## **Direct Answers**

## From Wayne & Tamara Promises, Promises

I've been seeing a man three years. We first went out for a year and a half, but he moved back home because his teenage kids made his life a living hell.

I could see what it was doing to him. With a lot of tears on both sides, he returned. I kept away because I did not think I could handle the heartbreak if it happened again.

Eventually he called and asked to see me. (He and his wife never got along, and she had a previous affair, as had he.) He wanted me back, wanted to live with me and ultimately get married. I asked if he was 100% positive. He emphatically said yes.

He moved into a friend's place and began staying over four nights a week. His wife was bitter and his kids wouldn't speak to him. Still, we managed to have a great relationship. We spent time riding on his motorcycle, staying at different places on the weekend. I looked forward to spending the rest of my life with him.

A few months ago, he grew moody. Last Saturday night I had to know what the problem was. After listing complaints about me, he said he couldn't see a future for us. He then jumped into bed and turned off the light! I turned it back on, and he nastily said, "I guess I'm in for an inqui-

I couldn't believe it. I asked him to leave and he seemed surprised. When he was just out the door, he said he thought we needed time apart. I closed the door.

Overall, we seemed to be a good match. If he calls saying he made a mistake and wants to come back, I'm not sure I will be strong enough to say no. I know I must because he has now broken my heart twice.

I have all his clothes, which I'll leave at security for him to pick up. I'm waiting for him to call so I can ask him to return my key.

## Maryanne

Maryanne, in 1858 a Scottish policeman died. For the next 14 years his faithful Skye Terrier guarded his master's grave until he, too, passed away. That famous dog is known as Greyfriars Bobby.

Recent research suggests the story was a fabrication by the cemetery keeper and a restaurant owner to boost tourism. The original dog was simply a mutt who hung around the cemetery, and when he died, the co-conspirators replaced him with a Skye Terrier.

You didn't say you are perfect for one another. You didn't say he loves you deeply. You told us he likes crazymaking with his wife. He takes a sabbatical to have sex with another woman, returns home, then does it again.

That's what he likes, and he put his teenagers through this once, then put them through it again. He doesn't care about anyone but himself.

We hoped you wouldn't say you left his clothes with security and will ask for your key back. We hoped you would say, "I cut his clothes into one-inch squares, mailed them back to his wife, and called a locksmith."

You are enthralled with him, but we wouldn't call it love. When love is not reciprocated, then it is something else.

The story of Greyfriars Bobby may be false, but it doesn't undo the incredible true stories of dog loyalty. Though this man's story of love is false, it doesn't undo the incredible true stories of couples who would quite literally die for each other.

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## HAS THE WORLD GONE **BANANAS?**

This lovely long weekend enabled me to spend time listening to CBC news and one of the programs discussed a world wide fungal disease amongst the banana plantations. This humble fruit is a classic example of what the 21st century has got wrong as a direct consequence of the pursuit of wealth. According to the report, the fungal disease was identified in China as a consequence of applying polluted water to plantations, transmitted to Africa via Chinese workers, where China is stripping the continent of its valuable resources aided and abetted by corrupt regimes. The type of banana which is regularly found in our supermarkets is called the Cavendish which was bred for the multinational fruit companies like Chiquita after the last fun-

gal infestation which had wiped out the previous species. For the first 75yrs of the 20th century the companies' own scientists had urged them to diversify to protect the Cavendish banana. Bananas have a difficult sex life, as they are sterile, so this is an expensive challenge for scientists to reproduce a new species. The companies involved in the banana trade in their single minded pursuit of profits closed down the scientists and thus eliminated the bad news. But it has now come back to haunt them as the fungus threatens to wipe out our favourite cheap fruit. The irony of it all is that where a complex and diverse variety of bananas grow such as in the Philippines the fungus is contained and held at bay with no likely loss of the fruit. There is a defensive synergy amongst plants. So why am I a Medical Herbalist going bananas over a fruit? Its' very simple - I was struck by the similarity of what greed has done to the simple antibiotic. During the last 60 years the application of the basic antibiotic has been indiscriminately and universally applied to the extent it no longer has much effectiveness. (just like fungi, bugs mutate ). It is cheap, easy to transport and well liked. The Medical world ignored the strictures of Fleming and scientists who clearly stated that anti biotics would lose their effectiveness if applied indiscriminately. The World Health Organisation has recently sounded a clarion call on this proving him right. Drug manufacturers have made no attempt to invest in alternative anti biotics as the margins are low and thus their profitability is affected.

As part of the fall out from the World Health Authority's statement the British House of Commons called for a parliamentary enquiry into the issue and summoned the great and the good from the medical world to give evidence. Typically the doctors, senior scientists and drug company representatives all blamed the lack of government investment and demanded more of our tax dollars to fix the problem but admitted it would be a long term possible solution not a short term answer. They all ignored their own huge salaries, profits and financially burdensome infrastructures. There was one significant exception. A paper from the European Herbal and Traditional Medicine Practitioners Association - The EHTPA is an umbrella body which represents professional associations of herbal/traditional medicine practitioners offering variously western herbal medicine, Chinese herbal medicine, Ayurveda and traditional Tibetan medicine. The paper was entitled Herbs to combat the threat of microbial resistance to antibiotics and the remainder of this week's article is an extract from it. "In light of growing concerns relating to microbial resistance to antibiotics increasing attention is being given to the role that herbal medicines may play as autonomous antibacterial agents or as adjuvant treatments used to potentiate conventional drugs. This paper selectively reviews the evidence for herbal medicine as a valuable resource to combat bacterial resistance to antibiotics and suggests that further research is warranted. It was fully referenced and evidence based of course! Synergy is an important characteristic determining the medicinal action of many herbal medicines occurring at pharmacodynamic and pharmacokinetic level and a number of papers have been published investigating potential benefits conferred by the synergism of phytoconstituents.In particular, researchers have demonstrated that combining antibiotics with plant medicines can enhance the action of antibiotics thereby overcoming antibiotic resistance. This is achieved in three main ways: firstly by means of a combined phytochemical and antibiotic attack on the bacterial cell wall - epigallocatechin gallate (EGCG) as found in green tea and carob powder is effective in this regard. Secondly, antibiotic resistance can be overcome by inhibition of enzymes that are generated by bacteria for the deactivation of antibiotics (again EGCG is active here) or by thirdly by disabling an efflux pumping system developed by several bacteria in order to prevent potentially destructive compounds such as antibiotics from penetrating into the bacteria or to expel the anti biotics out of the bacteria cell once they have invaded it. Evidence determining the medicinal action of many herbal medicines occurring at pharmacodynamic and pharmacokinetic level and a number of papers have been published investigating potential benefits conferred by the synergism of phytoconstituents. In particular, researchers have demonstrated that combining antibiotics with plant medicines can enhance the action of antibiotics thereby overcoming antibiotic resistance.

Thymol and carvacrol, two compounds in the essential oil of thyme (Thymus vulgaris) act as so-called 'membrane permeabilizers' enabling antibiotics to penetrate into Gram-negative bacteria. Thyme also contains baicalein also present in the Scutellaria species and baicalein has shown significant ability to reverse MRSA resistance to the antibiotic ciprofloxacin by inhibiting the bacteria's defensive efflux pump.

Most research to find agents to support antibiotics becoming ineffective against common bacteria has been labbased rather than on human populations. A recent review provided evidence of 34 different herbs containing constituents known to inhibit the bacterial efflux pumps. For example, E. coli is currently demonstrating resistance to several antibiotics but, combined with extracts of Sophora alopecuroides, isolates of the bacteria were found susceptible to ciprofloxacin. Similarly, Klancnik et al. (2013) found that extracts of Rosmarinus officinalis inhibited drug resistant strains of Campylobacter. Extracts from several other plants in this study, have shown similar inhibitory effects on Campylobacter as have extracts of green tea.

Another major concern is the drug resistant bacterium, Methicillin-resistantStaphylococcus aureus (MRSA). Exposure to berberine, a compound found in many medicinal plants (e.g. Coptis chinensis and Phellodendron amurens) together with antibiotics such as levofloxacin and azithromycin 15, recently proved ineffective against MRSA, resulted in the reactivation of the efficacy of the antibiotic drugs. Similar results were found employing Scutellaria baicalensis against Stapylococcus aureus to restore the antibacterial actions of ciprofloxacin via similar mechanisms of efflux pump inhibition.16 Indirubin, extracted from the leaves of Wrightia tinctoria, used in Ayurvedic medicine, has also been found to have an inhibitory effect on Stapylococcus aureus. Nineteen herbs commonly used in Chinese medicine have inhibitory effects of which Dendrobenthamia capitata, Elsholtzia rugu $losa, Elsholtzia\ blanda, Geranium\ strictipes, Polygonum\ multiflorum\ offer\ promising\ anti-MRSA\ possibilities.\ Zuo\ promising\ promisin$ et al. investigated the antimicrobial effects of 30 plants traditionally used to treat skin infection focusing on their potential to inhibit Stapylococcus aureus. Of these, 21 extracts were found to have anti-MRSA effects with M. yunnanensis and S. arborescens being the most active.

To provide a practical evaluation of the evidence presented in this review we have adapted a version of the widely used GRADE approach (Grades of Recommendation, Assessment, Development and Evaluation). 20 This allows for 4 levels of rating of the research evidence - High, Moderate, Low and Very Low. For simplicity, we have amalgamated Low and Very Low grades into a single category of Preliminary evidence. This selective review highlights potentially fruitful areas for future research.

Herbal medicines can help to resolve the problem of antibiotic resistance more directly. Doctors faced with relatively minor, often self limiting, but common infections eg pharyngitis, laryngitis and tonsillitis or mild urinary tract infections (UTIs) have little to offer except advice on how to manage the condition or otherwise prescribe an antibiotic which may not be appropriate.

Herbal medicines can fill this therapeutic gap, providing effective treatment that reduces antibiotic prescribing and does not contribute to microbial resistance. For example, a number of herbal medicines are traditionally used to treat sore throat such as sage (Salvia officinalis), dyers woad (Isatis tinctoria), Echinacea (Echinacea purpurea or angustifolia) and burdock (Arctium lappa). Herbal medicine can also help to ease (UTIs) employing remedies such as Arctostaphylos uva ursi and Zea mays when doctors have little to offer except advice on how to manage the condition or otherwise prescribe an antibiotic which may not be appropriate.

Other common minor infections may also be successfully treated with herbal medicines sparing use of more potent antibiotics. This is a potentially rich territory worth exploring as a practical way of combating microbial resistance to conventional antibiotics. Herbal medicines have been used as antibiotics for thousands of years, yet remain effective, suggesting that bacteria have a reduced ability to adapt to a plant derived antibacterial regimen."

In other words there already exists a rich material medica employed by herbalists which are effective anti biotics and do not require vast sums for investment and can be easily implemented. Just like choosing a banana from a different species rather than focussing on one variety because of its maximum financial returns. Another example of where, like the UK, appropriately qualified medical herbalists should be working alongside family practitioners. Morwenna Given is a practising Medical Herbalist working in downtown Toronto. More information can be found on her website www.medicusherbis.com