

Read all about it... It can be awkward when a patient asks you about a report in their favourite tabloid detailing an amazing research breakthrough or a 'cutting-edge' new treatment / test and you don't know what they are talking about! So this section fills you in on the facts.

Why using popular mouthwash to cure gum disease could be fuelling deadly antibiotic resistance

The Daily Mail – 31 October 2016

This story is, of course, aimed primarily at the general public, but will likely be of far more concern to clinicians. Antimicrobial (antibiotic) resistance is of great concern currently and anything that can be done to limit this worrying trend and preserve the usefulness of antibiotics has to be seriously considered. A team at Public Health England have examined the adaptation of *Klebsiella pneumoniae* to chlorhexidine following exposure. Their findings, published in *Antimicrobial Agents and Chemotherapy*, show that exposure to chlorhexidine results in two mutations in a regulator; *phoPQ* and a tet-repressor gene; *smvR*. It is the latter mutation that is of concern. The research team have

identified that if this mutation alone exists, the *Klebsiella* have a resistance to colistin antibiotics. As some of you will be aware, these are last-line antibiotics that I personally have only had to prescribe (thankfully) on a couple of occasions for multi-resistant infections. The important note here is that the reference to mouthwash in the headline is conjecture on the part of the journalist. The research team have made no investigations into the role of chlorhexidine mouthwash at all and it is very unclear if mouthwash could even play a role at all in breeding resistant *Klebsiella*. I do wonder though if we may end up seeing chlorhexidine containing products pulled from shop shelves in the future.

Not having enough vitamin D in your diet 'raises the risk of bladder cancer' by preventing an immune response

The Mail Online – 8 November 2016

The details for this story are a bit sparse because it is based on a press release concerning an abstract presented at the national Society for Endocrinology conference. A British research team, led by Dr Bland of The University of Warwick, carried out a systematic review of seven

different papers concerning cancer risk and vitamin D levels, and have concluded that low vitamin D does appear to correlate with a risk of bladder cancer, potentially due to an impaired immune response. What more excuse do you need to start planning your summer holiday?

Painful image of man's penis after he 'strangles' it by putting wedding ring on 'for erotic reasons'

The Mirror – 15 November 2016

I certainly have not included this story because I take any amusement in a fellow human being's immense stupidity and consequent suffering; I'm far better than that. I do feel it is worth including this story because there is actually something for a urologist to learn in terms of managing the condition. The story details the plight of a young man who was brought to the emergency department by his mother after he had applied a wedding ring to the mid-shaft of his penis. He was advised to do this by his 'friends' for sexual gratification. The ring had become stuck and the corpora

and glans distal to the tourniquet appear an impressive blue colour in the pixelated image accompanying the story. The doctors tried manual manipulation to remove the ring, they tried string around the penis (as you would for a ring stuck on a finger) to compress the engorged corpora and they tried cutting the ring off – all to no avail. What was successful was a procedure that is essentially a cross between the Dundee procedure and corporal aspiration for priapism; they performed multiple punctures and were able to aspirate enough to reduce the engorgement and remove the ring.

Dilute honey 'may fight urine infections'

BBC News – 27 September 2016

Keeping the 'infection' theme going: the BBC (and many other news outlets) reported on their website on the latest medical properties of manuka honey. A research team from Southampton, led by Dr Bashir Lwaleed, has been investigating the effect of manuka honey on urinary biofilms and has published their findings in the *Journal of Clinical Pathology*. Biofilms are aggregations of bacterial microcolonies in an extracellular polysaccharide and DNA matrix. Biofilms allow bacteria to resist normal infection prevention mechanisms and in catheterised patients contribute greatly to risk of urinary tract infection (UTI). The antimicrobial properties of manuka honey are well established. The honey, produced in Australasia from bees harvesting the nectar of the Manuka bush, contains high levels of methylglyoxal as compared to normal honey. The low pH, high osmolarity and hydrogen peroxide forming enzymes (found in most honeys) also play a role in antibacterial actions. The Southampton research team used 'medical-grade' Manuka honey (Manuka Factor 15+) and tested the action of solutions (of varying concentration) of manuka honey on mixed *E Coli* and *Proteus* biofilms. They demonstrated a dose-dependent reduction in biofilm density. The highest concentration (16.7%) reduced biofilm density by 77% as compared to controls (at 72 hours of incubation time). Again, it would be easy to jump to a conclusion regarding the need for patients with catheters to eat Manuka honey, but there is no evidence to support that. Instead, further work needs to be done to see if methylglyoxal could form the basis of a new catheter coating or a new non-microbial UTI treatment.

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