

## VIEWPOINT

# Standardized statement for the ethical use of human cadaveric tissues in anatomy research papers: Recommendations from *Anatomical Journal* Editors-in-Chief

Joe Iwanaga<sup>1,2,3</sup>  | Vishram Singh<sup>4</sup> | S n Takeda<sup>5</sup> | Julius Ogeng'o<sup>6</sup> |  
Hee-Jin Kim<sup>7</sup>  | Janusz Morys<sup>8</sup> | Kumar Satish Ravi<sup>9</sup> | Domenico Ribatti<sup>10</sup> |  
Paul A. Trainor<sup>11,12</sup> | Jos  Ram n Sa nudo<sup>13</sup> | Nihal Apaydin<sup>14</sup> | Anu Sharma<sup>15</sup> |  
Heather F. Smith<sup>16</sup> | Jerzy A. Walocha<sup>17</sup> | Ahmed M. S. Hegazy<sup>18,19</sup> |  
Fabrice Duparc<sup>20</sup>  | Friedrich Paulsen<sup>21,22</sup> | Mariano Del Sol<sup>23</sup> | Philip Adds<sup>24</sup> |  
Stephane Louryan<sup>25</sup> | Val ria Paula Sassoli Fazan<sup>26</sup> | R. K. Boddeti<sup>27</sup> |  
R. Shane Tubbs<sup>1,2,28,29,30</sup> 

<sup>1</sup>Department of Neurosurgery, Tulane Center for Clinical Neurosciences, Tulane University School of Medicine, New Orleans, Louisiana, USA

<sup>2</sup>Department of Neurology, Tulane Center for Clinical Neurosciences, Tulane University School of Medicine, New Orleans, Louisiana, USA

<sup>3</sup>Division of Gross and Clinical Anatomy, Department of Anatomy, Kurume University School of Medicine, Kurume, Fukuoka, Japan

<sup>4</sup>Department of Anatomy, Kasturba Medical College Mangalore, Manipal Academy of Higher Education, Manipal, Karnataka, India

<sup>5</sup>Department of Anatomy, Teikyo University School of Medicine, Tokyo, Japan

<sup>6</sup>Department of Human Anatomy, University of Nairobi, Nairobi, Kenya

<sup>7</sup>Division in Anatomy & Development Biology, Department of Oral Biology, Yonsei University College of Dentistry, South Korea

<sup>8</sup>Department of Anatomy & Neurobiology, Medical University of Gda nsk, Poland

<sup>9</sup>Department of Anatomy, All India Institute of Medical Sciences, India

<sup>10</sup>Department of Basic Medical Sciences, Neurosciences and Sensory Organs, University of Bari Medical School, Bari, Italy

<sup>11</sup>Stowers Institute for Medical Research, Kansas City, Missouri, USA

<sup>12</sup>Department of Anatomy and Cell Biology, University of Kansas School of Medicine, Kansas City, Kansas, USA

<sup>13</sup>Departamento de Anatom a y Embriolog a Humanas, Facultad de Medicina, Universidad Complutense de Madrid, Madrid, Spain

<sup>14</sup>Department of Anatomy, Ankara University Faculty of Medicine, Ankara, Turkey

<sup>15</sup>Department of Anatomy, Dayanand Medical College and Hospital, Ludhiana, Punjab, India

<sup>16</sup>Department of Anatomy, Midwestern University, Glendale, Arizona, USA

<sup>17</sup>Department of Anatomy, Jagiellonian University Medical College, Krak w, Poland

<sup>18</sup>Anatomy and Embryology, Faculty of Medicine, Benha University, Banha, Egypt

<sup>19</sup>Anatomy Department, Northern Border University (NBU), Arar, Saudi Arabia

<sup>20</sup>Laboratory of Anatomy, Faculty of Medicine, Rouen-Normandy University, Rouen, France

<sup>21</sup>Institute of Functional and Clinical Anatomy, Friedrich Alexander University Erlangen-N rnberg, Erlangen, Germany

<sup>22</sup>Sechenov University, Department of Operative Surgery and Topographic Anatomy, Moscow, Russia

<sup>23</sup>Center of Excellence in Morphological and Surgical Studies, Faculty of Medicine, Universidad de La Frontera, Temuco, Chile

<sup>24</sup>Department of Anatomy, St George's, University of London, London, UK

<sup>25</sup>Facult  de m decine, Universit  Libre de Bruxelles, Laboratoire d'anatomie, biom canique et organog nese, Bruxelles, Belgium

<sup>26</sup>Department of Surgery and Anatomy, School of Medicine of Ribeir o Preto, University of S o Paulo, S o Paulo, Brazil

<sup>27</sup>Department of Anatomy, International Medical School, Management & Science University, Malaysia

<sup>28</sup>Department of Structural & Cellular Biology, Tulane University School of Medicine, New Orleans, Louisiana, USA

<sup>29</sup>Department of Neurosurgery and Ochsner Neuroscience Institute, Ochsner Health System, New Orleans, Louisiana, USA

<sup>30</sup>Department of Anatomical Sciences, St. George's University, St. George's, Grenada, West Indies

#### Correspondence

Joe Iwanaga, Department of Neurosurgery, Tulane Center for Clinical Neurosciences, Tulane University School of Medicine, 131 S. Robertson St. Suite 1300, New Orleans, Louisiana 70112, USA.  
Email: iwanagajoe@gmail.com

#### Abstract

Human cadaveric donors are essential for research in the anatomical sciences. However, many research papers in the anatomical sciences often omit a statement regarding the ethical use of the donor cadavers or, as no current standardized versions exist, use language that is extremely varied. To rectify this issue, 22 editors-in-chief of anatomical journals, representing 17 different countries, developed standardized and simplified language that can be used by authors of studies that use human cadaveric tissues. The goal of these editor recommendations is to standardize the writing approach by which the ethical use of cadaveric donors is acknowledged in anatomical studies that use donor human cadavers. Such sections in anatomical papers will help elevate our discipline and promote standardized language use in others non anatomy journals and also other media outlets that use cadaveric tissues.

#### KEYWORDS

anatomy, cadavers, dissection, medical ethics; guideline, recommendation, research

## 1 | INTRODUCTION

Statements regarding the ethical use of cadaveric tissues are essential for publications that use human tissues in their research. Moreover, with the recent explosion of cadaveric tissues used on social media, now, more than ever, such statements are imperative. However, there is currently no standardized and agreed upon statement for detailing that appropriate ethical use of cadaveric tissues was followed. To address this, international editors from journals publishing in the anatomical sciences have developed consensus recommendations for acknowledging that ethical considerations of the cadaveric donors were followed during anatomical research. Such recommendations will hopefully add to the veracity of anatomical studies and might also positively influence public attitudes regarding human cadaveric research.

## 2 | RECOMMENDATIONS

Twenty-two Editors-in-Chief representing 17 different countries and from 20 anatomical journals contributed their expertise to these recommendations.

These recommendations include the following:

1. The recommendation is applied to any research using human cadaveric donors or human cadaveric tissues in an anatomical study.
2. A declaration is included in the methods section of anatomical papers that use human cadaveric donors.

3. An appropriate and agreed upon ethical statement to be used is: The authors state that every effort was made to follow all local and international ethical guidelines and laws that pertain to the use of human cadaveric donors in anatomical research.

Such a statement would pertain to acquisition, storage, dissection, imaging/photography, management of results, and disposal of all tissues.

## 3 | DISCUSSION

Standardized statements regarding the ethical treatment of cadaveric donors are scantily found in most human anatomical studies. Even statements that acknowledge human cadaveric donors in such studies is varied among journals (Gürses et al., 2016). Although some anatomical journals require that an ethical statement is used by authors of anatomical studies, many such studies simply state that the Declaration of Helsinki was followed although strictly, this declaration applies to living subjects and not cadaveric donors. A few publications have outlined the necessary steps for making sure that anatomical studies that use cadaveric donors follow ethical guidelines although these are still often not included in research papers or case reports (Henry et al., 2018). Lack of use of such guidelines might be due to the varied local rules and regulations of the home country of the authors. For example, some countries require institutional review board approval for anatomical studies but others, only require such approval for studies involving living patients. If institutional review board approval for cadaveric research is required, including the protocol approval number

in anatomical research papers as is the case in animal research, would be desirable. Moreover, although we still support more detailed previously published guidelines (Henry et al., 2018) for authors to use in studies that use cadaveric donors, our hopes are that a simplified and standardized statement in regard to the ethics of cadaveric donor use might be more widely used as was the result of another recent endeavor by anatomical editors for using standardized language for acknowledging human cadaver donors (Iwanaga et al., 2021).

## 4 | CONCLUSIONS

The recommendations reported herein provide the anatomical researcher with simplified language for stating that all local and international guidelines were followed during the use of cadaveric donors in their anatomical study. Additionally, such standard language can be used for oral presentations, posters, case reports, social media (Rai et al., 2019), chapters in books, books and atlases where cadaveric donor bodies and tissues are often shown (Gosh, 2020). Moreover, journals in the anatomical field and other journals (clinical, surgical, and biomedical) publishing studies that use cadaver donors might recommend that such a statement be included in their author guidelines. Such sections in anatomical papers will help elevate our discipline and promote standardized language use in others non anatomy journals and also other media outlets that use cadaveric tissues.

Additionally, a standardized statement on this topic might also increase its use in other peer-reviewed publications outside of the anatomical sciences that use cadaveric tissues e.g., surgical and biomechanical journals.

### ORCID

Joe Iwanaga  <https://orcid.org/0000-0002-8502-7952>

Hee-Jin Kim  <https://orcid.org/0000-0002-1139-6261>

Fabrice Duparc  <https://orcid.org/0000-0002-7131-7692>

R. Shane Tubbs  <https://orcid.org/0000-0003-1317-1047>

### REFERENCES

- Gosh, S. K. (2020). The practice of ethics in the context of human dissection: Setting standards for future physicians. *Annals of Anatomy*, 232, 1–11.
- Gürses, İ. A., Coşkun, O., Gürtekin, B., & Kale, A. (2016). The amount of information provided in articles published in clinical anatomy and surgical and radiologic anatomy regarding human cadaveric materials and trends in acknowledging donors/cadavers. *Surgical and Radiologic Anatomy*, 38, 1225–1231.
- Henry, B. M., Vikse, J., Pekala, P., Loukas, M., Tubbs, R. S., Walocha, J. A., Jones, D. G., & Tomaszewski, K. A. (2018). Consensus guidelines for the uniform reporting of study ethics in anatomical research within the framework of the anatomical quality assurance (AQUA) checklist. *Clinical Anatomy*, 31, 521–524.
- Iwanaga, J., Singh, V., Ohtsuka, A., Hwang, Y., Kim, H. J., Moryś, J., Ravi, K. S., Ribatti, D., Trainor, P. A., Sañudo, J. R., Apaydin, N., Şengül, G., Albertine, K. H., Walocha, J. A., Loukas, M., Duparc, F., Paulsen, F., Del Sol, M., Addis, P., ... Tubbs, R. S. (2021). Acknowledging the use of human cadaveric tissues in research papers: Recommendations from anatomical journal editors. *Clinical Anatomy*, 34(1), 2–4.
- Rai, R., Shereen, R., Protas, M., Greaney, C., Brooks, K. N., Iwanaga, J., Loukas, M., & Tubbs, R. S. (2019). Social media and cadaveric dissection: A survey study. *Clinical Anatomy*, 32, 1033–1041.

**How to cite this article:** Iwanaga, J., Singh, V., Takeda, S., Oğeng'o, J., Kim, H.-J., Moryś, J., Ravi, K. S., Ribatti, D., Trainor, P. A., Sañudo, J. R., Apaydin, N., Sharma, A., Smith, H. F., Walocha, J. A., Hegazy, A. M. S., Duparc, F., Paulsen, F., Del Sol, M., Addis, P., ... Tubbs, R. S. (2022). Standardized statement for the ethical use of human cadaveric tissues in anatomy research papers: Recommendations from *Anatomical Journal* Editors-in-Chief. *Clinical Anatomy*, 1–3. <https://doi.org/10.1002/ca.23849>