

科研道德和学术规范

山东大学齐鲁医院

张运

大学医院的三项职能

- ◆ 临床是根本
- ◆ 教学是后劲
- ◆ 科研是前途
- ◆ Science is tomorrow's
medicine

为什么要进行科学研究？

- ◆ 对于科学问题的强烈好奇和解决科学问题的浓厚兴趣（永久目标）
- ◆ 国家和社会的重大需求（阶段目标）
- ◆ 科研工作的时代性：创新表现、临床后劲、教学手段、学科标准、人才尺度
- ◆ 家：探索未知； 匠：学习已知
- ◆ 个人利益驱动的科研：急功近利、一劳永逸

爱因斯坦谈科研目的

- ◆ 我们思想的发展在某种意义上常常来源于好奇心
- ◆ 兴趣是最好的老师
- ◆ 我认为对于一切情况，只有“热爱”才是老师
- ◆ 科学是个美妙的东西——如果无需靠它活着的话
- ◆ 想象力比知识更重要，因为知识是有限的，而想象力概括着世界的一切，推动着进步，并且是知识进步的源泉

科研规范的国际指南

- ◆ **Committee on Publication Ethics (COPE): guidelines on good publication practice**
- ◆ **Adopted by many international journals**
- ◆ **Most widely used guideline on publication ethics**

科研规范的国际指南

- ◆ COPE founded in 1997 to address breaches of research and publication ethics
- ◆ A voluntary body providing a discussion forum and advice for scientific editors
- ◆ Aims to find practical ways of dealing with the issues and to develop good practice
- ◆ Intellectual honesty should be actively encouraged in all medical and scientific courses of study, and used to inform publication ethics and prevent misconduct

研究设计和伦理批准

Definition

- ◆ Good research should be well justified, well planned, appropriately designed, and ethically approved
- ◆ To conduct research to a lower standard may constitute misconduct

研究设计和伦理批准

Action

- ◆ Laboratory and clinical research should be driven by protocol
- ◆ Pilot studies should have a written rationale
- ◆ Research protocols should seek to answer specific questions, rather than just collect data
- ◆ Protocols must be carefully agreed by all contributors and collaborators, including, if appropriate, the participants
- ◆ The final protocol should form part of the research record

研究设计和伦理批准

Action

- ◆ Early agreement on the precise roles of the contributors and collaborators, and on authorship and publication, is advised
- ◆ Statistical issues should be considered early in study design, including power calculations, to ensure there are neither too few nor too many participants
- ◆ Formal and documented ethical approval from an appropriately constituted research ethics committee is required for all studies involving people, medical records, and anonymised human tissues

数据分析

Definition

- ◆ Data should be appropriately analysed
- ◆ Inappropriate analysis does not necessarily amount to misconduct.
- ◆ Fabrication and falsification of data do constitute misconduct

数据分析

Action

- ◆ All sources and methods used to obtain and analyse data, including any electronic pre-processing, should be fully disclosed
- ◆ Detailed explanations should be provided for any exclusions
- ◆ Methods of analysis must be explained in detail, and referenced, if they are not in common use

数据分析

Action

- ◆ The post hoc analysis of subgroups is acceptable, as long as this is disclosed
- ◆ Failure to disclose that the analysis was post hoc is unacceptable
- ◆ The discussion section of a paper should mention any issues of bias which have been considered, and explain how they have been dealt with in the design and interpretation of the study

作者署名

Definition

- ◆ There is no universally agreed definition of authorship
- ◆ As a minimum, authors should take responsibility for a particular section of the study

Action

- ◆ Authorship should balance intellectual contributions to the conception, design, analysis and writing of the study against the collection of data and other routine work
- ◆ If there is no task that can reasonably be attributed to a particular individual, then that individual should not be credited with authorship

作者署名

- ◆ To avoid disputes over attribution of academic credit, it is helpful to decide early on in the planning of a research project who will be credited as authors, as contributors, and who will be acknowledged
- ◆ All authors must take public responsibility for the content of their paper, which can be resolved by the disclosure of individual contributions
- ◆ Careful reading of the target journal's "Advice to Authors" is advised, in the light of current uncertainties

利益冲突

Definition

- ◆ Conflicts of interest comprise those which may not be fully apparent and which may influence the judgment of author, reviewers, and editors
- ◆ They have been described as those which, when revealed later, would make a reasonable reader feel misled or deceived
- ◆ They may be personal, commercial, political, academic or financial
- ◆ Financial interests may include employment, research funding, stock or share ownership, payment for lectures or travel, consultancies and company support for staff

利益冲突

Action

- ◆ Such interests, where relevant, must be declared to editors by researchers, authors, and reviewers
- ◆ Editors should also disclose relevant conflicts of interest to their readers
- ◆ Sometimes editors may need to withdraw from the review and selection process for the relevant submission

同行评审

Definition

- ◆ Peer reviewers are external experts chosen by editors to provide written opinions, with the aim of improving the study
- ◆ Working methods vary from journal to journal, but some use open procedures in which the name of the reviewer is disclosed, together with the full or 'edited' report

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同行评审

Action

- ◆ Suggestions from authors as to who might act as reviewers are often useful, but there should be no obligation on editors to use those suggested
- ◆ The duty of confidentiality in the assessment of a manuscript must be maintained by expert reviewers, and this extends to reviewers' colleagues who may be asked (with the editor's permission) to give opinions on specific sections
- ◆ The submitted manuscript should not be retained or copied

同行评审

- ◆ Reviewers and editors should not make any use of the data, arguments, or interpretations, unless they have the authors' permission
- ◆ Reviewers should provide speedy, accurate, courteous, unbiased and justifiable reports
- ◆ If reviewers suspect misconduct, they should write in confidence to the editor
- ◆ Journals should publish accurate descriptions of their peer review, selection, and appeals processes
- ◆ Journals should also provide regular audits of their acceptance rates and publication times

重复发表（自我剽窃）

Definition

- ◆ Redundant publication occurs when two or more papers, without full cross reference, share the same hypothesis, data, discussion points, or conclusions

Action

- ◆ Published studies do not need to be repeated unless further confirmation is required
- ◆ Previous publication of an abstract during the proceedings of meetings does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission

重复发表（自我剽窃）

- ◆ Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission
- ◆ At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers in press

剽窃

Definition

- ◆ Plagiarism ranges from the unreferenced use of others' published and unpublished ideas, including research grant applications to submission under 'new' authorship of a complete paper, sometimes in a different language
- ◆ It may occur at any stage of planning, research, writing, or publication
- ◆ It applies to print and electronic versions

剽窃

Action

- ◆ All sources should be disclosed, and if large amounts of other people's written or illustrative material is to be used, permission must be sought

主编职责

Definition

- ◆ Editors are the stewards of journals. They usually take over their journal from the previous editor(s) and always want to hand over the journal in good shape
- ◆ Most editors provide direction for the journal and build a strong management team
- ◆ They must consider and balance the interests of many constituents, including readers, authors, staff, owners, editorial board members, advertisers and the media

主编职责

Actions

- ◆ Editors' decisions to accept or reject a paper for publication should be based only on the paper's importance, originality, and clarity, and the study's relevance to the remit of the journal
- ◆ Studies that challenge previous work published in the journal should be given an especially sympathetic hearing
- ◆ Studies reporting negative results should not be excluded

主编职责

- ◆ All original studies should be peer reviewed before publication, taking into full account possible bias due to related or conflicting interests
- ◆ Editors must treat all submitted papers as confidential
- ◆ When a published paper is subsequently found to contain major flaws, editors must accept responsibility for correcting the record prominently and promptly

学术不端的处理

Principles

- ◆ The general principle confirming misconduct is intention to cause others to regard as true that which is not true
- ◆ The examination of misconduct must focus, not only on the particular act or omission, but also on the intention of the researcher, author, editor, reviewer or publisher involved
- ◆ Deception may be by intention, by reckless disregard of possible consequences, or by negligence
- ◆ The 'best practice' requires complete honesty, with full disclosure

学术不端的处罚

- ◆ A letter of explanation (and education) to the authors, where there appears to be a genuine misunderstanding of principles
- ◆ A letter of reprimand and warning as to future conduct
- ◆ A formal letter to the relevant head of institution or funding body
- ◆ Publication of a notice of redundant publication or plagiarism
- ◆ An editorial giving full details of the misconduct

学术不端的处罚

- ◆ Refusal to accept future submissions from the individual, unit, or institution responsible for the misconduct, for a stated period
- ◆ Formal withdrawal or retraction of the paper from the scientific literature, informing other editors and the indexing authorities
- ◆ Reporting the case to the General Medical Council, or other such authority or organisation which can investigate and act with due process

三批国际论文撤稿分析

2015年3月英国现代生物出版社（BioMed Central, BMC）
撤销43篇论文，其中41篇来自中国

期刊名称	数量	五年影响因子
European Journal of Medical Research	15	1.512
Journal of Orthopaedic Surgery and Research	8	1.386
Diagnostic Pathology	5	2.333
Journal of Ovarian Research	4	2.534
Journal of Cardiothoracic Surgery	2	1.125
BMC Gastroenterology	1	2.737
BMC Neurology	1	2.563
BMC Cardiovascular Disorders	1	1.939
BMC Cancer	1	3.77
World Journal of Surgical Oncology	1	1.489
BMC Musculoskeletal Disorders	1	2.282
Journal of Medical Case Reports	1	0

三批国际论文撤稿分析

2015年8月德国斯普林格(Springer)出版社撤销64篇论文，全部来自中国

期刊名称	数量	五年影响因子
Molecular Biology Reports	28	1.908
Tumor Biology	17	3.404
Molecular Neurobiology	6	5.46
Neurological Sciences	3	1.341
Lung	3	2.21
Molecular and Cellular Biochemistry	2	2.367
Journal of Cancer Research and Clinical Oncology	1	2.943
Clinical and Translational Oncology	1	1.604
Cytotechnology	1	1.914
Journal of Applied Genetics	1	1.627
Environmental Sciences Europe	1	0

三批国际论文撤稿分析

2015年10月爱思唯尔出版商（Elsevier）撤销9篇论文，全部来自中国

期刊名称	数量	五年影响因子
Steroids	1	2.696
Journal of Chemical Neuroanatomy	1	2.306
Gene	3	2.185
Clinics and Research in Hepatology and Gastroenterology	1	1.804
Pathology - Research and Practice	1	1.428
The Brazilian Journal of Infectious Diseases	2	2.367

三批国际论文撤稿分析

国际刊物2015年3次共撤销116篇论文，其中中国114篇

影响因子	篇数	百分比 (%)
IF < 1	2	1.75
IF 1- < 2	65	57.02
IF 2- < 3	23	20.18
IF 3- < 4	18	15.78
IF 4- < 5	0	0
IF 5- < 6	6	5.26

第一批国际论文撤稿单位

被撤稿的中国机构名称	数量	被撤稿的中国机构名称	数量
中国医大盛京医院	3	首都医大安贞医院	1
中国医大第四医院	1	中国人民解放军452医院	1
上海交大第六医院	1	安徽省立医院	1
上海交大胸科医院	1	南京军区南京总医院	1
上海交大仁济医院	1	嘉定区中心医院	1
上海交大第一人民医院	1	上海浦东医院	1
成都军区总医院	3	海南医学院附属医院	1
成都军区昆明总医院	1	武汉中心医院	1
第二军医大学东方肝胆医院	1	河南省人民医院	1
第二军医大学长海医院	1	苏州大学第一医院	1
第二军医大学长征医院	1	中南大学湘雅二医院	1
同济医学院第十人民医院	1	青海大学附属医院	1
同济大学医学院东方医院	1	沈阳第九医院	1
北京大学人民医院	1	四川大学华西医院	1
烟台毓璜顶医院	1	徐州医学院附属医院	1
山东省立医院	1	南京医大第十医院	1
济南军区总医院	1	西安交大第二医院	1
山东中医药大学第一医院	1	空军总医院	1

第二批国际论文撤稿单位

被撤稿的中国机构名称	数量	被撤稿的中国机构名称	数量	被撤稿的中国机构名称	数量
中国医科大学	2	吉林大学第一医院	1	内蒙古民族大学附属医院	1
中国医大第一医院	2	吉林大学中日联谊医院	1	新乡医学院第一附属医院	1
中国医大第四医院	2	海南医学院附院	2	中国医学科学院阜外医院	1
中国医大盛京医院	1	上海长宁区精神卫生中心	2	南京军区福州总医院	1
中国人民解放军总医院	2	黑龙江省医院	2	辽宁省肿瘤医院	1
中国人民解放军第一医院	1	山东大学第二医院	2	南方医大南方医院	1
同济大学附属同济医院	1	山东大学济南市中心医院	2	西北农林科技大学	1
同济大学第十人民医院	1	泰山医学院附属医院	1	上海市浦东医院	1
第二军医大学长海医院	2	烟台烟台山医院	1	福建省立医院	1
第二军医大学长征医院	1	德州学院	1	周朴医院	1
哈尔滨医科大学	1	泰山医学院	1	浙江大学	1
哈医大第一医院	2	济南军区总医院	1	大连医大第一医院	1
哈医大第二医院	1	济宁医学院附院	1	安徽医大第二医院	1
哈医大第四医院	1	首都医大宣武医院	1	成都军区总医院	1
上海交通大学	2	复旦大学儿童医院	1	石东医院	1
上海交大新华医院	1	燕山大学	1		
上海交大瑞金医院	1	重庆医大第一医院	1		

第三批国际论文撤稿单位

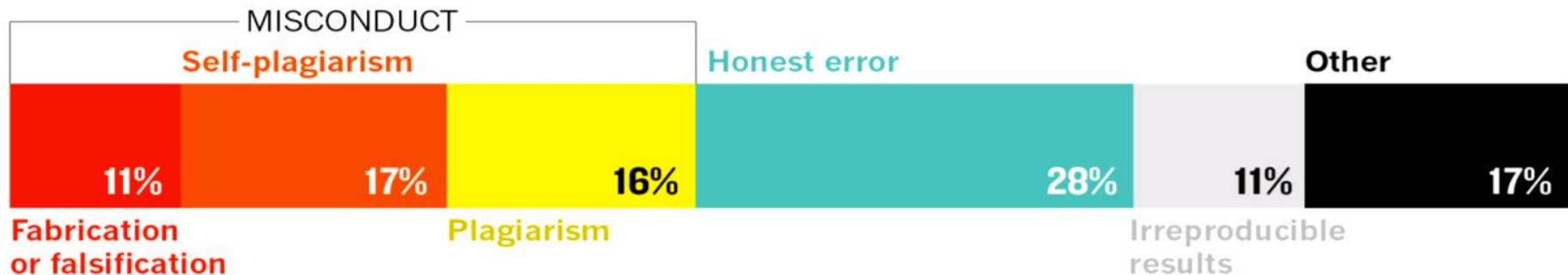
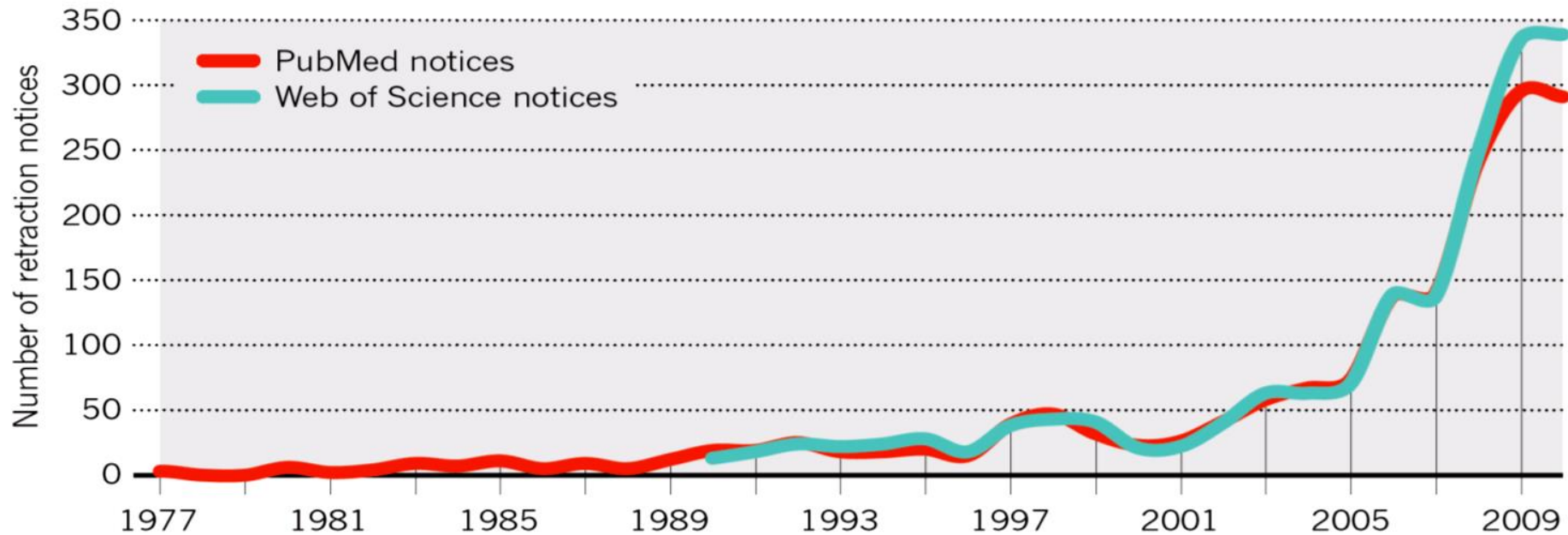
被撤稿的中国机构名称	数量
中国医科大学附属盛京医院	2
复旦大学上海医学院	1
复旦大学第五人民医院	1
武汉大学人民医院	1
浙江大学医学院第一附属医院	1
南京大学附属鼓楼医院	1
重庆医科大学	1
南宁广西医科大学	1

国际杂志撤稿的主要原因

- ◆ 自行审稿：低分杂志缺乏审稿专家，投稿人或论文包装公司推荐审稿人并伪造审稿人信箱，形成论文自审（**三批退稿**）
- ◆ 研究结果的捏造和剽窃
- ◆ 以往论文资料（图、表、连续**30**字以上或主要结论的相同描述）的重复且不能提供原始图像(**港大2003-2004论文退稿**)
- ◆ 图像的加工（同一组实验的图像处理条件保持相同）、美观（如背景污点或杂带的遮盖）、切割（完整条带的分割或部分图像的显示）、倾斜、反转且不能提供未加工的原始图像（**高分杂志的图像辨伪软件**）
- ◆ 同一论文内图像的重复（**同一 β -actin** 的重复使用）且不能提供原始图像（**医学院**）
- ◆ 重要结果长期未能被他人重复（**CNSP杂志退稿**）

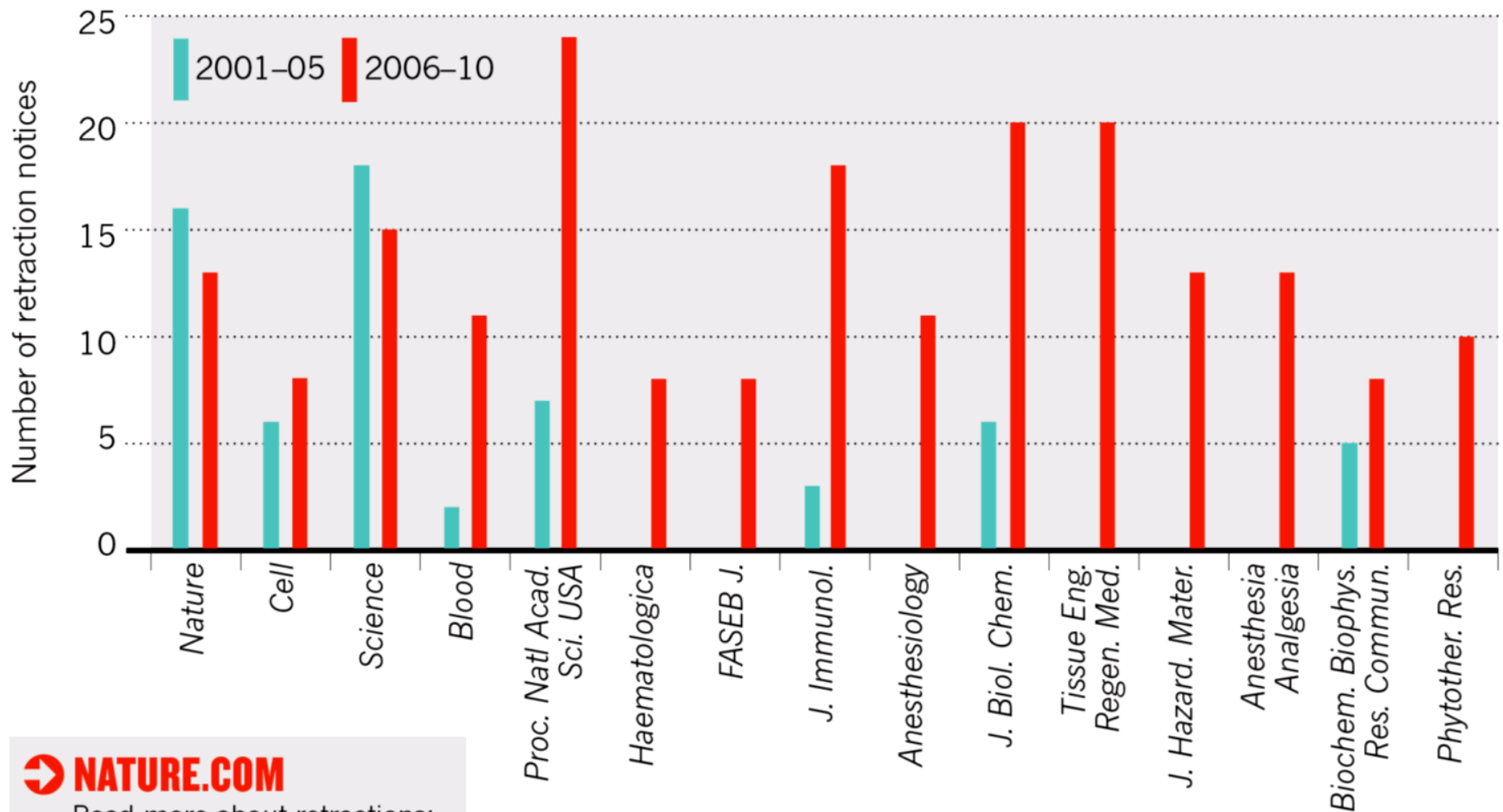
国际杂志撤稿数目的飙升

In the past decade, the number of retraction notices has shot up 10-fold (**top**), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (**middle**). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (**bottom**).



国际杂志撤稿数目的飙升

JOURNALS WITH MORE THAN 7 RETRACTION NOTICES IN WEB OF SCIENCE*, 2006–10
(journals ordered by decreasing impact factor for 2010)



NATURE.COM

Read more about retractions:
go.nature.com/2uweek

*Not shown: *Acta Crystallographica E* saw 81 retractions during 2006–10.

学术不端的应对措施

- ◆ 学习和贯彻国际指南
- ◆ 树立正确的科研目的：“我要为” vs. “要我为”
- ◆ 研究生论文和拟发表论文两个原始资料库（图片、数据）的设立和永久保存（例子）
- ◆ 研究生论文原始资料的核准是能否答辩的先决条件
- ◆ 投稿论文的查重和图像辨伪（FBI小组）
- ◆ 通讯作者的基本责任：设计、监督、定稿、通信、退修、资助，发现问题尽快补救，若不能主动撤稿
- ◆ 通讯作者对于发表论文的毁誉应负主要责任
- ◆ 第一作者无权决定论文投递杂志
- ◆ 避免投递高撤稿率和高危IF(1- <2)的杂志
- ◆ 杜绝“三包”论文（包做、包写和包发）

教育部、卫生部心血管重构和功能研究重点实验室

Thank you for your attention

