**Note**
- This flowchart relates only to digital photographic images. For wider concerns about potential data fabrication, please consult the flowchart ‘Fabricated data in a published article’ https://doi.org/10.24318/cope.2019.2.4
- For cases of multiple affected papers, consult the guidelines on ‘Systematic manipulation of the publication process’ https://doi.org/10.24318/cope.2019.2.23 and supplementary guidance ‘Addressing concerns about systematic manipulation of the publication process’ https://doi.org/10.24318/x0mN3xfd

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**INAPPROPRIATE IMAGE MANIPULATION IN A PUBLISHED ARTICLE**

**READER EXPRESSES SUSPICION OF INAPPROPRIATE IMAGE MANIPULATION**

Thank reader and state your plan to investigate. Consider getting a second opinion from another reviewer.

- **Is it obvious that part/s of an image have been selectively edited (eg, cloned with or without rotation, resizing, or reflection), affecting conclusions?**
  - **Yes**
    - Consider retraction and inform all authors of the retraction decision.
  - **No**
    - Contact corresponding author and cc all authors to explain your concerns but do not make direct accusations.

**Response**

- **Satisfactory explanation**
  - Apologise to author or publish retraction or correction if an honest error has been detected that does or does not invalidate conclusions, respectively.
- **Unsatisfactory answer**
  - Consider whether you have sufficient evidence of inappropriate image manipulation to publish a retraction or a correction (eg, does zooming in show that parts of images are duplicated)? Consider using software to analyse images.
  - **Clear admission of inappropriate image manipulation by author**
    - Publish a retraction (or consider a correction if the manipulation is very minor and the majority of the results and conclusions of the article remain valid), contacting all authors and telling them what you plan to do.
  - **Clear image manipulation**
    - Consider contacting authors’ institutions every 3-6 months.
  - **Unclear/suspected image manipulation**
    - Contact author’s institution requesting assistance from person responsible for research governance, if necessary coordinating with co-authors’ institutions. Consider publishing an Expression of Concern.

**Conduct online search for current affiliations/emails and contact authors again**

- **No response**
  - Satisfactory explanation
  - Inappropriate image manipulation confirmed
  - Inform authors’ superior and/or person responsible for research governance at authors’ institutions, and inform authors.
  - Inform reader of outcome

- **No response or inconclusive reply**
  - Inappropriate image manipulation confirmed
  - Inform authors’ superior and/or person responsible for research governance at authors’ institutions, and inform authors.
  - Inform reader of outcome

**Consider contacting authors’ institutions every 3-6 months**

If no resolution, consider contacting the regulatory body, research council or equivalent, if appropriate. Consider publishing an Expression of Concern.

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For a suggested classification scheme of image irregularities, see STM’s ‘Recommendations for handling image integrity issues’ https://b.link/image-manipulation

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