individual contributors can be assigned multiple roles, and a given role can be assigned to multiple contributors;
- **Degree of Contribution Optional** – Where multiple individuals serve in the same role, the degree of contribution can optionally be specified as 'lead', 'equal', or 'supporting';
- **Shared Responsibility** – Corresponding authors should assume responsibility for role assignment, and all contributors should be given the opportunity to review and confirm assigned roles;

Therefore, authors must send a statement about the contribution of each author following the model:

1st author: William Adams

Conceptualization (lead)

Writing – original draft (equal)

Project administration (equal)

Validation (lead)

2nd author: