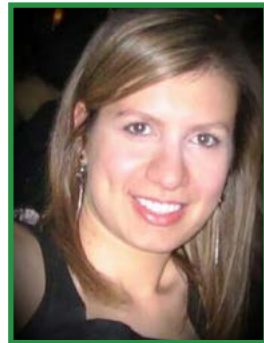


# Ethics in Research: Highlights each Researcher Should Know

*From Morfologia & Clinica. De Arte Medendi 2017.p.27-30.ISBN:978-88-98731-23-7.*



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*“No science is immune to the infection of politics and the corruption of power”*

*[Jacob Bronowski]*

Scientific research, whose ultimate goal is to serve humanity by gradually increasing knowledge and bringing to light new therapies and discoveries has always been asked to abide by some ethical principles and codes of conduct, among those are: Honesty, Objectivity, Integrity, Carefulness, Openness, Respect for Intellectual Property, Confidentiality, Responsible publication, Responsible monitoring, Respect for colleagues, Social Responsibility, Non-Discrimination, Competence, Legality, Human Subjects Protection as well as Animal care and respect [1]. Ethics are most commonly defined as norms of conduct that distinguish between acceptable and unacceptable behavior. It is, in other words, the disciplined study of Morality. Ethics in Research is the application of ethical principles in the conception, conduct, analysis and publication of scientific work. [2]

To know the basic ethical principles that govern research, to understand how and why they have evolved and to see why they should be strictly followed is, therefore, essential to all researchers.

## Five Basic Ethical Principles for Research

The American Psychological Association (APA) Science Directorate gave five basic recommendations to “help researchers steer clear of ethical quandaries” [2]:

**1. Discuss intellectual property frankly.** This should be done, in general, at the beginning of the working relationship. APA’s Ethics Code also states that “Mere possession of an institutional position, such as department chair, does not justify authorship credit” and “Minor contributions to the research or to the writing for publications are acknowledged appropriately, such as in footnotes or in an introductory statement”. [2]

**2. Be conscious of multiple roles.** In other words, to think carefully before recruiting one’s students or clients as participants in a research. This principle also hints that a researcher has also to think twice before doing experiments on a product of a company whose stock he owns: potential conflict of interest. [2]

**3. Follow informed-consent rules.** Individuals participating in a research have to be volunteers with full knowledge of all relevant risks and/or benefits of the study. In the case of minors and people with cognitive disabilities taking part in a study, a researcher should give full information to the person who’s giving the permission.[2]

**4. Respect confidentiality and privacy.** Researchers have to tell participants how their personal data and information will be used and to which extent. They should also avoid talking about the study in a social environment and consider storing the private records in a secure place only accessible to them. Researchers also need to be fully aware of the limits of the internet and be cautious while exchanging some critical and confidential data electronically: restricted accessibility.[2]

**5. Tap into ethics resources.** Researchers should always keep in mind the ethical standards, codes and norms that their institution follows to be able to solve ethical dilemmas.

Given the importance of ethics in research, it is no surprise that most professional associations, governmental and non-governmental institutions and universities around the world have set and adopted specific codes and policies related to research ethics. [2]

## Historical Highlights

Awareness about the ethical issues related to research is deep in history, however, during the twentieth century a lot of progress was made in developing and implementing some basic guidelines which became a necessity to monitor and control this field.

In the United States, The National Commission on Biomedical and Behavioral Research identified in 1974 the basic ethical principles for human research and developed guidelines to enforce them. As a result, the Belmont Report came out highlighting three principles: Respect for persons, Beneficence and Justice. But the history of ethics in human research goes all the way back to 1947 with the Nuremberg Code which made “absolutely essential” the condition of consent of all participants in a clinical trial.

Moreover, the Declaration of Helsinki, developed by the World Medical Association (WMA) in 1964 was sort of a reinterpretation of the Nuremberg code [3]. It highlighted the ten important principles for human research and added some notable changes such as a relaxation of the conditions of consent.

Since then the Declaration has undergone seven revisions; the latest was in 2013.

Although, the Declaration of Helsinki is not a binding set of rules and principles for human research and although most countries have their own national policies concerning research ethics, it is nonetheless considered, along with the World Health Organization’s International Ethical Guidelines for Biomedical Research Involving Human Subjects, a cornerstone document for human research ethics and a universal guide in this matter [3-5].

In Lebanon, The National Council for Scientific Research published on July 15, 2016, the “Charter of ethics and guiding principles of scientific research in Lebanon”.





This document is composed of seven articles:

- Article 1: Responsible conduct in scientific research
- Article 2: Breaches of the code of ethics and misconduct in research
- Article 3: Proper execution of research and principles of collaboration
- Article 4: Handling and publishing research results
- Article 5: Authorship and intellectual property
- Article 6: Exploitation of research results and ownership
- Article 7: Responsibilities of institutions.

This charter is considered as a “guide for development of detailed policies aiming to protect the transparency and the credibility of scholars and researchers and to promote scientific research and creativity for social development” [6].

On the other hand, the Lebanese Association for Advancement of science, founded in 1968, almost fifty years ago, devoted special workshops, targeting researchers, to increase awareness and knowledge about the basic principles governing research in human and in animals, and to promote their application among all its members who belong to all institutions doing research in Lebanon.

### Take Home Recommendations

In order for research to prosper and serve its original purpose, which is the advancement of science in the most transparent and truthful way, researchers and their hosting institutions should be aware of ethical rules and follow their own references and approved guidelines in order to avoid:

- **Plagiarism;** A way to stay clear of it is to not use the exact wording of someone else’s paper. A whole sentence can be copied from another article provided it is put between quotes and followed by the reference.
- **Duplicate Publications;** Researchers should refrain from submitting a paper or part of a paper to more than one journal at the same time.
- **Redundant Publications;** Also known as self-plagiarism. An author is not supposed to use his old data and results in writing a new paper.
- **Falsification and Fabrication of data.** Researchers might tend to modify data to improve the outcome of the trial. Results should be faithfully and transparently translated and must reflect what exactly happened in the research.
- **Figure manipulation.** Editing figures (cropping, cutting, deleting pieces) and modifying them to improve results

of the research is unethical. Figures have to clearly and honestly show what the experiment came up with.

- **Human/Animal Welfare issues.** A way to avoid these issues is to closely follow institutional adopted protocols in handling humans and animals in trials.
- **Conflict of Interest.** Any potential conflict of interest has to be disclosed to the editor of the journal and within the paper.
- **Authorship problems.** These problems can be avoided by signing publishers’ authorship forms at the beginning of the research [7].

### Conclusion

These so called “deviations” from ethical behavior can be the result of ignoring the guidelines or simply underestimating the importance of following them [1]. Ethics and Research go hand in hand. Consequently, choosing qualified researchers and investigators and educating and training them on ethical rules and regulations specific to each institution is becoming more and more a necessity before starting any new research project or laboratory work. Furthermore, national and international scientific societies have a major role to play in this context through many of their professional continuing education activities.

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