PROSTATE CANCER ACTION GROUP (S.A.) INC

Affiliated with
Prostate Cancer Foundation of
Australia

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NEWSLETTER

Website – www.pcagsa.org.au

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Chairman's Report – June 2005

The Cancer Council of Australia and Screening for Prostate Cancer

On the ABC Radio Program "The World Today" for the 31st May comments were made by Suzanne Steginga re-affirming The Cancer Council of Australia's opposition to mass screening for prostate cancer. The comments told us nothing new. Indeed prostate cancer support groups themselves at present do not generally advocate mass screening but rather for certain ages eg. 50/70 years. However, what concerned me was the negative affect the comments would have had on a man considering tests for prostate cancer. Although the segment did recommend men visit their Doctor to discuss the pro and cons of testing it also stated the approach to prostate cancer testing is a "difficult issue". If I was a man in that position the program would have confused me. I query why The Cancer Council of Australia chose to air their views at this time. Towards the end of the segment Prof. Tony Costello criticized the comments made.

Awareness Evenings

Yorke Peninsula

The Kadina visit is on track although a couple of problems have surfaced. When Theban and I went to Kadina for the Cornish Festival (Kernewek Lowender) we learnt a prostate cancer evening had been conducted in early May by the Masonic Lodge, at Kadina. Also the Kadina Show will be held on the two days following our presentation. However, following discussions with our contact at the Health centre - Wallaroo (Tim Garfield) and David Copley (Lions Club – Bute) it was decided to proceed.

Despite some misgivings we feel the widespread promotion that can be achieved warrants us continuing.

During the Cornish Festival weekend we had a long chat with Tim Garfield who remains very enthusiastic.

We contacted the local radio station and confirmed they will conduct a radio interview.

I also spoke to the local President of The Cancer Council South Australia.

There is a local Division of GP's in Kadina.

I will prepare the flyers during the latter part of June.

Adelaide Metropolitan Area

The good news is Prof. Marshall is available to speak for us on the 14th September.

Port Augusta

The Information Evening at Port Augusta, which is being arranged by Vesna, is set down for the 7th July. The Evening is being promoted and supported by Abbott Australasia and the Corporation of the City of Port Augusta. Dr De Sousa and a local GP Dr McQuistan will be involved. Our group has agreed to provide 2 speakers and final arrangements will be made at our June Meeting.

Clare

Trevor has been contacted by a men's health worker based at Clare who is very keen for an awareness evening to be conducted at Clare. This will be discussed further at our June Meeting.

Grant Applications

Great news – our application for a Small Equipment Grant was successful and within the next month we will have funds to purchase a video projector. Congratulations to Rob Kitto – 2 out of 3 now Rob, a very good strike rate.
No word has been received regarding our application to the Department of Health and Ageing and as I understand successful applicants were to be advised last week, it seems we have missed out.
We will need to lodge a further application to the City of Mitcham during September to enable us to conduct an awareness evening at Blackwood in 2006.

Prostate SA

Further to the Meeting held on the 5th May, Prostate SA "is now seeking expressions of interest from anyone wishing to join either the central steering group which would probably consist of about 8 members or, the fund raising and public relations, education and community, research and clinical trials committees". Amber Doyle advised me these expressions of interest would be appreciated by approximately the 20th June. Again this is a matter to be discussed at the June Meeting.

Mitcham Support Group Meeting

An initial Meeting was held on the 26th May to assess the viability of forming a support group in the City of Mitcham area. 16 people attended including 6 from our Group and Gary Bowes on behalf of the Association of SA Support Groups. This number was a little disappointing as several people who registered did not attend.
There were 3 speakers. I spoke on support groups, Gary Bowes on the Association of Support Groups and related matters and Trevor Hunt outlined the National Awareness Campaign – Be A Man. General discussion followed. In the absence of anyone being prepared to take the Chair for future meetings, I agreed to do so for the next few meetings. The viability of the Group will be monitored over the next few months.
On the 9th June I attended a meeting at the City of Mitcham arranged by Councillor Bob Marshall. We spoke with Ms Kerry Hallett, who is the Manager Community Services, about venues, community grants and any avenues where assistance could be provided. Bob Marshall is prepared to promote the Support Group where possible.
A further meeting of the Support Group will now be held on Thursday 23rd June at the Colonel Light Gardens RSL Club – 4 Prince George Parade Colonel Light Gardens. The Club is generously allowing us use of their hall for no charge.
Graham Lyons will be guest speaker on the subject of Diet and Prostate Cancer. Some of us have heard Graham speak on previous occasions and his talk will be very interesting.
Anyone is welcome to attend this free Evening. Tea/coffee will be provided.
For more information check our website at www.pcagsa.org.au or phone 8277 3424.

State Cancer Control Plan

Some members of our Group were invited to comment on the recommendations of South Australia's first ever Cancer Control Plan. The South Australian Department of Health and The Cancer Council South Australia are working in partnership to lead the development. These comments were required by the 3rd June.

Innovative new Flinders Cancer Centre

As reported in their Newsletter, the Flinders Medical Centre Foundation has launched a state-wide multi-media fundraising campaign in its bid to build the Flinders Centre for Innovation in Cancer.
At a fundraising launch, Minister for Health Lea Stevens affirmed the State Government's pledge of $2.5m towards the $14.5m needed to complete the building.
"The Flinders Centre for Innovation in Cancer will provide the people of South Australia with a facility unlike any other in Australia, which will particularly target cancer prevention, research and better delivery of cancer control techniques," says Ms Stevens.

Prostate News

Issue 21 (March 2005) contained 2 very interesting articles. The first was headed "Take Care – the Rural Urban Divide is getting worse" and the second was on Brachytherapy as a treatment for prostate cancer. If you haven't read these articles I recommend them to you. *Jeff Roberts*

THERE IS A PLACE FOR PSA TESTING

At the April meeting of the Adelaide PSA Group, Professor Ian Olver addressed the Group about his recent attendance at an important prostate cancer conference in U.S.A., where the latest results from clinical trials on the use of chemotherapy as a treatment for prostate cancer had been presented.

I have read reports from other support groups where similar presentations have been made by as a result of attendance at the same conference. Gauging by the tone of those reports, it appears to me that some of his interstate colleagues may not have been as enthusiastic as Professor Olver about these results.

Professor Olver has come to our attention previous occasions, notably for his stern opposition to PSA testing as a detection process for early stage prostate cancer, much in the mould of one Professor Alan Coates. But his most recent outburst during question time at the support group was not only surprising, but totally uncalled for.

Most men introduced their questions with the words “My PSA was/is ……..”. After several of these questions, Professor Olver launched a savage attack on the PSA test as a tool for either detecting or monitoring prostate cancer, inferring that it was a useless test, not reliable, not accurate, etc (we have heard all that before). He considers that men place too much emphasis on the test, at any stage of the disease.

But he then took his attack one step further by saying that PSA screening for men could not be compared with screening for breast cancer in women, and that mammograms were much more accurate and reliable as a screening tool. These aggressive remarks were not, in any way, provoked by associated questions from the audience, as this subject had not been raised. It is my opinion that the remarks were totally out of context with the subject of the meeting, as most men were asking questions about the chemotherapy.

Professor Olver was most enthusiastic about a cocktail of the drugs taxotere and thalidomide, which have been shown to extend the life of prostate cancer patients by an average of two months (the maximum extension of life was 14 months). In all of this hype about this toxic concoction, I found it difficult to find any genuine hope for men.

I also found it somewhat incongruous and puzzling that a man so vehemently opposed to PSA testing which aids detection at an early stage of the disease, thus presenting a much better opportunity for a cure, wants to be there at the final stages of a man’s life, with his chemotherapy. Those men who follow advice to wait until symptoms appear are most likely to need some serious palliative care, such as that offered by Professor Olver, although I doubt that quality of life would be an issue at that stage. In other words, “Don’t worry about having a PSA test, because I will probably be able to prolong your life by about two months.”

On the topic of the effectiveness of the PSA test, it is evident that not all of Professor Olver’s contemporaries agree with his attitude. In Australia, Professor Tony Costello says the PSA test, whilst not 100% sensitive and not 100% specific for prostate cancer diagnosis, is the best marker in oncology. “It is also relevant that PSA has a 60% better positive predictive value for cancer diagnosis than does mammographic screening” he says. “It is time to move from angst-driven debate regarding prostate cancer screening to discuss more relevant questions” he continued. And so say all of us!

In another (2004) article about tumour markers (http://labtestsonline.org/understanding/analytes/tumor_markers) it is stated that there are only a handful of well-established tumour markers that are being routinely used by physicians. “The goal is to be able to screen for and diagnose cancer early, when it is the most treatable and before it has had a chance to grow and spread. So far, the only tumour marker to gain wide acceptance as a general screen is the PSA test for men. . Other markers are either not specific enough (too many false positives, leading to expensive an unnecessary follow-up testing) or they are not elevated early enough in the disease process.”

In an article on the American Family Physician website (www.aafp.org/afp/20030915/1075.html) it is stated that the use of the PSA test is regarded as “very helpful” in monitoring of treatment.

In yet another web article, Monozyme India Ltd. Claims that “PSA is the best tumour marker yet discovered”, although I must admit that I am not aware of just how much of an interest that company has in PSA testing.

If you have a lazy US$3200 around, you can obtain a PDF document from Trimarl Publications (http://trimarkpublications.ecnext.com) . It is entitled "Cancer Diagnostic Testing World Markets" and was published on 4th January 2005. It appears to have quite a number of pages on the subject of PSA testing. The blurb reads (in part) as follows;- "This report deals with the analysis of analytes that are related to the common chemical constituents of blood, plasma or serum that are related to the growth and progress of cancer."

Further, there is an article on free to total PSA being superior to other prostate cancer follow-up tests, which I have included elsewhere in this edition.

If we must include a comparison with mammography breast screening, then a recent article in the Weekend Australian has some interesting comments that would appear to disagree with Professor Olver's "model screening tool".

Apparently there is no Medicare Item No. (rebate) for breast screening in Australia (firstly, compare that situation with the treatment of multiple Medicare Nos. for PSA testing), which is conducted by X-ray technique. Overseas studies have shown that a MRI technique is much more accurate, and a combination of both techniques even more accurate. Now the battle is on to get the Federal Government to recognise the new procedure as part of the overall breast screening campaign, and provide to make them available. Incidentally, MRI screening costs about 10 times that of x-ray screening, and conversion of existing machines would cost a minimum of $90,000.

An interesting point is that although the studies have shown that MRI is much better at detecting breast cancer, there is no proof that the women live longer as a result. (interestingly, this a point used against PSA screening, so let us see whether that point is taken into consideration in the future). At present there are concerns about cost and availability of MRI in Australia, and it will be interesting to see how long the Federal Government takes to rush through recognition of the new technique, and provide it as part of their usual screening programme.

But the results of one of the overseas trials show how "perfect" X-ray mammography really is. The trial covered 640 women, aged 31 – 5 who had 1881 MRI scans, for 35 detected cancers. The claimed percentages _ MRI alone = 77%, X-ray mammography = 40% (how good is that?), MRI and XRM combined = 94% (that's better): difference in women with genetic predisposition = 92% (MRI) vs 23% (XRM)

Some professionals appear to want us to believe that mammograms are completely accurate at all times, for all women. But that is open to question, as many of us have heard from acquaintances how breast cancer has not been detected in some women, sometimes with very regrettable results. Similarly, there is no doubt that some women have undergone disfiguring surgery when cancer was not present (how traumatic could that be?) So why give us these sweeping, dogmatic statements about the certainty of mammograms, when it is not even relevant to the topic of chemotherapy treatments for prostate cancer?

Despite the enormous amount of money spent on promoting screening for breast cancer. It is well known that many women never present for this service. Similarly, if PSA screening for prostate cancer was permitted, I doubt that anywhere near all eligible men would present for it, even if it was free of charge.

I agree with Professor Costello – it is time to move on from the angst and divisiveness of the PSA argument. Besides, men do not need to be "cut down" in public just because they refer to their PSA readings

I do not pretend that the sources I have quoted above are the be all, end all of PSA testing, but they have to be pointed out to restore balance to the discussion.

For the past 2 years I have believed (until I heard Olver's comments) that a consensus was being attained that men should be given all the facts about PSA testing, i.e., the pros and the cons, without personal bias. This is the thrust of the current PCFA "Be A Man – Talk to Your Doctor" campaign. The revised position statement from Cancer Council Australia endorses the concept of a shared decision-making process between the doctor and man (what about the man's wife/partner?), taking into account the benefits risks and uncertainties of PSA testing. Education and awareness of prostate cancer has been neglected for too long in Australia.

Australian men deserve to be accorded more respect in this matter.

MEN'S HEALTH A "NO GO" ZONE IN BUDGETS

Many men eagerly scanned the recent Federal Budget, to look for signs of any government recognition of men's health matters. Here, in S.A., we watched for some consideration of men's health in the State budget. Sadly, we were sorely disappointed on both fronts.

If you search very intently, you will find some mention in the Federal budget. Much is being made of the "Strengthening Cancer Care" programme, and it is there that you will find carefully hidden references to prostate cancer. Under "Professional development for cancer professionals" ($3.3m.) – this measure will focus on developing professional education modules in the latest treatments for priority cancers including breast, bowel and prostate cancer, and providing advice and counselling to people with cancer and their families

Under "Cancer Research" ($4.8m in 2005/6 or $17.6m over 4 years) – the initial priorities for this funding will include screening programmes; early detection of breast and ovarian cancers; the application of emerging new treatments and technologies, particularly for bowel and prostate cancer; and improvements in cancer outcomes through better coordination of care and a multi-disciplinary approach.

Then, under "Clinical Trials" ($5.8m in 2005/6, or $21.7m over 4 years) – The Government will provide $21,7m over 4 years to build on Australia's capacity to conduct clinical trials for cancer patients. This investment will be managed by *Cancer Australia*, the new cancer agency that is to provide national leadership in cancer control, in conjunction with the National Health and Medical Research Council.

That just about sums up what most of us can expect out of this budget. It is worth commenting, though, that what is needed most of all is the introduction of some new personnel, with new, positive thinking in some of the existing cancer bodies, if any of the above is to achieve anything worthwhile. There appears to be a "staleness' about the manner in which prostate cancer is being regarded. Obviously, many people are much too comfortable in the positions that they occupy, particularly in the Department of Health and Ageing. Another problem with this department is that it is staffed by an oversupply of females, who exhibit no interest in men's health, and have no intention of making any improvements.

So, too with some of the numerous organisations dealing with cancer matters, where there seems to be a concentration on keeping one's job, rather that doing some thinking "outside the square". It is high time that a thorough review was conducted of these government sponsored or appointed organisations to eliminate the duplication, and to bring in some forward thinking.

Overall, prostate cancer gets just two mentions in the budget, with no dollar specific amounts mentioned anywhere, whereas there are several specific amounts for breast, and other female cancers. I believe that it has been indicated to PCFA that allocations for prostate cancer are more likely in the 2006/7 budget. Any such indication can never be taken for granted, and it will be necessary for us to be both alert and active in keeping the politicians to their word. The situation remains far from satisfactory.

If you thought that the Federal budget gave us minimal support, then try looking for detail in the State budget. In keeping with the habits of the current state government, there appears to be little detail in the budget papers – at least, that's the way I saw it when I tried to get details from their website. Not a mention of any sort of detail connected with men's health, let alone some support for prostate cancer. The papers have an Appendix B "Impact of Budget on Women". Apparently, state budgets do not have any impact on men, which is true, I suppose, if they don't have any allocations for male matters.

I do know that Reg Mayes, of the Adelaide PSA Support Group has written several letters to the Minister for Health, seeking some government support for prostate cancer research in this State, and has received a virtual "Thank you, Reg" reply for his troubles. It our current Minister's opinion that any money for such research should come from NHMRC, "as this government does not provide grants for such research" Strange that it cannot find money to assist research into a chronic illness affecting the males of this State, but just a few short weeks after the last refusal, this same government found $513,000 for a grant to prop up the proposed amalgamation of the "Magic Millions" and the Adelaide Cup race meetings into one event to be run in March 2006. The owners of the trademark of first named event are two of Australia's most wealthy men, yet the government was quite willing to give them even more money. As for

the Adelaide Cup, it is nothing more than an insignificant regional race meeting, trying to vie with other much more prestigious events in other states. It has an undeserved public holiday allocated for the day, and, even under perfect conditions this year, still could not attract a decent crowd. I believe that one of the bookmakers even said that most of them didn't go for the racing, but more to socialise. Yet this government could find taxpayer's money to support future events. Just where are the priorities? Then again, it has been reported that, when questioned about a men's health policy, the Minister is said to have replied "this government has other priorities".

Well, this government will soon be asking us to support them as they seek re-election in March 2006. Politicians so sure of their cosy positions in Parliament, running the State on political spin and populist policies, need to be reminded that they cannot be assured of our support, if they are not prepared to give some support where needed in the community. Politicians need to be reminded that men, too, are taxpayers , and they vote.

CHEMO DRUG OFFERS ADVANCED PROSTATE CANCER HOPE

The 3000 men who die from advanced prostate cancer each year could benefit from a newly approved chemotherapy drug once regarded as unsuitable.
Taxotere, first used to treat advanced breast cancer has been approved by the Therapeutic Goods Administration for the treatment of late-stage prostate cancer which no longer responds to hormone therapy. The only drawback is the cost of the medication, with the Pharmaceutical Benefits Scheme yet to list it so the unsubsidised drug could cost some men up to $15,000 for six doses.

Associate Professor Mark Rosenthal, from Cancer Trials Australia, said when taken with the steroid prednisone, Taxotere was the fist medication shown to improve survival rates, effectively reducing the risk of death from the cancer 24 per cent. *(West Australian, 6/5, p3, The Advertiser, 7/5, p38, and others)*

HORMONE THERAPY COMBINED WITH RADIOTHERAPY

Six months of hormone therapy cut the chances of prostate cancer recurring after radiotherapy by 60%, according to Australian and New Zealand research. A trial by the Trans-Tasman Radiation Oncology Group (TROG), reported this week at its meeting in Darwin, found therapy with goserelin and flutamide before radiotherapy not only reduced recurrence rates later, but also slashed by 33% the chance of cancer travelling to other parts of the body. The findings were based on a study of 800 volunteers from Australia and New Zealand who had inoperable prostate cancer. The study was funded by Australia's National Health and Medical Research Council and New Zealand's Health Research Council. TROG is conducting a further trial to see if drug therapy both before and after radiotherapy confers a further benefit. *(W/E Australian 21-22/5, p 21)*

ANOTHER STUDY ON COMBINATION TREATMENTS

Men with prostate cancer may live longer if they take a drug called goserelin after receiving radiotherapy, an international study suggests. The study published in *the International Journal of Radiation Oncology, Biology, Physics* followed 972 patients between 1987 and 1992.
Participants were randomly assigned to receive either radiotherapy and goserelin or radiotherapy alone. After 10 years those receiving the drug – available in Australia under the brand name Zoladex – had a significantly greater chance of being alive (49% compared to 39% respectively). Goserelin works by suppressing androgens, or male hormones. *(W/E Australian, 9-10/4, p. 19)*

"SEX AID" CREAM A DANGER

Perth doctor, Adrian Zentner has warned of the potential danger of a testosterone cream, TestoRx, which could stimulate cancer cells and cause heart failure in some men. Dr. Zentner, a director of the national Well men programme, is urging anyone using the cream to contact their GP immediately to be properly assessed and monitored. Dr. Zentner said his main concern was that the cream could stimulate latent prostate cancer cells as well as leading to heart failure and fluid retention and was being marketed as a medication related to sexual activity. *(West Australian, 7/5. p46)*

This sounds like my kind of story – and I reckon it's worth sticking to -

WEE WHISKY CAN BEAT CANCER

Drinking whisky can help protect you from cancer, a conference of international scientists heard. Researchers have long hailed the anti-cancer properties of red wine due to its antioxidant content. Delegates at the EuroMedLab 2005 conference in Glasgow *(where else?)* were told whisky has significantly higher levels of a powerful antioxidant which kills cancer cells. (Daily Telegraph, 9/5, p3)

CLINICAL TRIALS – PROSTATE INVESTIGATION IN VICTORIA

Prostate cancer is the leading cause of cancer in Victorian men, and one of the treatments, hormone therapy, can cause side effects such as loss of libido, weight gain, impotence, hot flushes and bone softening. An Australian clinical trial hopes to provide clear evidence to men with prostate cancer about the best time to start hormone treatment in terms of prolonging life, balanced against the effects on their quality of life. The trial is being coordinated by the Cancer Council Victoria and is open to men who have had treatment for prostate cancer, and have experienced a relapse through arising PSA but have no other symptoms that their prostate cancer is progressing. Men diagnosed with prostate cancer without symptoms, who are not having radiotherapy or surgery, are also eligible. *(Age, 7/5, Careers Section p28)*

THERE IS NO MAGIC CANCER BULLET

Hardly a week goes by without a new study claiming that some foods will protect us against cancer. However, cancer experts claim that while the link between poor diet and heart disease is well established, the evidence that some foods can prevent cancer is far from convincing.

Dallas English of the Cancer Council Victoria's Cancer Epidemiology Centre argues that rather than proving some foods prevent cancer, studies are increasingly disproving the theory.

"I would say there is no definitive evidence yet that any food or nutrient is protective against cancer. We've been studying diet and cancer for 30 years, however the picture isn't much clearer now," Professor English says. "For the longest time we've been saying eat your fruit and vegies, but in the last five years the evidence that fruit and vegetables are directly associated with a reduced risk of cancer is getting weaker, partly because a lot of earlier studies weren't as good as the current ones."

Terry Slevin, chair of The Cancer Council Australia's Nutrition and Physical Activity Committee, agrees; "The reason there's dispute about whether fruit and vegetables might reduce cancer risk is the big population cohort studies are not producing clear results. It's not that the studies are not credible, but there might be a slight variance in the methodology they use, or the population they apply it to."

The best diet to prevent cancer is one that keeps you at a healthy weight," English says. "There is evidence that obesity is a consistent risk factor for colon factor, post menopausal breast cancer, endometrial and kidney cancer." Slevin says maintaining a healthy weight, not smoking, and being physically healthy will help. *(W/E Aust., 7/5)*

DRUG MAY LOWER RISK OF DEVELOPING PROSTATE CANCER

Results of a large phase 2 clinical trial show that a hormone drug called toremifene (Acopodene) lowers the risk of prostate cancer by nearly half for men with prostatic intraepithelial neoplasia (PIN).

PIN is a precancerous condition of the prostate that is diagnosed with a biopsy (removal and examination of tissue samples from the prostate). PIN can develop into prostate cancer in some, but not all, men. Toremifene a hormonal therapy that is used to treat women with advanced breast cancer, may work by blocking a specific estrogen receptor that helps prostate cancer develop.

Between July 2001 and May 2004, 514 men with PIN received 20mg., 40mg., or 60mg. of toremifene or a placebo (an inactive drug) for a year. Tissue samples were taken from the men after 6 months and 12 months of receiving the drug. After one tear, nearly one-third of the men who took the placebo developed prostate cancer. Men treated with 20mg. of toremifene for 6 months had a 22% lower risk of developing prostate cancer than men who took the placebo, while men who completed a year of treatment nearly halved their risk of developing prostate cancer, Men taking toremifene had fewer side effects.

"This is the first time that a drug has shown promise for lowering the incidence of prostate cancer in men with PIN," said lead author David Price,MD, Director of Urologic Oncology and Clinical Research at Regional Urology LLC in Shreveport, Louisiana. Although this study shows promise, more studies are needed to determine whether toremifene can prevent prostate cancer. Men with PIN are encouraged to talk to their doctors about participating in the ongoing phase 3 clinical trial. *(from www.plwc.org)*

SHIFT WORKER CANCER RISK

Men on rotating shifts at 24-hour workplaces have a higher risk of developing prostate cancer than daytime colleagues. A new study shows the shift workers are 3.5 times more likely to get prostate cancer than those on regular hours. The Japanese research team blames the cancer danger on a misaligned body clock due to irregular schedules. *(Daily Telegraph, 3/5, p8)*

RESEARCH THROWS LIGHT ON PROSTATE

Researchers have harnessed a drug based on chlorophyll, the pigment that reacts with sunlight to produce energy in plants and make them green, to develop a treatment for prostate cancer.

The scientists injected the drug into patients and then "activated" it using tiny lasers inserted into the prostate gland. The chemically modified chlorophyll attacked and blocked the blood vessels that fed the tumours, killing the cancerous cells within days. The technique remains experimental but trials at University College London (UCL) and in Canada suggest it has strong potential.
"This is one of the most promising treatments for prostate cancer I've seen," said John Trachtenberg, director of the prostate centre at Princess Margaret Hospital in Toronto, who is overseeing the trials.

Prostate tumours are among the most common and deadliest of cancers in men. More than 11,000 Australians were diagnosed with the disease in 2001, accounting for 23.4 per cent of all new male cancer cases.

In the same year, 2718 men died from the disease, representing 13.3 per cent of male cancer deaths.

Sufferers of the disease have included federal Shadow Treasurer Wayne Swan and federal Local Government Minister Jim Lloyd. Other notable people who have been treated for the disease include Robert Runcie, the former Archbishop of Canterbury who died in 2000, and former South African president Nelson Mandela. Prostate cancer incidence rates were relatively stable until 1989 but the number of new cases in Australia rose dramatically from 1990 to 1994, an increase attributed to better detection. Rates have shown little change between 1998 and 2001. The death rate from the disease fell by 1.8 per cent per year between 1991 and 2001.

The cancer can be cured if caught early but it is difficult to discriminate between cancerous and normal tissue using conventional therapies such as surgery or radiotherapy. Patients are often left incontinent and impotent because the nerves controlling urination and sexual function pass through the prostate and are destroyed along with the cancerous tissue.

The new research was prompted by these drawbacks. The technique was co-devised by Avigdor Scherz, a plant biochemist based at the Weizmann Institute of Science in Israel, after one of his family was stricken by cancer.

He knew that when chlorophyll was struck by light it could be induced to release a surge of "free radicals" - highly reactive molecules capable of destroying nearby cells. He reasoned that, in the darkness of the human body, a drug based on chlorophyll would remain inert unless hit by light.

"By illuminating a tumour with intense light we could activate the drug only around the cancerous cells, leaving the rest of the body unaffected," he said. Scherz tested different chlorophyll molecules from plants and micro-organisms, finding that the best came from a bacterium that lives in seawater.

He named the drug Tookad, Hebrew for "warmth of light", and went into partnership with Steba Beheer NV, a Dutch firm sponsoring clinical trials. Last autumn, Trachtenberg enlisted 30 patients who had suffered a recurrence of prostate cancer despite being treated with radiotherapy.

In the treatment, his team inserted up to five needles into each patient's prostate, feeding tiny fibre-optic cables through the needles. The cables were sited to illuminate the diseased prostate without affecting adjacent organs.

The patients were infused with Tookad and, as it began circulating through the body, their prostates were flooded with laser light. As the trials went on, the level of light and the number of needles were raised.

"The last 12 patients got the maximum number of needles and the highest light dose. Of those 12, a six-month biopsy has shown the cancer has gone," said Trachtenberg. Most of the other patients also showed some benefit.

If confirmed, such results would be a significant success. In London, trials of Tookad are less advanced but have shown promise. Six patients have been treated using just two fibre-optic cables and 24 more cases are planned. In three cases the cancerous prostate gland receded. The biggest hope is, however, that those treated will retain sexual function and bladder control.

Caroline Moore, a surgeon and UCL researcher who is overseeing the trial, said: "If surgery or radiotherapy fail, you often cannot do it a second time, but this approach can be repeated. It is also much less intrusive and could even be done as daycare." *(W/E Australian, 4-5/6/05)*

AUSTRALIA TO ESTABLISH A NATIONAL CLINICAL TRIALS REGISTER

For the first time, medical researchers, doctors and the general public will have information about clinical trials happening across the country in all areas of health, with the announcement of a national on-line register of all types of clinical trials.

Trials entered on the register will range from those researching new drugs and treatments to new and/or improved surgical procedures and medical devices. The Australian Government is spending $1.5 million through the National Health and Medical Research Council (NHMRC) to establish the register.

Professor John Simes from the Clinical Trials Centre in Sydney will work with the NHMRC to begin developing this national register in the coming months. The register will be developed over the next three years and will be fully operational in 2008.

“In future, people interested in participating in a clinical trial, or doctors investigating relevant trials for their patients, will have access to a reputable and comprehensive on-line register, It will mean that GPs and other health professionals can investigate the evidence behind new treatments, therapies or drugs arising from a trial listed on the register,” Mr Abbott said.

Australia is to be part of a world-wide push to ensure that information on trials is publicly available. The International Committee of Medical Journal Editors, which includes among many others, the Medical Journal of Australia, The Lancet and the New England Journal of Medicine have said that from 1 July 2005 they will not publish the results of any clinical trials not included on an authorised register.

The register will also help researchers identify gaps in their own research or prevent unnecessary duplication of clinical trials and provide researchers with new insights by having access to information about trials underway across Australia.

It is estimated that there are about 2000 clinical trials currently underway. More than 90 clinical trials worth$55 million are being funded by the NHMRC.

WEBSITES

www.plwc.org	People Living With Cancer – a site by the American Society of Clinical Oncology. Helpful to support groups, has doctor questions and an oncologist approved cancer information section.
www.cancerpage.com	Cancer information and community resource
www.cancercompass.com	Cancer news stories
www.cancerindex.org	Overview of cancer resources
www.florida-prostate-cancer.org	Florida prostate cancer network
www.edap-hifu.com	HIFU treatment with Ablatherm
www.healthypages.net	Complementary health & healing resources
www.suhifu.com	More on HIFU treatment
www.prostateaction.org	Promoting greater public awareness & understanding
www.medlineplus.gov	Information from National Library of Medicine

FREE PSA SUPERIOR TO OTHER PROSTATE CANCER FOLLOW-UP TESTS

FULLERTON, Calif. (August 1, 2000) - The free PSA (fPSA) test is significantly better at distinguishing prostate cancer from benign prostatic conditions than more traditional follow-up methods used to improve PSA testing, according to a major new study to be published in the August issue of Urology.

The Hybritech ® free PSA and Hybritech® PSA tests, manufactured by Beckman Coulter, Inc.were used in the study. Hybritech free PSA is the only fPSA assay approved by the Food and Drug Administration for clinical use to aid in distinguishing prostate cancer from benign prostate conditions.

The study compared fPSA results with the commonly used approaches of age-specific PSA reference ranges and PSA density calculations in men aged 50 years and older with total PSA results between 4 ng/mL and 10 ng/mL and who had negative digital rectal examinations.

"PSA is the best cancer tumor marker in all of medicine, but there is understandable pressure to improve its accuracy. This study shows that free PSA is the best available way to improve the accuracy of total PSA tests," said lead author of the study, William J. Catalona, M.D., of the Division of Urologic Surgery at Washington University School of Medicine.

The PSA test is limited by its relative lack of accuracy in men whose PSA levels fall in the so-called "diagnostic gray zone" of 4 to 10 ng/mL. Three-quarters of the men in this range do not have cancer. Prior to the development of the fPSA test, men in this group were routinely recommended for a prostate biopsy, which can be both painful and costly.

Physicians who use age-specific reference ranges as a fOllow-up to PSA testing will factor in a patient's age relative to his PSA value, while the PSA density method requires the physician to perform a costly ultrasound to calculate serum PSA levels divided by the prostate volume.

In contrast, because fPSA assays - .which measure the amount of unbound or "free" portion of prostate-specific antigen - do not require an accompanying ultrasound, they are more cost-effective than PSA density tests,

In the new study, 773 men ages 50 through 75 had a palpably benign prostate, total PSA levels between 4 and 10 ng/mL, a negative digital rectal examination and a histologically-confirmed diagnosis. With these patients, follow-up tests were conducted using the Hybritech free "PSA assay, PSA density tests and age-specific reference range cutoffs to increase the accuracy of PSA testing for prostate cancer detection and for staging the severity of the disease.

While all three methods increased the accuracy of total PSA testing in distinguishing benign prostatic conditions from prostate cancer, age-specific PSA cutoffs were less sensitive than fPSA and missed 20 percent to 60 percent of all cancers in men over 60 years of age. In addition, the fPSA ratio and PSA density tests both had a 95 percent cancer detection rate when the fPSA ratio of 25 percent and a PSA density level of 0.078 were used. The study also found both methods equally effective at predicting cancer aggressiveness.

The results of the study suggest that fPSA assays can be safely used as an alternative to PSA density tests - which require ultrasounds - as a less invasive, less costly option to increase the accuracy of PSA tests. Prostatic biopsy is required for actual diagnosis of prostate cancer.

"Results of this study are significant because they show that free PSA tests can improve the accuracy of PSA tests and are more sensitive than age-specific reference ranges," Dr. Catalona said. "They are as accurate as PSA density tests in the study, but less costly. Other studies have also shown that free PSA ratios can provide the bonus of telling patients and physicians how aggressive the cancer is."
(from www.beckman.com/hr/pressroom/oc_pressRleases_detail.as...)

PROSTATE CANCER TREATMENT OPTIONS

Men with prostate cancer have been poorly served by cancer researchers and the clinicians who treat them. There's not much high-quality evidence foe anything that's done for them from screening to treatment. But that's improving as more trials report their findings.

One of the latest is an 8-year follow-up of men aged in their mid sixties on average, who'd been diagnosed with prostate cancer before it had spread. Some had fairly slow-moving disease, some had moderately aggressive tumours and some had tumours with a bad prognosis.

They were all randomised to a radical removal of their prostate or to watchful waiting – monitoring and treating things which turned up. This was not – repeat NOT – a trial of PSA testing – the so-called screening test. These men were discovered in lots of ways. It's a treatment trial.

Anyway, the eight-year results showed that there was a 5% difference in death rates and a 10% difference in rates of spread favouring the men who had the surgery. Small, but important benefits which may be greater the younger men were. But the benefits may still not be big enough to make decision making easier for some men.

(For reference: Bill-Axelson A et al. Radical prostatectomy versus watchful waiting in early prostate cancer. New England Journal of Medicine 2005; vol 352 pp1977-1984)

CHOLESTEROL DRUGS MAY CUT RISK OF SERIOUS PROSTATE CANCER

By Liz Szabo, USA TODAY

Cholesterol-lowering drugs such as statins could cut the risk of advanced prostate cancer in half, according to a study to be presented Tuesday. Experts caution, however, that there is not yet enough evidence to recommend taking the drugs to prevent cancer.

Although doctors observed that men taking cholesterol-lowering drugs also had lower rates of the most serious types of prostate cancer, it's also possible that healthy behaviors by men in the study could have helped prevent the disease, says lead researcher Elizabeth Platz, an assistant professor at the Johns Hopkins Bloomberg School of Public Health and Kimmel Cancer Center.

Still, she says, the results suggest that researchers should pursue the question. The longer men used cholesterol-lowering drugs, she notes, the lower their risk of advanced prostate cancer. There was no difference in the rate of early, curable cancers.

The researchers, who will unveil their results today at the annual meeting of the American Association for Cancer Research in Anaheim, Calif., tracked more than 34,000 men in the Health Professionals Follow-up Study for 10 years. Doctors asked men about their use of cholesterol-lowering drugs in 1990 and checked again every two years until 2000, Platz says.

Most of those who used cholesterol-lowering drugs chose statins. Platz says statins may influence cancer growth in several ways: by altering cell membranes, which are rich in cholesterol; by reducing inflammation, which appears to play a role in prostate cancer; or by stalling tumor growth. Other early studies also have found that statins lower the risk of colon and breast tumors.

Peter Carroll, chairman of the urology department at the University of California at San Francisco, says Platz's study is promising because the drugs could offer a chance to save lives. He says he hopes to begin a clinical trial of statins in men who have early-stage, slow-growing prostate tumors. Although statins are considered relatively safe, they can cause potentially serious liver and muscle problems.

And Michael Thun of the American Cancer Society notes that drugs often have unexpected side effects. Many cancer researchers had hoped that the painkiller Vioxx would save lives by preventing colon polyps. Vioxx was pulled from the market last fall, however, after a cancer-prevention study showed that it increased the risk of heart attacks and strokes. Doctors say they hope to better advise men on
statins and cancer within a few years. "These are promising findings," Platz says. "Men should stay tuned."

ACTIVE SURVEILLANCE OBVIATES TREATMENT FOR SOME MEN WITH PROSTATE CANCER

NEW YORK MAY 30, 2005 (Reuters Health) - A strategy of active surveillance is a feasible approach to managing favorable-risk, early prostate cancer, British researchers report. They explain that active surveillance differs from so-called "watchful waiting" in that it applies radical treatment for biochemical progression, rather than palliative treatment for symptomatic progression.

Noting that "prostate cancer is the only human cancer which is curable but which commonly does not need to be cured," Dr. Chris C. Parker and colleagues suggest in the May issue of BJU International that "the challenge of managing early prostate cancer is to distinguish patients with clinically relevant cancers from those whose 'disease' is destined merely to be an incidental histological phenomenon."

Dr. Parker's group, based at The Royal Marsden NHS Trust in Surrey, followed 80 patients with early prostate cancer (clinical stage20 ng/mL or less and Gleason score of 7 or less; median age 70.5 years). Surveillance included serial PSA testing and digital rectal exams(DRE) every 3 to 6 months for the first 2 years then every 6 months thereafter.

After a median follow-up of 42 months, 64 men were still being followed by active surveillance, while 11 underwent radical treatment and 5 had died. None of the deaths were due to prostate cancer and there was no evidence of metastatic disease.

The investigators note that median PSA doubling time in the group was 12 years, which "suggests an indolent course of disease in most patients." The team also evaluated outcomes for 32 men (median age 77 years) with clinically localized prostate cancer (any T stage, any PSA,
Gleason score7 or less) who were considered unsuitable for radical treatment and who underwent watchful waiting. Patients were followed with serial PSA tests and DRE every 6 months.

In the watchful waiting group, 20 continued to be watched while eight were treated with hormone therapy and four died, one from metastatic cancer.

"While the long-term prostate cancer mortality associated with (active surveillance) in young, fit men with favorable-risk early prostate cancer is unknown, in the worst possible case it will be as good as that associated with (watchful waiting) in such patients," Dr. Parker's group maintains.
*SOURCE: * BJU Int 2005;95:956-960. (Reuters) (www.cancerpage.com)*

HEALTH DISCOVERY CORP AIMS TO LICENSE PROSTATE CANCER BIOMARKERS

[Asia Pulse Pte Ltd.] May 26, 2005

May 24, 2005--Health Discovery Corporation (OTCBB:HDVY) today announced that it is in discussions to license its recently discovered and validated prostate cancer biomarkers. The biomarkers were discovered using Health Discovery Corporation's patented Support Vector Machine (SVM) discovery tools.

These biomarkers have been shown to accurately separate high-grade prostate cancers -- the most malignant form of prostate cancer -- from less malignant grades, with a high degree of accuracy. This ability would allow physicians to tailor prostate cancer treatment to a patient's specific type or grade of cancer -- resulting in significant cost savings by minimizing unnecessary or overly aggressive treatments
as well as eliminating the adverse effects that invariably accompany unnecessary treatments. These new prostate cancer biomarkers have been patent protected by Health Discovery Corporation and claims in the patent application are directed to each new set of biomarkers and their uses in screening, diagnosis and treatment of prostate disease.

Dr. Thomas A. Stamey, who is Professor and Founding Chairman of the Department of Urology at Stanford University School of Medicine and currently holds the Thomas A. Stamey Endowed Research Chair in Urology at Stanford University School of Medicine commented: "At this point in time when the PSA has been shown to be ineffective in

identifying clinically significant prostate cancer, Health Discovery Corporation's recent biomarker discovery creating a genomic based test that separates grade 4/5 prostate cancer, the most malignant and clinically significant type of prostate cancer from BPH (benign prostatic hypertrophy) and normal prostate with a very high degree of accuracy is an exciting and outstanding accomplishment."

When previously asked about this prostate cancer discovery, Dr. Herbert Fritsche, Professor and Chief of Clinical Chemistry at M.D. Anderson Cancer Center, stated, "This impressive new gene discovery will give us access to a new set of biomarkers in advanced prostate cancer. We intend to use these findings to develop new diagnostic approaches for prostate cancer diagnosis and improve the clinical management of these patients."

It has been shown that, financially, PSA is without equal among cancer markers. PSA sales, estimated at over $350 million annually, represents40% of all annual cancer serum biomarker revenues. The reason for its large market share is that currently it is the only cancer biomarker that is being used for screening

Stephen D. Barnhill, M.D., Chairman and CEO of Health Discovery Corporation, commented, "We are excited about our ongoing discussions with potential licensing partners for these prostate cancer biomarkers. The right partner could provide an expedited clinical validation and commercial roll out of the product." Dr. Barnhill continued, "We believe that this new diagnostic test will identify patients with high-grade prostate cancer -- the most malignant form of prostate cancer, such critical and clinically important information is not provided by the currently available PSA test."

Health Discovery Corporation is a systems biology-oriented biomarker and pathway discovery company, which provides all aspects of First-Phase Biomarker Discovery(SM). The Company was established to provide pharmaceutical and diagnostic companies worldwide with newly discovered biomarkers used to create more accurate diagnostic tests, novel drug targets for more personalized medicines and new methods for detecting patients "at-risk" for toxicity-related events, thereby providing safer medications. Founded in September 2003, the Company is headquartered in Savannah, Ga. For further information contact Stephen D. Barnhill, M.D., at barnhillmdsprynet.com. (http://www.healthdiscoverycorp.com)

"SUPER" FOODS: Do you really need them?

*Original Source: /*Consumer Reports on Health*/Original Date of Publication:/* 06.2005**

Trying to keep up with the latest on supposedly special foods can severely cramp your eating style. Do you really need to eat that cabbage that supposedly reduces your risk of disease?

Should you drink the antioxidant-rich Welch's Grape Juice touted by Larry King or switch to POM Pomegranate Juice, the "antioxidant superpower"? Replace the broccoli you've finally learned to tolerate with supposedly superior broccoli sprouts? Dump the apple a day or oat-bran muffins and shift to newer "super" foods such as blueberries or even pizza, because its tomato sauce may possibly help fend off cancer?

Here's heartening news: Leading nutrition researchers do not recommend anything resembling that obsessive focus on the latest super foods. They've become increasingly skeptical about disease-prevention claims for any individual food or food ingredient. That's partly because definitive studies have repeatedly failed to find any benefit from isolated antioxidant supplements; in some cases, the supplements may have actually increased certain serious risks. Instead of individual foods, researchers now advise people to concentrate primarily on eating a large, diverse quantity of fruits, vegetables, and other plant foods.

But special food groups and even individual foods can still play a useful, though less conspicuous, role in a healthy diet. Studies suggest that certain food classes-such as fatty fish; whole grains; possibly soy foods; dark, leafy greens; nuts; the broccoli-cauliflower family; certain red or orange produce; the berry family; and several others-may help reduce your risk of disease when integrated into a balanced diet.

While the evidence for individual foods is generally much weaker, the mere possibility of benefits can spur you to consider food choices that would help diversify your diet.

That's a crucial benefit because most Americans today are stuck in a narrow dietary rut. Indeed, many don't get even the recommended daily amounts of some basic vitamins and minerals needed for optimal health.

Here's a guide to putting super foods in their proper place without allowing them to dominate your dietary decisions or make you feel guilty for ignoring the ones you just cannot stomach.

DON'T FOCUS ON SINGLE FOODS

In several large clinical trials, isolated phytochemicals, or plant nutrients-including the antioxidants beta-carotene and vitamin E-failed to reduce the likelihood of heart attack and stroke. In some studies, the supplements actually increased cardiovascular or cancer risk.

Because nutrients tend to work in concert, researchers speculate that focusing on any single nutrient may create nutritional imbalances that do more harm than good. For example, studies have found that excessive doses of vitamin A can impair vitamin D's ability to shepherd calcium into the bones; too much iron can decrease the body's absorption of zinc, needed for optimal immune function, wound healing, and children's growth and development; and high doses of zinc can reduce the absorption of copper, potentially causing anemia.

The same principle applies to individual foods. Studies have repeatedly shown that people who regularly consume large quantities of plant foods have reduced risks of heart disease, diabetes, stroke, and certain cancers. But those foods can contain hundreds of phytochemicals, or plant nutrients, most of which are poorly understood. And phytochemicals appear to work best when they're ingested together.

For example, various mixtures of the antioxidant carotenoids, including beta-carotene, neutralize the damaging action of free-radical molecules more effectively than any isolated carotenoid can. Researchers think that different chemical properties, such as fat or water solubility, permit some compounds to reach different sites on the body's cells, triggering changes that no single ingredient could achieve by itself.

Indeed, research suggests that combining different fruits and vegetables in the same meal may boost their disease-fighting potential. In a 2004 study from the University of Illinois, for example, a combination of tomatoes and broccoli slowed the growth of prostate tumors in laboratory animals substantially more than equivalent amounts of broccoli and possibly of tomatoes alone.

"Each food has a different phytochemical profile," says Rui Hai Liu, M.D., Ph.D., an associate professor in Cornell University's food-science department. "You can't eat one fruit or grain that covers everything." Sticking with just a few wonder foods may make you miss out on other items that have as-yet-undiscovered benefits.

THE RIGHT APPROACH

Nutrition experts generally agree that certain broad food categories should be eaten regularly: fruits, vegetables, legumes, and whole grains. In addition, the American Heart Association and other organizations recommend that most people eat fatty fish at least two times a week.

Some evidence suggests that high intakes of certain narrower food groups and even individual foods may be beneficial as well (see the accompanying table, "Super Foods:

The Leading Contenders"). For example, observational studies have found that people who consumed the largest quantities of the following foods had lower risks of certain diseases than those who consumed the least:

* Dark-green or deep-yellow vegetables-70 percent reduction in cancer risk.

*Spinach and collard greens-46 percent less chance of developing age-related macular degeneration, a potentially blinding breakdown in the central portion of the retina.

*
Tomatoes and tomato sauce-35 percent reduction in prostate-cancer risk.

A few small clinical trials have also pointed to the possible benefits of certain foods or food combinations. Here are two prominent examples:

* A February 2005 study published in the American Journal of Clinical Nutrition found that eating a daily mix of potentially cholesterol-lowering foods for one month-including vegetables (notably okra and eggplant), almonds, barley, oats, psyllium seed, soy protein, and a spread enriched with substances called plant sterols-reduced cholesterol levels much more than a low-fat diet did; in fact, those foods lowered cholesterol almost as much as the common statin drug lovastatin (Mevacor)
* In a small clinical trial, published in June 2004 in Clinical Nutrition, drinking a glass of pomegranate juice every day for one year reduced blood pressure; decreased the oxidation that causes the "bad" LDL cholesterol to stick to the artery walls; and reduced the clogging of the carotid arteries in the neck. (Such clogging can lead to a stroke.)

None of that evidence is conclusive. So you don't necessarily need to consume large amounts-or even any-of those special foods, in part because other items in a balanced diet may provide comparable benefits. For example, the best dietary approach to reducing blood pressure is not to guzzle pomegranate juice but to follow the much broader DASH diet, high in fruits, vegetables, and low-fat dairy foods.

Similarly, consuming more plant foods and less animal fat is probably the best nutritional strategy for lowering cholesterol levels and possibly unclogging the arteries. (Of course, losing excess weight is also essential for achieving both of those goals.) And even if the evidence for a particular food's benefits were incontrovertible, eating it every day might crowd other valuable items out of your diet-or just prove to be intolerable over the long haul.

However, the promising results for certain foods can encourage you to achieve an essential dietary goal: expanding your dietary choices to include potentially beneficial items you might not otherwise consider. That's important, given the glaring inadequacies of the typical diet in the U.S.

Most Americans fail to consume the recommended five to nine daily servings of fruits and vegetables, and the usual range is pitifully narrow. Two nutritional weaklings-potatoes (often as chips, fries, or hash browns) and head lettuce (usually iceberg)-account for nearly half of the vegetable servings Americans eat. Dark, leafy-green vegetables, such as chicory, collard greens, kale, spinach, and Swiss chard, pack far more nutrients than head lettuce. But they comprise a mere 3 percent of the typical intake.

Americans' fruit-eating habits are nearly as monotonous. Six types-orange juice, bananas, apples, watermelon, apple juice, and grapes-account for half of all fruit eaten in the U.S.

While that array isn't as lightweight as head lettuce and potatoes, it again reflects insufficient variety.

Largely because of that limited intake of plant foods, many Americans are failing to get the recommended amounts of many essential nutrients (see the accompanying table, "Missing Nutrients"). For example, nearly three-fourths consume too little zinc. And almost two-thirds don't get enough calcium, which helps keep bones strong and blood

pressure low, or enough magnesium, which helps control both blood-pressure and blood-sugar levels.

WHAT TO DO

* Most people can benefit from consuming larger amounts of fruits, vegetables, whole grains, beans, nuts, and fish. But variety is just as important as quantity.

* To ensure diversity, make a conscious effort to try new foods. Consider including those that studies suggest may be beneficial, as well as those that are good sources of nutrients that are often underrepresented in the American diet.

* Try to avoid the following pitfalls: Don't get locked into a narrow range of choices, regardless of how nutritious they sound. Don't think you need to eat individual foods you don't like, as long as you're eating a balanced diet containing lots of plant foods. And don't expect a daily glass of carrot juice or fistful of broccoli sprouts, for example, to compensate for unsound nutritional choices and unhealthy habits.

* To help ensure further variety, choose produce with a broad range of colors. Red, orange, yellow, green, purple, and white each generally indicate that the food contains a different and important group of phytochemicals.

* Choose whole foods rather than supplements of phytochemicals, vitamins, minerals, or fish oil. That approach will give you a broad range of nutrients and leave less room in your diet for unhealthy choices.

MISSING NUTRIENTS: WHERE OUR DIETS FALL SHORT

A surprising number of Americans fail to get the recommended daily allowances for a host of basic vitamins and minerals, according to U.S. Department of Agriculture surveys. The last column of this chart, which lists foods highest in those nutrients, can inspire you to include items in your diet that you might not otherwise try. That can supply the particular nutrient and also help diversify the diet, which for most Americans is excessively narrow.

NUTRIENT*	*WHY YOU NEED IT*	*PERCENT NOT GETTING ENOUGH*	*FOODS RICH IN NUTRIENT*
ZINC	Supports immune system, wound healing, growth and development.	73%	Oysters, fortified breakfast cereals, beef, crab, lamb, buckwheat.
CALCIUM	Maintains bones, helps control blood pressure.	65	Milk, yogurt, and other dairy foods; collard greens, kale, sardines, canned salmon.
MAGNESIUM	Helps control blood pressure and blood sugar; may help prevent heart disease and diabetes.	62	Halibut, spinach, pumpkin and squash seeds, beans (black, lima, white), artichokes, beet, greens, okra, oat bran, and other, whole grains.
VITAMIN A (AND ITS PRECURSOR, BETA-CAROTENE)	Helps maintain immune function; protects against oxidation; may reduce risk of cancer, stroke.	56	Carrot juice, sweet potato, steamed carrots, beef liver, spinach, kale, collard greens, pumpkin, turnip greens, squash, dandelion greens, mustard greens.

NUTRIENT*	*WHY YOU NEED IT*	*PERCENT NOT GETTING ENOUGH*	*FOODS RICH IN NUTRIENT*
VITAMIN B-6	Helps maintain immune function and control blood sugar and possibly level of potentially harmful amino acid homocysteine.	54	Chickpeas, tuna, chestnuts, turkey, halibut, bananas, prunes, beef, haddock.
IRON	Helps produce red blood cells that deliver oxygen throughout body.	39	Shellfish (especially clams), soy beans, red and white beans, lentils, spinach, oat bran.
VITAMIN C	Necessary for repair and growth of tissues throughout body.	38	Sweet red peppers, strawberries, papaya, broccoli, Brussels sprouts, oranges.
FOLIC ACID	Promotes normal growth and development, especially during pregnancy; helps control homocystene level.	33	Lentils, black-eyed peas, spinach, beans (black, navy, red, white), asparagus, collard greens, broccoli.

SUPER FOODS: THE LEADING CONTENDERS

The food groups and individual foods listed below, in order of the strength of the evidence, are among the most likely to have disease-fighting benefits. We assessed the strength of the evidence based on clinical-trial, observational, and laboratory research. Even where supporting evidence is only suggestive, most of these foods are worth consuming because they're rich in nutrients and can add variety to your diet. Note that some of the likely ingredients - polyphenols and carotenoids - consist of large families of antioxidant nutrients.

	FISH	FOOD SOY MILK, TOFU, AND OTHER SOY FOODS	SOY MILK, TOFU, AND OTHER SOY FOODS
LIKELY ACTIVE INGREDIENTS	Omega-3 fatty acids.	Isoflavones	Isoflavones
HEALTH CLAIM	Heart and brain (stroke) protection.	Heart protection.	Cancer protection.
EVIDENCE	Strong	Fairly strong	Suggestive
RECOMMENDATIONS	Most people should eat at least two servings a week of fatty fish. Pregnant women and young children should avoid fish high in mercury, such as king mackerel, shark, and swordfish.	Worth trying, to avoid or minimize cholesterol medication.	Suggestive Substituting them for red or fatty meat and full-fat milk can be useful component of cancer-fighting diet.

	FISH	FOOD SOY MILK, TOFU, AND OTHER SOY FOODS	SOY MILK, TOFU, AND OTHER SOY FOODS
LIKELY ACTIVE INGREDIENTS	Omega-3 fatty acids.	Isoflavones	Isoflavones
HEALTH CLAIM	Heart and brain (stroke) protection.	Heart protection.	Cancer protection.
EVIDENCE	Strong	Fairly strong	Suggestive
RECOMMENDATIONS	Most people should eat at least two servings a week of fatty fish. Pregnant women and young children should avoid fish high in mercury, such as king mackerel, shark, and swordfish.	Worth trying, to avoid or minimize cholesterol medication.	Suggestive Substituting them for red or fatty meat and full-fat milk can be useful component of cancer-fighting diet.

	SOY MILK, TOFU, AND OTHER SOY FOODS	RED WINE AND OTHER ALCOHOLIC DRINKS	WHOLE GRAINS: OATS, WHEAT, RYE, BROWN RICE, AND OTHERS
LIKELY ACTIVE INGREDIENTS	Isoflavones	Alcohol and, in red wine, polyphenols.	Fiber, polyphenols, vitamin E and several B's
HEALTH CLAIM	Relief of menopausal symptoms	Heart Protection	Heart and cancer protection.
EVIDENCE	Suggestive	Fairly strong	Fairly strong
RECOMMENDATIONS	Women bothered by hot flashes or night sweats could try soy foods or supplements before resorting to medication.	Moderate imbibing - two drinks a day for men, one for women, is apparently good for the heart. But given therisks, don't start drinking just for that benefit.	Eat at least three servings a day.

	WHOLE GRAINS: OATS, WHEAT, RYE, BROWN RICE, AND OTHERS	DARK-GREEN, LEAFY VEGETABLES	NUTS
LIKELY ACTIVE INGREDIENTS	Fiber, polyphenols, Vitamin E and several B's	Carotenoids (beta-carotene, lutein, zeaxanthin)	Arginine, polyphenols, vitamin E, unsaturated fat, fiber
HEALTH CLAIM	Diabetes protection	Eyesight (reduced risk of macular degeneration and cataracts)	Heart protection
EVIDENCE	Suggestive	Moderate	Moderate

RECOMMENDATIONS	Eat at least three servings a day.	Worth including for vitamins and minerals alone.	Consider including, particularly as protein substitute for meat and dairy high in saturated fat.
	NUTS	GREEN OR BLACK TEA	GREEN OR BLACK TEA
LIKELY ACTIVE INGREDIENTS	Arginine, polyphenols, vitamin E, unsaturated fat, fiber	Polyphenols	Polyphenols
HEALTH CLAIM	Cancer protection	Heart protection	Cancer protection
EVIDENCE	Suggestive	Moderate	Suggestive
RECOMMENDATIONS	Consider including, particularly as protein substitute for meat and dairy high in saturated fat.	Possible benefits may make it a good substitute for soda and other sugary, nutritionally weak drinks.	Possible benefits may make it a good substitute for soda and other sugary, nutritionally weak drinks.
	OLIVE OIL	OLIVE OIL	BLUEBERRIES AND OTHER BERRIES
LIKELY ACTIVE INGREDIENTS	Monounsaturated fat, oleic acid, polyphenols, vitamin E	Monounsaturated fat, oleic acid, polyphenols, vitamin E	Polyphenols, Vitamin C
HEALTH CLAIM	Heart protection	Cancer protection	Heart, cancer, and brain (memory) protection.
EVIDENCE	Moderate	Suggestive	Suggestive
RECOMMENDATIONS	Substituting olive oil for butter can help the heart; limited evidence suggests cancer protection, too. But whether olive actually works better than other unsaturated oils is not clear.	Substituting olive oil for butter can help the heart; limited evidence suggests cancer protection, too. But whether olive actually works better than other unsaturated oils is not clear.	Worth consuming for their vitamins, minerals, and fiber alone.
	CRUCIFEROUS VEGETABLES: BROCCOLI, BRUSSELS, SPROUTS, CABBAGE, CAULIFLOWER, KALE	APRICOTS, GUAVAS, PINK GUAVAS, PINK GRAPEFRUIT, TOMATOES, WATERMELON	GARLIC, ONIONS SHALLOTS
LIKELY ACTIVE INGREDIENTS	Carotenoids (beta-carotene and others), sulforaphane, vitamin C	Lycopene, vitamin C	Allicin, sulfur compounds
HEALTH CLAIM	Cancer protection	Prostate-cancer protection	Heart and cancer protection.

EVIDENCE	Suggestive	Suggestive	Suggestive
RECOMMENDATIONS	Worth consuming for their vitamins, minerals, and fiber alone.	Worth consuming for their vitamins, minerals, and fiber alone.	Evidence too inconclusive to justify clear recommendation about eating the whole foods. Clinical trials suggest garlic pills probably not worth taking.
	POMEGRANITE JUICE	GRAPE JUICE	DARK, BITTERSWEET CHOCOLATE
LIKELY ACTIVE INGREDIENTS	Polyphenols	Polyphenols	Polyphenols
HEALTH CLAIM	Heart protection	Heart protection	Heart protection
EVIDENCE	Suggestive	Suggestive	Suggestive
RECOMMENDATIONS	May be worth including with various other juices and whole fruits.	Drink sparingly: Contains more sugar and calories than any common fruit juice.	Enjoy occasionally, but its saturated fat, sugar, and calories may well undermine any health benefit.

Newsletter compiled by *Trevor Hunt*