



*Publication Analysis 1997-2008*

# Urology Research

Of all the European countries, Germany published the most articles in urology journals but England collected slightly more citations. The paramount topic was tumours of the urogenital tract, particularly prostate cancer. And, briefly mentioned, two scandals that shook European urology.



**U**rology is an old medical discipline. As far back as the deep middle ages, ‘stonecutters’ used to travel around the fairs in medieval Europe trying to cure their, mostly male, patients of their bladder stones. In those days, bladder stones were much more frequent than they are now, often causing severe pain and infections. Due to the inadequate and painful operation techniques of the day, however, more than half of the patients did not survive, became incontinent or developed a fistula – so inevitably, the life of a medieval stonecutter was not always an easy one.

Of course, urology has experienced a tremendous development since then – as a medical discipline as well as a research field. And certainly, it has also extended its competence far beyond bladder stones during this process.

In short, urology today is defined by dealing with the male and female urinary tract and the reproductive system in men. On the one hand, this comprises a rather well-defined area of the human body; on the other, however, there is still somewhat of an overlap between different medical specialties.

Take, for example, the notion that “urologists concern themselves with disorders of the urinary outlet of the kidney, such as obstructions of the ureter or stones, but also benign or malignant tumours and inborn diseases”. The kidneys themselves, however, concerning their function as a ‘waste disposal unit’, and the adrenals ‘belong’ to internal medicine or nephrology. Similarly, incontinence in women and male infertility are part of urology; at the same time, however, gynaecologists and reproductive doctors deal with these kinds of problems, too.

## **In the beginning there were the ‘stonecutters’**

Another broad field in urology is tumours of the urogenital tract – of the bladder, the prostate, the testicles, etc... And all those tumours simultaneously serve as study objects for a large number of oncologists and pathologists.

What did all this mean for our publication analysis ‘urology research’? And, in particular, which authors were, subsequently, accepted as being ‘urology researchers’ – and which not (see table, p. 46)? Well, as usual, the key criterion was that a signifi-

cant portion of an individual’s papers had to be published in the specialist urology journals. This way, the majority of pathologists who, among a whole range of different tumours also sometimes include prostate and bladder cancer in their studies, were left out of this analysis.

One more restriction had to be made when it came to comparing the publication outputs of the individual countries (see tables, p. 45). Regrettably, we had to exclude multidisciplinary journals such as *Nature* and *The Lancet* from this part of the analysis since Thomson Reuter’s ‘Web of Science’ citation database, which was used here, provides no tools to automatically extract relevant urology articles from these journals with sufficient reliability. Consequently, some of the most prominent papers in the field could not be included in this part of the analysis. However, we believe that the countries’ performances in the expert journals alone suffice to provide valid indicators for their overall productivity in urology research between 1997 and 2008.

## **Italy and Austria surprisingly strong**

On the contrary, rankings of the most-cited researchers and papers (see tables, p. 46) could be analysed from publications in all journals.

Applying these directives, England emerged as European leader in terms of overall citations. Publications appearing in urology-relevant journals between 1997 and 2008, and including at least one researcher from an English institution in the authors’ line-up, were altogether cited almost 56,000 times to-date. The lead, however, is a very close one as Germany, similarly, collected more than 54,000 citations. On the other hand, Germany achieved this citation count with almost 6,600 total publications, whereas for England 6,000 papers were sufficient to top their German colleagues.

A sure surprise is Italy, claiming third place, just ahead of France. The pattern is the same as with England and Germany: since Italy’s articles were cited more frequently on average when compared to France, it finally ‘made’ more overall citations with a lower number of articles.

Another positive surprise is the seventh place for Austria – unusually high when compared to the country's performances in other life science disciplines. In this context, Spain (12<sup>th</sup>) and Scotland (17<sup>th</sup>) performed significantly lower than usual.

A sort of 'law' for those kind of publication analyses was again confirmed here: the great European research nations like England, Germany and France do not achieve the highest citations-per-article rates. For urology research, the 'winners' in this category were Norway (16.4 citations per article on average), Sweden (15.7), Belgium (15.4) and Denmark (15.1).

This, however, is not true for the USA. Each US article in an urology journal from the period 1997-2008 was cited 16.4 times on average to-date. This actually meant that despite a considerably lower number of total publications (26,000 vs. 34,500), the USA almost reached Europe in terms of overall citations (421,000 vs. 432,000).

The list of most-cited papers from European urology research immediately revealed the hottest topic of the field: four of the five top papers are about prostate cancer. The remaining one, number three on the list, deals with the overactive bladder syndrome.

More or less the same picture emerged when screening the list of the 30 most-cited European urology researchers. The vast majority are experts on prostate or other cancers of the urogenital tract. The only other hot topics revealed are incontinence and overactive bladder as, for example, represented by Paul Abrams (2<sup>nd</sup>) and Linda Cardozo (14<sup>th</sup>) and erectile dysfunction (Francesco Montorsi, 8<sup>th</sup>). Perhaps noteworthy in this context is that the 'discoverer' of Viagra, Ian Osterloh from the Pfizer Research Centre in Sandwich, UK, did not make it into the 'top 30' list.

### Bad apples at a second glance

Let's finally come to 'number one', the most-cited European urology researcher, Georg Bartsch from the Medical University Innsbruck. At this point, however, instead of praise, a couple of clear and critical words are deemed more appropriate. In 2008, it turned out that an earlier clinical trial of a stem-cell procedure for urinary incontinence conducted in Bartsch's department was full of procedural and ethical problems. After an investigation, the responsible associate professor, Hannes Strasser, was suspended from his post as head of the incontinence division in Bartsch's department and the corresponding *Lancet* paper (vol. 369: 2179-86) was retracted. This *Lancet* paper listed Bartsch as one of the co-authors, who did "all investigations and treatments" and included his signature of agreement. Nevertheless, during the investigation Bartsch, according to a *Nature* article (vol. 454: 922), maintained that he did not request authorship but that Strasser included him "in honour of my seniority". Clearly, such dubious behaviour must also be judged on moral standards; in the context of our publication analysis, however, it can only mean, it seems highly doubtful that Bartsch had really afforded the kind of input required to justify authorship in all of the almost 370 papers, for which he is listed between 1997 and 2008.

Incidentally, this was not the only scandal in European urology research. Back in 2003, a highly-praised *Nature Medicine* paper (vol. 6: 332-6) on dendritic cell vaccination against renal cell carcinoma from the urology department at the University of Göttingen, had to be retracted due to intentional data manipulation. Nevertheless, the paper is listed as being cited 479 times to-date, more frequently than our actual third most-cited paper.

Is there a lesson? Well, sometimes you have to look twice to get the full meaning behind citation numbers. RALF NEUMANN

## Europe...

Country	Citations	Articles	Cit./Art.
1. England	55,883	5,993	9.3
2. Germany	54,259	6,576	8.3
3. Italy	32,488	3,072	10.6
4. France	32,212	3,658	8.8
5. Netherlands	29,266	2,115	13.8
6. Sweden	25,045	1,599	15.7
7. Austria	17,640	1,306	13.5
8. Belgium	13,642	887	15.4
9. Denmark	10,865	721	15.1
10. Switzerland	10,292	844	12.2
11. Turkey	10,242	2,012	5.1
12. Spain	9,844	1,073	9.2
13. Finland	7,132	481	14.8
14. Israel	6,169	647	9.5
15. Greece	5,735	780	7.4
16. Norway	5,104	312	16.4
17. Scotland	4,366	451	9.7
18. Ireland	2,973	372	8.0
19. Wales	1,981	170	11.7
20. Portugal	1,864	157	11.9

Articles appearing between 1997 and 2008 in 'Urology' journals as listed by Thomson Reuter's *Web of Science*. The numbers of citations are accurate as of June 2010. A country's figures are derived from articles where at least one author working in the respective European nation is included in the author's list. Israel is included because it is a member of many European research organisations and programmes (EMBO, FP7 of the EU...).

## ... and the World

	Citations	Articles	Cit./Art.
Europe	257,499	29,946	8.6
USA	327,153	25,954	12.6
Canada	30,532	2,302	13.3
Japan	28,572	3,054	9.4
Australia	11,341	1,238	9.2
South Korea	6,064	909	6.7
Brazil	5,065	952	6.7



## Publication Analysis 1997-2008 – Urology Research

### Most Cited Authors...

	Cit-ations	Art-icles
1. <b>Georg Bartsch</b> , Dept. Urol. Med. Univ. Innsbruck	8,376	366
2. <b>Paul Abrams</b> , Bristol Urol. Inst. Southmead Gen. Hosp. Univ. Bristol	6,827	171
3. <b>Sophie D. Fossa</b> , Dept. Clin. Canc. Res. Radium Hosp. Univ. Oslo	6,776	245
4. <b>Fritz H. Schröder</b> , Dept. Urol. Erasmus Med. Ctr. Univ. Rotterdam	6,775	232
5. <b>Michael Marberger</b> , Dept. Urol. Med. Univ. Vienna	5,087	201
6. <b>Teuvo L. J. Tammela</b> , Dept. Urol. Univ. Hosp. Tampere	4,890	224
7. <b>Claude-Clément Abbou</b> , Dept. Urol. Henri Mondor Hosp. Créteil	4,713	203
8. <b>Francesco Montorsi</b> , Dept. Urol. Hosp. Univ. San Raffaele Milan	4,572	221
9. <b>Dominique K. Chopin</b> , Dept. Urol. Henri Mondor Hosp. Créteil	4,474	187
10. <b>Ulf-Hakan Stenman</b> , Dept. Clin. Chem. Univ. Helsinki	4,398	215
11. <b>Stefan A. Loening</b> , Dept. Urol. Humboldt-Univ. (Charité) Berlin	4,266	230
12. <b>Thomas C. Gasser</b> , Dept. Urol. Univ. Hosp. Basel	4,211	111
13. <b>Klaus Jung</b> , Dept. Urol. Charité Univ. Med. Berlin	4,097	231
14. <b>Linda Cardozo</b> , Dept Urogynaecol Kings Coll. Hosp. London	3,960	124
15. <b>Helmut Klocker</b> , Dept. Urol. Med. Univ. Innsbruck	3,831	115
16. <b>Hartwig Huland</b> , Dept. Urol. Univ. Med. Ctr. Eppendorf Hamburg	3,808	242
17. <b>David P. Dearnaley</b> , Inst. Canc. Res. Sutton Surrey	3,774	131
18. <b>Henrik Grönberg</b> , Med. Epidemiol. & Biostat. Karolinska Inst. Stockholm	3,723	108
19. <b>Clare J. Fowler</b> , Dept. Uro-neurol. UCL Natl. Hosp. London	3,718	124
20. <b>Claude C. Schulman</b> , Dept. Urol. Erasme Univ. Clin. Brussels	3,672	129
21. <b>Jean J. de la Rosette</b> , Dept. Urol. AMC Univ. Hosp. Amsterdam	3,649	190
22. <b>Alexandre de La Taille</b> , Dept. Urol. Henri Mondor Hosp. Créteil	3,512	179
23. <b>Frans M.J. Debruyne</b> , Dept. Urol. Acad Hosp. Univ. Nijmegen	3,471	159
24. <b>J. Alfred Witjes</b> , Dept. Urol. Radboud Univ. Nijmegen Med. Ctr.	3,455	157
25. <b>Tapio Visakorpi</b> , Inst. Med. Technol. Univ. Tampere	3,351	86
26. <b>Jack A. Schalken</b> , Dept. Urol. Radboud Univ. Nijmegen Med. Ctr.	3,327	148
27. <b>Guy Vallancien</b> , Dept. Urol. Inst. Mutualiste Monsouris Paris	3,287	107
28. <b>Urs E. Studer</b> , Dept. Urol. Inselspital Univ. Bern	3,284	143
29. <b>Rodolfo Montinori</b> , Pathol. & Anat. Polytech. Univ. Marche Reg. Ancona	3,132	200
30. <b>Udo Jonas</b> , Dept. Urol. & Uro-Oncol. Hannover Med. Sch. Hannover	3,104	195



Citations of articles published between 1997 and 2008 were recorded up until June 2010 using the *Web of Science* database from Thomson Reuters. The "most cited papers" had correspondence addresses in Europe or Israel.

### ... and Papers

	Citations
1. <b>Bolla, M; Gonzalez, D; Warde, P; Dubois, JB; [...]; Kuten, A; Sternberg, C; Gil, T; Collette, L; Pierart, M</b> Improved survival in patients with locally advanced prostate cancer treated with radiotherapy and goserelin. <i>NEW ENGLAND JOURNAL OF MEDICINE</i> , 337 (5): 295-300 JUL 31 1997	830
2. <b>Bill-Axelsson, A; Holmberg, L; Ruutu, M; Haggman, [...], H; Palmgren, J; Adami, HO; Norlen, BJ; Johansson, JE</b> Radical prostatectomy versus watchful waiting in early prostate cancer. <i>NEW ENGLAND JOURNAL OF MEDICINE</i> , 352 (19): 1977-1984 MAY 12 2005	526
3. <b>Milsom, I; Abrams, P; Cardozo, L; Roberts, RG; Thüroff, J; Wein, AJ</b> How widespread are the symptoms of an overactive bladder and how are they managed? A population-based prevalence study. <i>BJU INTERNATIONAL</i> , 87 (9): 760-766 JUN 2001	477
4. <b>Collins, AT; Berry, PA; Hyde, C; Stower, MJ; Maitland, NJ</b> Prospective identification of tumorigenic prostate cancer stem cells. <i>CANCER RESEARCH</i> , 65 (23): 10946-10951 DEC 1 2005	456
5. <b>Harries, LW; Stubbins, MJ; Forman, D; Howard, GCW; Wolf, CR</b> Identification of genetic polymorphisms at the glutathione S-transferase Pi locus and association with susceptibility to bladder, testicular and prostate cancer. <i>CARCINOGENESIS</i> , 18 (4): 641-644 APR 1997	452