



# Congress Review

## Review of the European Association of Urology (EAU) 34<sup>th</sup> Annual Meeting 2019

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The coastline of Barcelona is dominated by Montjuïc. Take the time to complete the walk up her slopes and you are rewarded with stunning views across the jewel of Catalonia. Looking out to the north, the gothic quarter of Barcelona and Gaudi's masterpiece la Sagrada Familia capture the eye, with Tibidabo visible in the distance. Turning 180°, the Barcelona Olympic Park can be seen and beyond the site of the 1992 Olympic games, the Fira Gran Via congress centre, home to the 2019 European Association of Urology (EAU) Annual Congress.

The EAU 2019 opening ceremony was a rousing affair. As the auditorium filled, and delegates discussed what the next 5 days would hold, the anticipation was palpable. The wait was ended as artistes arrived on stage and performed Bizet's 'Habanera', from his famous opera 'Carmen.' This was followed by the stirring 'Prelude' overture, which was a very fitting piece as soon after the EAU Secretary General, and one of EMJ Urology's own Editorial Board members,

Prof Christopher Chapple took to the stage and welcomed the delegates to the 34<sup>th</sup> EAU Annual Congress. Prof Chapple promoted the EAU Nurses Meeting, which ran in parallel with EAU 2019, highlighting the desire for greater nursing involvement in urological care and the subsequent improvement of practice. Prof Chapple then began the ceremony proper with the award of several prestigious prizes and accolades, including the EAU Willy Gregoir Medal for significant contributions to the development of the urological speciality in Europe to Prof Freddie Hamdy, and the EAU Crystal Matula Award presented to Dr Maarten Albersen. The ceremony then closed with the presentation of the EAU Prostate Cancer Award to Dr Veeru Kasivisvanathan, before the music of Carmen flooded the congress centre once again.

More than 10,000 participants attended the 2019 EAU Annual Congress, cementing the association's meeting as the leading urology event in Europe and a key date

in everyone's diary. Furthermore, EAU 2019 was a record breaker with >5,500 abstracts submitted, providing delegates with an insight into the bleeding-edge of urological research. A total of 88 poster sessions spanning the broad spectrum of fascinating urological research from endourology and spinal surgery, presented on Friday 15<sup>th</sup> March, to survivorship in prostate cancer and ablative surgery in benign prostatic obstruction relief, on Monday 18<sup>th</sup> March, was on display. Alongside these, EAU 2019 offered 300 scientific sessions led by >1,500 world leading experts overseeing the debates, discussions, and deliberations.

Among its many themes and objectives EAU 2019 championed international co-operation with the Urology beyond Europe track. The first day of the congress played host to a number of joint sessions organised with a variety of national and multinational urological societies. The World Chinese Urologists, Arab Association of Urology (AAU), Korean Urological Association

(KUA), and the Urological Society of Australia and New Zealand (USANZ), among many others, could be found at EAU 2019. Each of the joint sessions focussed on various aspects of urology, from practice patterns in different areas of the globe, as discussed at the joint USANZ-EAU session, to the in-depth discussion surrounding robot assisted laparoscopy highlighted during the joint World Chinese Urologists-EAU session. Medicine is a constant learning process, it is only through international co-operation that we can hope to achieve the best results for patients. Additionally, EAU 2019 saw the launch of the World Bladder Cancer Patient Coalition, which has been formed as a result of collaboration between a number of bladder cancer groups. The World Bladder Cancer Patient Coalition aims to improve care, information, and research for the 2.7 million people living with bladder cancer across the globe. Read more about the goals and work of the coalition in a special feature by Lydia Makaroff, CEO Fight Bladder Cancer.

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As ever, EAU 2019 was abuzz with late-breaking new stories, abstracts, and research. The key highlights from the congress can be found within the pages of the journal, including details of numerous research studies and trials. Further evidence linking working the night shift with an increased need to urinate has been highlighted by Italian researchers, while a Japanese team have linked substances in coffee with an inhibition in the progression of prostate cancer. Details of these and much more fascinating research can be found within the comprehensive congress review.

With a spectacular EAU Annual Congress now behind us, and with an eye firmly focussed on what promises to be a thrilling year of urological research and discovery, the EMJ team is already looking forward to attending the next EAU Annual Congress, which will be held amid the canals of Amsterdam, Netherlands, in March 2020.

EAU 2019 REVIEWED →



## Mental Health State Associated with Higher Death Rates for Prostate and Other Urological Cancers

PATIENTS with urological malignancies are at greater risk of dying if they have a history of psychiatric care and, compared to the general population, show an increased risk of suicide. This message was delivered by Prof Zachary Klassen to attendees of the EAU Congress and reported in a EAU press release dated 18<sup>th</sup> March 2019.

The USA and Canadian team analysed the mental health records of 191,068 Ontarians being treated for either kidney, prostate, or bladder cancer. A score was assigned to each denoting their use of psychiatric services within the last 5 years, creating a mixed cohort that could be compared against control patients who were cancer-free.

The researchers found that the degree of prior mental health treatment was directly correlated with an increased mortality rate in these patients, amounting to a 1.78-times decrease in survival rate. Additionally, when suicide rates for these patients were researched following diagnosis of these cancers, a 16% increase was highlighted in the whole cohort compared to the general population. Interestingly, there was a 39% increase in suicide risk in patients with no history of impaired mental health, suggesting that diagnosis alone is enough to severely influence these patients' mental wellbeing.

Prof Francesco Montorsi, Adjunct Secretary General of Science for EAU, commented: "This large study shows that pre-existing mental state can have a significant influence on cancer outcomes. In addition, it shows that just the diagnosis of cancer can have a bearing on whether or not the patient attempts suicide. The clinical community has a duty to treat the whole patient, not just the cancer, so we need to take note of these findings and where possible to include appropriate precautions to take account of a patient's mental health history."

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## Hormonal Treatment May Trigger Depression in Men with Prostate Cancer


FOLLOWING prostatectomy, the commencement of anti-hormonal treatment correlates with an 80% increase in depression rate in prostate cancer patients, leading to the recommendation that post-surgical monitoring should become the norm for all of these men. These findings were presented at the EAU Congress by a Danish team led by Dr Anne Sofie Friberg, Rigshospitalet, Copenhagen, Denmark, and reported in a EAU press release dated 28<sup>th</sup> March 2019.

*"The reason could be either a consequence of failing surgery, directly caused by the hormonal manipulation, or both."*

The records of 5,570 patients from the Danish Prostate Cancer Registry were analysed, 773 of whom had been treated post-surgically for depression. Additional treatment with anti-hormone therapies, commonly offered to the 25% of relapsed patients, correlated with a 1.8-fold increase in depression susceptibility.

It is now commonly accepted that cancer diagnoses can often lead to onset of depression. The researchers noted that, regardless of anti-hormone treatment, prostatectomies increase depression risk. Speculating on the reasons why anti-hormonal treatment led to a higher incidence of depression, the researchers suggested that the inhibition of testosterone production can result in worsening the litany of side-effects caused by prostate removal. These include urinary incontinence, erectile dysfunction, loss of libido, and altered body image. They suggested that this could lead to increased depression and also commented that the low testosterone levels might be influencing the brain's mood centres.

"The reason could be either a consequence of failing surgery, directly caused by the hormonal manipulation, or both," commented Dr Friberg. The team believes the robustness of the data emphasises how oncological treatments can influence various other aspects of patient health and that prostate cancer clinicians must adopt a long-term, multidisciplinary approach to provide the patient with care that is as comprehensive as possible.



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## Neuroticism Linked to Poorer Recovery from Prostate Cancer Surgery

MEN who score highly for neuroticism are more likely to have adverse effects following prostate cancer surgery, including erectile dysfunction, bowel problems, and incontinence. Researchers from Norway have found that differences in prostate cancer surgery outcomes, previously thought to be due to variances in surgery and circumstances of cancer, may also be due to the personality trait neuroticism. This was reported in a EAU press release dated 16<sup>th</sup> March 2019.

In 2011, researchers gave questionnaires to 982 men who had been treated with radical prostatectomy at Oslo University Hospital, Oslo, Norway, between 2005 and 2010. They had a response rate of 79%, receiving 777 questionnaires, 761 of which reported on postoperative adverse effects and neuroticism. Of the responding men, 22% scored highly for neuroticism, which was found to be correlated with significantly lower scores regarding recovery from the radical prostatectomy.

The researchers concluded that adverse effects 3 years following radical prostatectomy

were strongly associated with high levels of neuroticism. Around 20–25% of men in developed countries have high neuroticism, and the researchers believe that cancer teams should give patients preoperative personality tests to ensure they are receiving the best and most appropriate care.

Lead researcher Dr Karol Axcrona, Akershus University Hospital, Lørenskog, Norway, discussed the neuroticism and the implications of the study: "Neuroticism is not an illness, but a basic personality trait, like extraversion or openness; we all have some degree of neuroticism. What we found was that those patients who show a greater tendency towards neuroticism have worse outcomes 3 years after prostate cancer surgery. This is a real effect, and doctors need to take account of this, in the same way that we would take physical factors into account before and after cancer treatment. This means we may need better advance personality testing for identification and counselling, and perhaps a more specialised follow-up of those men who might be at risk of poorer outcomes."

# Sperm Extracted from Testes May Offer New Treatment Options for Infertile Men

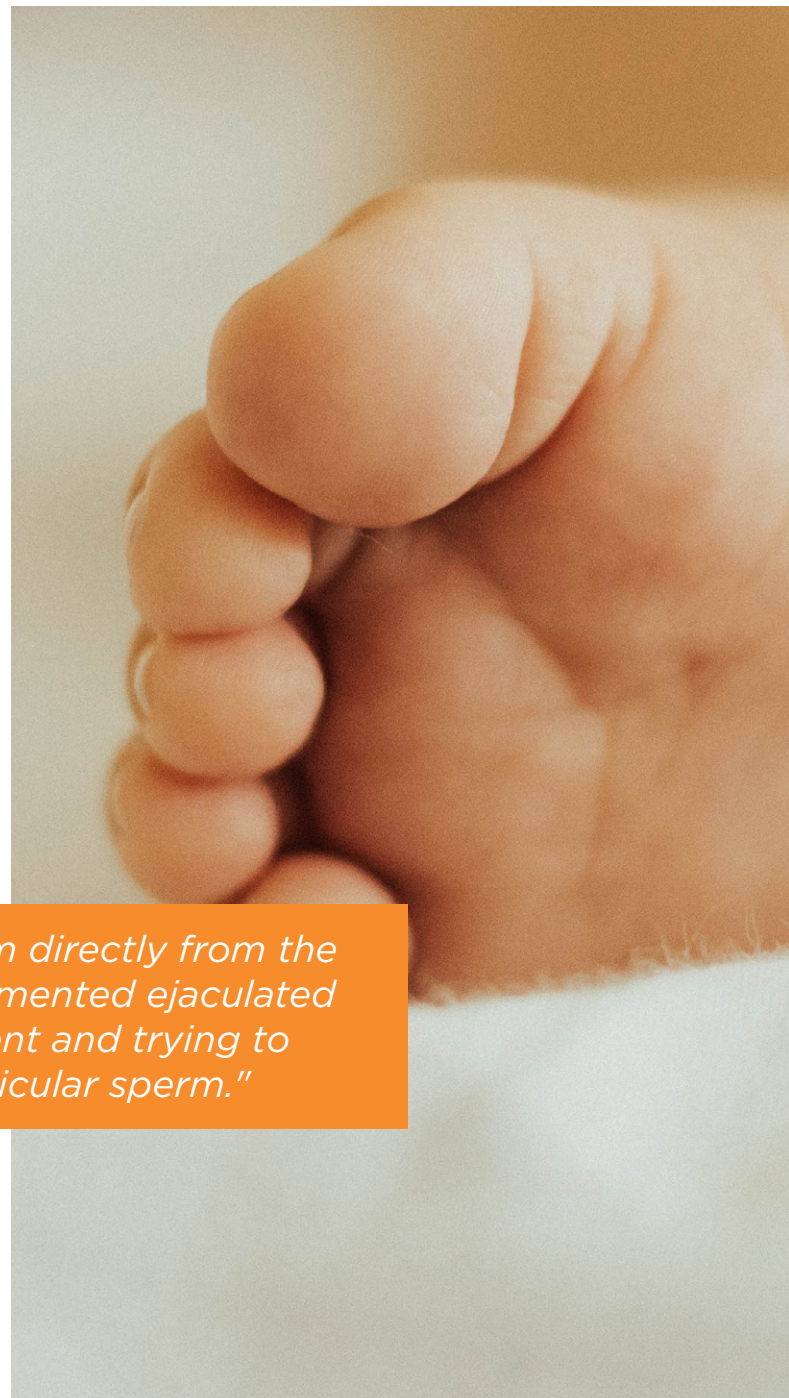
SPERM taken directly from the testicles of infertile men has better DNA integrity than that of their ejaculated sperm, suggests new research revealed in a press release from the EAU congress in Barcelona on the 17<sup>th</sup> March 2019. The scientists also found that the testicular sperm was as good as the sperm ejaculated by fertile men.

The study compared the testicular and ejaculated sperm from 63 infertile men who displayed persistent DNA fragmentation, and who had failed cycles of intracytoplasmic sperm injection, and compared these with the sperm from 76 fertile volunteers. Researchers used the Comet assay to measure single and double strand breaks in the DNA. They found that damage to ejaculated sperm DNA was higher in infertile men, who displayed 40% damage, than in fertile men, who showed 15% damage. However, they were surprised to find the sperm taken directly from the testicles of infertile men was of a similar quality to the ejaculated sperm from fertile participants.

Prof Sheena Lewis, Emeritus Professor Queens University, Belfast, UK, discussed the study: "What this means is that the DNA in sperm from the testicles of infertile men are better quality than sperm from their ejaculates. This opens the

way to taking sperm directly from the testes of men who have highly fragmented ejaculated DNA and failed cycles of treatment and trying to achieve fertility with these testicular sperm."

was lower in the sperm taken from testicles, so using these sperm is more likely to lead to an improvement in male fertility." Infertility affects 1 in 6 couples across Europe and male infertility is the most common reason for couples to seek fertility treatment. Evidence suggests that the integrity of DNA in the sperm is associated with miscarriage and failure of implantation. While this research is promising for couples with infertility issues, the researchers noted the need for confirmation of improved fertilisation rates and take-home-baby rates before this strategy is implemented.



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way to taking sperm directly from the testes of men who have highly fragmented ejaculated DNA and failed cycles of treatment and trying to achieve fertility with these testicular sperm. We also noted in a subgroup that the amount of the more serious double stranded DNA breaks



## Working Night Shifts Leads to an Increased Need to Urinate

MILLIONS of people across the globe work night shifts, with 3.2 million employees working during the night in the UK alone. Research over recent years has regularly shown links between working night shifts and greater risk of developing depression, cardiovascular disease, and certain cancers. New work presented in an EAU press release dated 16<sup>th</sup> March 2019 has discovered a link between working at night and an increased need to urinate.

Conducted at the Sant' Andrea Hospital, Rome, Italy, between March and October 2018 the study, overseen by Dr Cosimo De Nunzio, recruited 136 volunteers (68 males and 68 females) with an average age of 40 years and a mean BMI of 23.3. Of the participants, 66 worked night shifts, working an average of 11 hours a night. Volunteers completed the Overactive Bladder Questionnaire (OABq) and the European Organisation for the Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLC-C30), both of which are internationally validated questionnaires.

Analysis of the completed questionnaires showed that night shift workers reported a mean OABq score of 31 compared with a score

of 19 reported by day workers. Additionally, night shift workers provided a mean EORTC QLC-C30 score of 41 compared with a score of 31 calculated from day shift worker responses. Dr De Nunzio summarised: "This work shows that constant night workers may have a higher urinary frequency as well as a decline in their own quality of life."

A concern raised by the authors was the age of the patients and their associated OABq scores. Traditionally, overactive bladder is associated with older patients, but the volunteers of this study were all <50 years old and are experiencing a deteriorating quality of life.

While this study is limited by its small size and the self-reported nature of questionnaire completion, the results highlight the important links between working night shifts and a deterioration in the quality of patient life due to urinary need.

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## Examining the Sex Difference in Bladder Cancer

PRESENTLY, there is a difference between the sexes regarding bladder cancer. While bladder cancer is more common in men than women, women are more likely to develop advanced bladder cancer and have worse survival outcomes than men, with the mortality rate in women approximately 40% higher. To better understand this disparity between the sexes, researchers from the USA and Europe conducted a prospective cohort study. This study was presented at the EAU Congress, as reported in a EAU press release dated 15<sup>th</sup> March 2019.

The study's lead author, Dr Mohammad Abufaraj, University of Vienna, Vienna, Austria, highlighted the study's primary finding: "We found that smoking women who experienced menopause before they were 45 years old had a greater risk of bladder cancer. Smoking remains the most important risk factor for bladder cancer." Dr

Abufaraj also explained how other factors, such as number of pregnancies, oral contraceptive use, the use of hormone replacement therapy, and the age when periods began, had not been shown to be linked to the development of bladder cancer.

The study population comprised two cohorts: one of 106,138 female registered nurses and one of 113,974 female nurses. Over a 36-year follow-up period, those who underwent menopause aged  $\leq 45$  years old were found to be 41% more likely to have developed bladder cancer than those who underwent menopause aged  $\geq 50$  years old. This risk was increased in those women who had previously smoked, who, if undergoing menopause aged  $\leq 45$  years old, were 53% more likely to have developed bladder cancer than those who underwent menopause aged  $\geq 50$  years old.

Dr Abufaraj added: "Our primary interpretation is that a factor like smoking, which is known to correlate with earlier age at menopause, remains of grave concern as the main cause of bladder cancer. It reinforces the warning that smoking is really harmful in ways that we might not have imagined."

# Coffee Compound Combo Could Halve Prostate Cancer Tumour Growth

COFFEE has a long history of medicinal use, and modern research has shown that it may have a variety of protective qualities. Adding to this body of work, new research from Kanazawa University, Kanazawa, Japan has, for the first time, shown that compounds in coffee may inhibit the growth of prostate cancer. The study results were made public in a press release from the EAU congress in Barcelona, Spain, on 18<sup>th</sup> March.

The researchers set out to explore some of the many compounds naturally found in coffee, testing six of them *in vitro* for their effect on cell growth. Two of these compounds, kahweol acetate and cafestol, were found to grow more slowly than controls; therefore, they were selected for study in a mouse model of prostate cancer. Sixteen mice received transplanted prostate cells before being divided evenly into four groups: one group treated with kahweol acetate, one treated with cafestol, one treated with a combination of kahweol acetate and cafestol, and one untreated control group.


Results showed the inhibition of cancer cell growth in both the kahweol acetate group and the cafestol group, but the greatest finding came in the combination group: “The combination seemed to work synergistically, leading to a significantly slower tumour growth than in untreated mice,” explained the study leader, Dr Hiroaki Iwamoto, Kanazawa University. After 11 days, the combination-treated group were found to have around half as much tumour growth as the untreated group (167% growth versus 342% growth, respectively).

Since this was a pilot study, the authors urged caution when considering these results, but are hopeful that they will soon be able to test these findings in a human model. “Coffee can have both positive and negative effects (for example, it can increase hypertension), so we need to find out more about the mechanisms behind these findings before we can think about clinical applications. However, if we can confirm these

results, we may have candidates to treat drug-resistant prostate cancer,” concluded Prof Atsushi Mizokami.



*“...if we can confirm these results, we may have candidates to treat drug-resistant prostate cancer...”*



## Positive Results Seen on Prostate Cancer Recurrence Following Testosterone Therapy

NOBEL PRIZE-winning research from the 1960s on the effects of testosterone on prostate cancer has had new light shed on it by the results of a recent study that took place at the University of California, Irvine, California, USA.

Traditionally thought to reduce the risk of prostate cancer, medications that reduce the level of testosterone have become a commonplace treatment for patients. However, towards the end of the 20<sup>th</sup> century it was noted that these patients were instead dying prematurely from cardiovascular disease, since the testosterone treatment was causing complications in metabolic processes, for example, the patients had a higher incidence of diabetes, mid-abdomen visceral fat, and elevated cholesterol, while simultaneously reducing the risk of developing prostate cancer.

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With this observation in mind, the research group at the University of California selected 834 patients for a study into testosterone replacement therapy (TRT) to improve sexual function following radical prostatectomy; 152 of these patients had no evidence of disease and were treated with TRT. All patients were tested

after a median of 3.1 years post surgery for signs of biochemical recurrence of disease in their prostate-specific antigen (PSA) levels. Results showed that approximately 5% of patients in the TRT subgroup had disease recurrence whereas 15% of untreated patients had experienced a recurrence of the cancer. After the team had adjusted the results for pathological grade and stage, it was found that TRT was linked to a longer time to biochemical recurrence and also delayed progression of the recurrence by a median of 1.5 years.

Commenting on the study, group leader Prof Thomas Ahlering, University of California, explained: "This was not what we set out to prove, so it was a big surprise: not only did testosterone replacement not increase recurrence, but it actually lowered recurrence rates. While the testosterone is not curing the cancer per se, it is slowing the growth of the cancer, giving an average of an extra 1.5 years before traces of cancer can be found." He added "There have been smaller studies which have hinted that testosterone may not be risky for certain patient groups, but this is the largest such study ever conducted. We're not suggesting that treatment methods be changed just yet, but this puts us at the stage where we need to question the taboo against testosterone use in prostate cancer therapy, especially for low-risk patients after radical prostatectomy."