

VISION

COPING WITH CANCER

VISION, JUNE 2018

New SA intellectual property policy approved

The Fix the Patent Laws Coalition (FTPL) welcomes the news this month that the Cabinet of the Government of South Africa has approved the new Intellectual Property (IP) Policy. After nine years of policy development, two different draft policies and various rounds of public consultation, we now finally have an agreed-upon government policy that can guide much-needed law reform. Though we await seeing the final policy until it is gazetted by government, we are optimistic that the policy will herald a new era for access to medicines in South Africa by prioritising people's lives over the profits of pharmaceutical corporations.

While the finalisation and adoption of a policy is an important milestone, the hard work of developing and passing legislative amendments is still ahead of us. We urge the Department of Trade and Industry to prioritise the development of bills that will bring a more humane and constitutionally sound balance to our legal framework.

The approval of the new IP policy is particularly poignant given that it comes just days after the loss of one of our members and brave patient activists, Sue Johnson, on 16 May 2018, to Multiple Myeloma, for which she was unable to access the recommended treatment (a medicine called lenalidomide) due to its exorbitant cost of R75,000 per month. This same medicine is available in India for just R5,000 per month. We remember at this time also our dear colleague Tobeka Daki, who passed away in November 2016 from HER2+ Breast Cancer, and who too was unable to afford the medicine she needed – trastuzumab, which cost approximately R500,000 per course at the time. We salute these brave comrades and the many others who have not been able to get the medicines they needed as a result of South Africa's regressive patent system.

FIX THE PATENT LAWS! Though we celebrate this as an important step in the right direction, we will continue the fight to fix South Africa's patent laws until all who need affordable medicines can access them. We remain committed to a world where no-one is denied life-saving or suffering preventing treatment simply because they cannot afford it.

VISION E-NEWSLETTER

VISION is an e-newsletter for cancer patients and caregivers everywhere and with any type of cancer.

Please send details and pics of any support meetings and cancer related events anywhere in South Africa so that we can include these in the newsletters. Your comments, articles, and letters submitted for publication in VISION are always welcomed and can be sent to the Editor at: cansurvive@icon.co.za.

Subscription to the newsletter is free - just email us at cansurvive@icon.co.za.



Support for prostate cancer patients on the East Rand

Prostate cancer patients at the Far East Rand Hospital are receiving support from CanSurvive's Ronnie Nkabinde.

With him in the photo are two of the patients and a nurse.

The past few days have seen him consult with more and more patients to date and already he has seen over 100.

CanSurvive is looking to provide support in other East Rand areas such as Daveyton (Benoni), KwaThema (Springs) and Tsakane (Brakpan) and anyone interested in being part of this initiative can email us at cansurvive@icon.co.za.

Anti-corruption forum to curb fraud in healthcare

The National Health Anti-Corruption Forum has been launched to curb fraud, waste and abuse in the healthcare sector. The initiative is collaboration between the Special Investigating Unit (SIU) and other law enforcement bodies.

According to SIU head, Advocate Andy Mothibi, the health sector has been prioritised for investigation due to its susceptibility to corruption, fraudulent claims by doctors, pharmaceutical companies inflating prices, hijacking of ambulances and attacks on paramedics, among other things.

"We would like to improve the environment especially in the areas where there is fraud," he said. However, Mothibi said they have not yet identified any hospitals to be investigated.

We would like to thank Lancet Laboratories for part sponsoring the mailing of VISION enabling us to continue keeping you informed

Fighting fake medicines around the world

Fake medicines put patients and the general public at risk. Patients believe they are receiving genuine treatment, but instead they are getting potentially dangerous products that could increase resistance to real treatments, and cause further illness, disability or even death.

Fight the Fakes is a campaign that aims to raise awareness about the dangers of fake medicines. The campaign gives a voice to those who have been personally impacted and shares the stories of those working to put a stop to this threat to public health. It seeks to build a global movement of organizations and individuals who will shine a light on the negative impact that fake medicines have on people around the globe and to reduce the negative consequences on individuals worldwide.

Fight the Fakes partners endorse the campaign and share the belief that coordination among all actors involved in the manufacturing and distribution of medicines is vital to tackle this public health threat.

As part of this effort, Fight the Fakes www.fightthefakes.org is collecting and sharing the stories of those who are impacted by fake



You are cordially invited to join us at our public meetings where breast cancer patients and their friends and families have an opportunity to mix with other patients and survivors, as well as to listen to talks on issues related to breast cancer.

Here are our Bosom Buddie Dates and themes for the rest of this year.

- 28 July – Complementary healing
- 8th September – Move for Summer
- 13 October – Survivorship

Meetings are held at Hazeldene Hall, 13 Junction Ave, Parktown, Johannesburg 9:30 for 10:00am,

FREE ENTRY, Enquiries: louise@mybreast.org.za / 0860 283 343

Stay informed with The Breast Health Foundation:

Facebook: <https://www.facebook.com/BreastHealthFoundation/>

Twitter: <https://twitter.com/BreastBhf>

Instagram: <https://www.instagram.com/breasthealthfoundationsa/>

Website: <http://www.mybreast.org.za/>

Bosom Buddies is a support initiative brought to you by The Breast Health Foundation.

WANT TO SUPPORT OR VOLUNTEER FOR BREAST HEALTH FOUNDATION?

Check out their needs on ForGood at:

www.forgood.co.za/cause/profile/the-breast-health-foundation

New Cape Town support group

Anyone interested in a new cancer support group, to be based in the southern suburbs of Cape Town and run in conjunction with CANSA, can contact Carima Bee.

There are no times or dates for the group just yet as she is waiting to see where members live and what times suit them. Carima is a qualified social worker and colon cancer survivor at 29!

She is also working on a buddy system for young cancer survivors between the ages of 18-35 as I feel this is a very uncommon age for cancer and there really isn't much support.

Any survivors or fighters in this age group who need guidance and can to contact her at carimabehardien@gmail.com.

medicines and are speaking up. The website also serves as a resource for organisations and individuals who are looking to support this effort by outlining opportunities for action and sharing what others are doing to fight fake medicines.

Do you want to join the fight and lend your support to the campaign? Are you interested in becoming a partner? Do you have a story to tell? Contact us at info@fightthefakes.org.

Fight the Fakes is a campaign that aims to raise awareness about the dangers of fake medicines. The campaign gives a voice to those who have been personally impacted and shares the stories of those working to put a stop to this threat to public health. It seeks to build a global movement of organizations and individuals who will shine light on the negative impact that fake medicines have on people around the globe and to reduce the negative consequences on individuals worldwide. Fight the Fakes campaign is the first campaign to address the issue of responsibility from the beginning to the end of the pharmaceutical supply chain, by involving and coordinating stakeholders from a wide range of backgrounds.

<http://fightthefakes.org/>

cancercare[♥]

MONTHLY SUPPORT GROUP Cape Gate Oncology Centre

All welcome to join us

in the Boardroom, first floor

CancerCare Cape Gate

Friday, 27 July from 10:00-12:00

Topic: Managing your ENERGY

Speaker: Anelia Louw, educational psychologist

Call Caron, Oncology Social Worker

for more info - 021 944-3807

Coping with a child's eye

A baby's smile reflects the purity in their heart. An infant's world is a marvelous place of possibility and love. Children see themselves as special, capable, even omnipotent. Time teaches failure, loss, and mortality. How much we lose of that original perfection, that first excitement, that natural confidence, determines how we face the challenges and tragedies of life; whether we will be happy. It may even determine how we cope with the infinite loss of dying.

As adults, we know life is limited, that we will die; still we pass each day in a state of denial. As long as our bodies are without grave pain, as long as the maladies from which we suffer heal, as long as chronic problems can be controlled, we live without constant awareness of death.

However, eventually, that will change. Something happens which cannot be fixed; a failure in our body to stain forever that denial. Cancer patients know that the fear of relapse sits always in the back of the mind. It seems to me how we cope with the harshest of realities reflects the person we became, back in childhood.

There is a great range in how patients adjust to illness. Some are able to understand and confront their disease, to adjust to limited time, to plan and continue to live without devastating anxiety. It is not that they welcome loss, but they find balance. They rely on family, laughter, art, discovery and dreams to get by; they may still experience joy.

At the other extreme are patients who cannot handle even basic news about their disease. They shut out discussions about diagnosis, treatment and, certainly, prognosis. They live day-to-day through suppression of life-threatening reality. They do not seek appropriate care, or at least not until it is too late. Even then, they cannot comply with medical treatment or goals.

Most of us are in between. One day, perhaps when we are visiting our grandchildren, we are hopeful, positive and can enjoy life with laughter. Another, perhaps when we have received bad news from the oncologist, or maybe just have an upcoming appointment, we are emotionally overwhelmed and can not sleep, focus or function. Real people reflect life ... they change a little with each moment, each day.

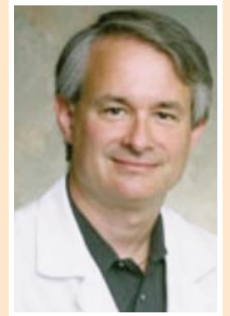
Many factors determine how we will cope with the end-of-our-lives. They include personal factors such as age, disease, education, and life experience. They include family support, the quality of relationships, the presence of guilt and the simple geography of where we live. They include societal issues, such as finance, availability of quality care, spiritual foundation and community stability.

Nonetheless, it seems to me that one of the most critical factors is the base on which we are built, how we are raised.

If a child spends her first years in an environment where she is supported and which seems stable and loving, she will learn to feel that the world is stable and loving, even when it is not. She will have a core belief that life makes sense, that it is good. If a child who misbehaves is shamed and told she is bad, she will learn to be defensive and frightened. If a child who misbehaves is told that she is a good person and good people usually do not act that way, she will learn confidence and a deep goodness. If we suppress that first purity, discourage that excitement and undermine that natural confidence, the child will lack the inner strength to handle daily life in a holistic and positive manner, let alone cope with real tragedy and the transformations of terminal disease.

James C. Salwitz, MD

Dr. Salwitz is a Clinical Professor at Robert Wood Johnson Medical School. He lectures frequently in the community on topics related to Hospice and Palliative Care and has received numerous honours and awards, including the Physicians Leadership Award in Palliative Care. His blog, Sunrise Rounds, can be found at <http://sunriserounds.com>



I do not recommend Freudian therapy for everyone diagnosed with metastatic cancer or Alzheimer's. It is too late for psychoanalysis. Rather, we must appreciate that we enter the final part of life with the strengths and weaknesses that have marked our entire passage through this world. Coping with final battles is complex and different for each of us, because it is built on different foundations. Thus, we must be patient, giving and supporting as each requires.

In the best of all possible worlds, we would all cope like an innocent child. If that is true, the best way to help someone cope with the extremes of life may be to give them a smile, hug and kiss, when they are pure, frail and very young.

Talking with kids and teens about dying and death

KidsGrief.ca can help you understand how children (ages 0 to 18) grieve and how to support them as they face the life-limiting illness, dying and death of someone important to them. It also suggests ways to introduce children to the cycle of life and death long before someone they know is dying or has died.

KidsGrief.ca learning modules have been developed by a team of experts in grief, and specifically children's grief, together with people who have experienced loss and supported children through grief. It is not meant to replace professional counselling or other health care services.

The content for KidsGrief.ca comes from several sources: peer-reviewed and published professional literature, including current bereavement research; the clinical expertise of the expert contributors; individuals who shared their story of loss; and the family members who have been involved from planning through to launch of KidsGrief.ca.

The literature cited below has informed the content of KidsGrief.ca either directly or indirectly. We are indebted to those who research, educate and practice in the field of grief for sharing their wisdom and moving the field of bereavement support forward.

Who developed KidsGrief.ca?

The Canadian Virtual Hospice is the most comprehensive online centre in the world on palliative and end of life care loss and grief. It provides information and support to more than 1.8 million people living with a life-limiting illness, their families, health providers, educators and researchers. Virtual Hospice operates VirtualHospice.ca Portailpalliatif.ca MyGrief.ca LivingMyCulture.ca and Methadone4Pain.ca.

I Survived!

"You never know how strong you are until being strong is the only choice you have." - Bob Marley

International Cancer Survivor's Day is celebrated globally on the first Sunday of June each year. This is a day to celebrate the lives of survivors, give hope to the newly diagnosed and educate communities about the disease. According to the International Agency for Research on Cancer (IARC), around 150 per million children worldwide are diagnosed with cancer before the age of 15. In South Africa it is estimated that we diagnosed between 70-80 per million children, of those diagnosed most are in late stages and this is partly due to lack of knowledge which leads to longer treatment, more disabilities and a lower survival rate. This can drastically improve with more knowledge shared about the disease.

What is cancer? You may wonder. Your body is made up of thousands of cells – about ten trillion actually. Normal ones keep our bodies healthy, these cells grow and divide and stop when they should but sometimes they don't know when to stop. Cancer is the uncontrollable growth of cells in the body often causing a growth or tumour. The following are the most common cancers among 13-20-year-olds.

Leukaemia - is a type of cancer that affects the blood and the bone marrow.

Lymphoma - there are two main groups of lymphomas: Hodgkin lymphoma (HL) and Non-Hodgkin lymphoma (NHL). In teenagers

and young adults (15-24 years old), Hodgkin lymphoma occurs more than twice as often as does NHL. Children who are diagnosed with lymphoma HL and NHL is treated with chemotherapy. Additionally, HL may need radiotherapy.



Brain Tumour - Primary brain tumours which start in the brain or are metastatic from tumours elsewhere in the body. Brain tumour is a growth of cells in the brain that multiplies in an abnormal, uncontrollable way or spread into the brain from elsewhere (secondary tumours).

Sarcoma - There are two main types of bone cancer in young people – Osteosarcoma and Ewing Sarcoma. Both are pretty rare and usually affect large bones like the thigh bone and the shin bone, but can also affect other bones. Osteosarcoma starts in the cells that make your bones grow. Ewing Sarcoma causes a tumour to grow in your bones or in the soft tissue around your bones.

Testicular cancer - as the name suggests, even though it mainly occurs in boys around the age of 20, it can often occur during the teen years too.

Thyroid cancer- It is common for people with thyroid cancer to have few or no symptoms. Thyroid cancers are often diagnosed by routine examination of the neck or are unintentionally found by x-rays or other imaging scans that were performed for other reasons.

According to Childhood Cancer International (CCI), "In the early

(continued on page 5)

CHOC supported this childhood cancer patient through his journey ...



Meet Zhakier Adams a 21 year old who is a childhood cancer survivor from Manenberg, Cape Town. "I was diagnosed with leukaemia at the age of 13. I remember in 2010 just after the World Cup, I attended Primrose Park Primary School and each class had to work in the garden to plant seeds and water the garden. It was during this class when I first lost balance and couldn't walk or stand for a few minutes. I didn't pay much attention at the time. But this occurred endlessly for a few days, to a point where I couldn't stand or walk at all.

At the same time, my mother fell ill as well. My parents decided that both of us should go to the nearest doctor. The doctor examined me and he picked up all the symptoms of cancer. The doctor gave us a letter to Jooste Hospital for blood tests. That evening the doctor at Jooste hospital called my father, informing him to immediately take me to Red Cross Hospital.

I was admitted to the hospital and while waiting for a doctor to attend to me, I passed out and woke up in ICU. I woke up and saw my mother crying and still didn't know what was wrong with me. But my parents knew. Thereafter, I was in and out of the hospital for months. I went through all kinds of treatments; radiation therapy, chemotherapy, x-rays and blood transfusion for three long years.

It was during this time that my family and I met CHOC Childhood Cancer Foundation. I did not stay at a CHOC House because I lived near to the hospital, but CHOC supported my family emotionally, we received care bags, transport funds, food parcels and all the support that they offer to families and kids in the wards at Red Cross Hospital. During the time I was on treatment, I attended camps with other kids that also had cancer. The camp was called Just Footprints, and I am now a facilitator at the Just Footprints camp.

I have been in remission for four and half years now, and I am first of all very grateful to the almighty, my parents and family and to CHOC Childhood Cancer Foundation for supporting me through my journey. I am part of the CHOC survivor/volunteer family and I jump at every opportunity to get involved to support CHOC and children with cancer," shared Zakier.

I survived!

(Continued from page 4)

1950s, less than 10% of childhood cancer patients survived. Today, for certain kinds of childhood cancers, especially in more developed and high resource countries, 80–90 % of children/adolescents diagnosed with cancer become long-term survivors. In other resource constrained countries, early diagnosis, available and affordable essential medicines, timely and appropriate treatment, supportive networks of care (e.g. Parents' organisations, cancer support groups) have also improved survivors from a low 5 – 10 % to 20- 30 % or in some cases, all the way up to 60 %." In South Africa the survival rate is at about 50%.

Although there is much to celebrate; in some cultures survivors and their families face the challenge of stigma and discrimination because they have had childhood cancer. This often makes it difficult for the survivors to resume their lives after the lengthy treatment.

At CHOC we have a survivor's group programme called SOLID that not only shares positive life experiences with the newly diagnosed, but also showcases to South Africans that cancer is no longer a death sentence and that indeed there is a continuation of life after childhood cancer.

We have also embarked on a partnership with STA Travel, the global

CHOC, East London, present



travel agency on a teens project. The purpose of this project is to create cancer awareness with a long term focus on teens and raise funds to ensure that CHOC continuously provides comprehensive support to teenagers with cancer and their families as well as teen survivors. The CHOC STA Travel Teenage Project will raise funds through various campaigns and initiatives, and these funds will specifically be aimed at services and material that benefit teens and survivors. We call on all South Africans to support this initiative and spread the good word. <http://www.statravel.co.za/>.

For more details on teens cancers you can also visit [www. http://choc.org.za/teen/](http://www.choc.org.za/teen/)



Howie Butler of Cancer Heroes has been doing amazing work publicising the groups and organisations who are helping people living with cancer. These displays at sporting events and clubs are the result of his hard work.

ON THE INTERNET

Robotic surgery: 'The way of the future' for head and neck cancer surgery

Patients with cancers of the head and neck have long been faced with a daunting reality: Because of the delicate anatomy of the face, neck and throat, tumours located in these sensitive areas of the body are often difficult to remove, especially without extensive damage to the jaw, nose or other affected features. But recent advances in robotic surgery technologies are offering oncologists new tools to allow them to reach and remove such tumours with less damage than more invasive approaches. Have a look at this video: <https://tinyurl.com/ybxshy4m>

This free app is designed to help manage life with cancer

LivingWith™, is a free app for people living with cancer and those who love them. Designed to help those living with cancer connect with their loved ones, ask for the support they need, remember important information from doctors' visits and stay organised, all in one place.

LivingWith is designed to help anyone living with cancer:

- Register as a patient or caregiver in order to have full access to the app.
- Get support: Stay connected and easily update loved ones, all in one place.
- Ask friends and family for help with daily tasks: Send requests right from your device to coordinate meals, rides to doctors' appointments and more.
- Keep track of how you're feeling: Track mood, pain, sleep and steps, sync data with other health apps and wearables, and share personalised graphs with your doctor.

- Get more out of doctors' appointments: Record and remember important information, and keep notes in between visits.
- Stay organised: Store test results, medication details, insurance documents and other important information in a central folder.

LivingWith is part of a broader initiative by Pfizer Oncology to help redefine life with cancer. Visit ThisIsLivingWithCancer.com.

Need help? Contact: LivingWithSupport@pfizer.com

Meditation app for those coping with a cancer diagnosis

The CancerCare Meditation app will help restore your body, calm your mind and reignite your hope during stress-filled days.

Hundreds of guided meditation sessions and inspirational talks address specific needs of many people dealing with cancer. Use this app to ease treatment side effects; let go of anxiety; get deeper, more restful sleep; stay emotionally balanced and resilient; and more. You can let go of stress-- even if you've never meditated - in as little as five minutes.

The Free App offers dozens of guided meditations and many hours of relaxing music. You can unlock the full library with a either a Monthly or an Annual subscription. You can manage your subscriptions and turn off auto-renewal by going to your Account Settings after purchase. Available for Mac - Android version coming soon.

New herb app

What is HerbList? It's an app for research-based information about the safety and effectiveness of herbal products.

This free, easy-to-use app from the National Centre for Complementary and Integrative Health (NCCIH), provides summaries of the research on more than 50 herbs used for health purposes – with special attention to safety concerns, side effects, and herb-drug interactions. Don't have an Internet connection? Not a problem! HerbList works when you are offline!

Know what the science says about herbal supplements. Download HerbList today from the App Store.



**PLEDGE YOUR SUPPORT TOWARDS
667 CANCER COMFORT CARE BAGS**

**MANDELA MONTH
20/07 @2PM,
CNR BRYANSTON DR &
RIVER RD**

***For more info of care bag items list &
to pledge your support contact:
Jenna@mybreast.org.za / 071 175 3441**

- Sponsor the costs of 1 x item for all 667 bags. POA*
- Sponsor and pack your own bag. Contents supplied by us. R667 pp
- Passively support with a direct EFT donation at your own discretion
- Donate care bag items & drop-off*
- Give 67 minutes of your time as a volunteer on the day, open to corporates or public. Donation R100 pp



Wings of Hope Cape Town



and Johannesburg



Palliative care training



Throughout the year Hospice Wits host various short courses: the 5-day Introduction to Palliative Care, 2,5-Day Grief, Loss and Bereavement Workshop, 5-day Introduction to Paediatric Palliative Care, 3-day Non-Clinical Palliative Care, 3-Day Physical Assessment Workshop, as well as other client specific courses which they present on request.

Hospice Wits
no end to caring

For further details phone 011 483 9100 or email training@hospicewits.co.za.

Thank you to Netcare !

CanSurvive Cancer Support wish to thank Netcare for their continued assistance and encouragement.

We value the support and generosity of Netcare and their staff and their commitment to helping us to improve support for cancer patients and their families by providing a comfortable and accessible venue and refreshments for our meetings in Parktown and Krugersdorp.



COMBINING DRUGS AND RADIOTHERAPY

Hunting for better results

Radiotherapy has been around for decades, and is often extremely effective. But researchers are still discovering new ways to use it.

This includes testing new drugs alongside radiotherapy.

"The aim is to increase the chance of a cure by making the radiotherapy more effective at killing cancer cells," says Professor Anthony Chalmers, a Cancer Research UK-funded radiotherapy expert at the University of Glasgow.

But avoiding making side effects worse is a challenge. So research is focused on finding drugs that enhance the effects of radiotherapy on cancer cells, while leaving normal cells unaffected.

Professor Kevin Harrington, joint head of the Division of Radiotherapy and Imaging at The Institute of Cancer Research (ICR), London, says the precision of radiotherapy will have a big part to play in this.

"The more precise we get in radiation delivery the better the opportunities we have to combine some of the new smart drugs with radiation," he says.

High-tech radiotherapy methods that deliver as little radiation to normal tissues as possible, while maintaining or escalating the dose to the tumour, are ideally suited for these combinations.

And studies are underway to test if certain drugs can make radiotherapy more effective, or if radiotherapy can make other drugs yield better results.

Radiotherapy causes damage to DNA inside both cancerous and healthy cells. If cells can't repair this damage, they die. This is good news if cancer cells are dying, but not if it's healthy cells that are affected.

Crucially, some cancer cells are reliant on certain processes to repair the damage caused by radiotherapy. And it's this knowledge of how cancer cells respond to radiotherapy that researchers are exploiting in combination studies with targeted drugs.

"The idea is that the radiation triggers DNA damage, the tumour relies on a specific pathway to fix that DNA damage and you come in with a drug that blocks that pathway," says Harrington. "Normal cells have other backup pathways they can use to get around the drug whereas the tumour is absolutely addicted to this pathway, and you've blocked it with a drug."

Different drugs that target key DNA damage response (DDR) molecules are already being tested with radiotherapy in clinical trials covering a broad range of tumour types.

One molecule involved in repairing DNA damage is PARP, and Chalmers is studying how blocking it might make radiotherapy more effective.

"We've shown that PARP inhibitors increase the effect of radiotherapy on rapidly multiplying tumour cells, but have no impact on non-proliferating cells," he says.

This is the case in a type of brain tumour called glioblastoma. "It's made up of rapidly proliferating tumour cells, but the cells of the surrounding normal brain are essentially non-proliferating," Chalmers adds.

And they're testing this out in two early glioblastoma trials.

It's important to work out which patients will benefit from using these drugs alongside radiotherapy. Identifying and measuring mol-

ecules that distinguish between normal and cancer cells – called biomarkers – is one way of doing this.

As part of these trials, the team will collect tumour and blood samples from patients, with the aim of identifying biomarkers to predict who might benefit in the future.

PARP inhibitors are clinically furthest along this journey, but others are being developed that could be more effective in sensitising tumours to radiotherapy. The early work around all of these treatments will make sure they don't increase side effects.

And it's not just how cancer cells repair their DNA that scientists are targeting. The way tumours produce energy, respond to their harsh environment, and spread around the body are all different to normal cells, and so have the potential to be exploited with drugs and radiotherapy combined.

But there's also another side to the combination coin. Vaccinating the patient

"There's growing interest in a completely different approach, which is to use radiotherapy to boost the effects of drug treatment," says Chalmers.

Perhaps the best example of this is using radiotherapy in combination with immunotherapy.

A radiation hit to a cancer can sometimes shrink not only the

(continued on page 7)



Rondebosch Group

Venue: Waiting Room, 4th floor Rondebosch Medical Centre, Klipfontein road.

Last Monday of each month (except Sept.)

Time: 18:00 – 19:30

Contact Linda Greeff: 0219443700 for more info

Panorama, Cape Town Group

Venue: Panorama Oncology, 1st floor, 43 Hennie Winterbach Street, Panorama

10:00 to 11:30

Contact: Emerentia Esterhuysen 0219443850, emerentia.esterhuysen@cancercare.co.za

Cape Gate Group

Venue: 51 Tiger Avenue, Cape Gate, 7560

10:00 - 12:00

Contact: Caron Majewski, 021 944 3807 caron.majewski@cancercare.co.za

Outeniqua, George Group

Venue: 3 Gloucester Avenue, George

10:00 - 12:00

First Wednesday of each month (except January)

Contact: Engela van der Merwe, 044 8840705, engela.vandermerwe@cancercare.co.za

COMBINING DRUGS AND RADIOTHERAPY (continued from page 6)

tumour itself, but also affect distant sites of the disease (metastases) that haven't been irradiated. This is known as the abscopal effect.

When radiotherapy kills tumour cells, they release molecules that alert the immune system. Immune cells can then potentially target the original tumour, as well as other cancer cells that have spread around the body.

Harrington describes this as using radiotherapy to 'vaccinate' the patient against their own disease.

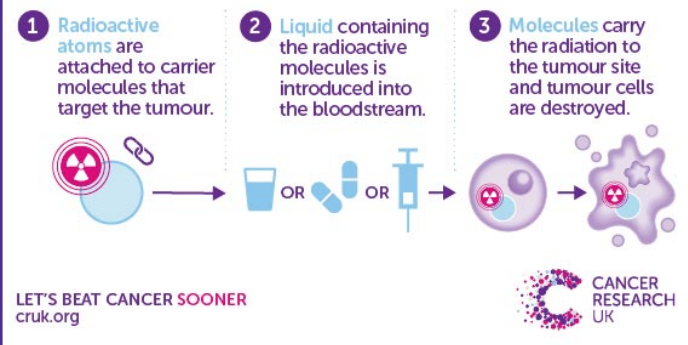
But the abscopal effect is rare. So researchers are looking at how immunotherapies such as checkpoint inhibitors can provide a boost. These drugs release the brakes on the immune system so that it can better fight the tumour.

"Not surprisingly there's huge interest in this abscopal effect of radiotherapy," says Chalmers. "Researchers are working to identify the best dose and timing of radiotherapy to use, and the best drugs to combine it with."

"The early data is tantalising but it's mainly single reports or case studies," says Professor Tim Illidge, a Cancer Research UK-funded radiotherapy expert at the University of Manchester. "What we don't know is whether we can increase the proportion of patients who benefit and how best to do that."

Plenty of questions need to be answered: which immunotherapies and doses should be used? Will this be different for different

HOW RADIOACTIVE LIQUID THERAPY TARGETS CANCER CELLS



tumours? Is it better to give a patient one big dose of radiotherapy or lots of smaller 'fractions'?

This kind of work illustrates the potential of using cutting-edge treatments alongside older tried and tested techniques.

And it's an example of how researchers are trying to be smarter about the tools they have to hand, combining treatments to improve effectiveness and reduce side effects.

But some of the usual questions remain: which treatments will best suit which patients? And will any positive effects be long lasting?

The journey to find the best way to combine drugs and radiotherapy has only just begun

This article originally appeared in Cancer Research UK's Science blog and is reprinted with their kind permission.

<http://scienceblog.cancerresearchuk.org>

CanSurvive CANCER SUPPORT

Let's talk about cancer!

Join us at a **CanSurvive Cancer Support** group meeting for an interesting and informative talk, refreshments and a chance to chat with other patients and survivors who understand your journey.

Upcoming meetings:

**CHARLOTTE MAXEKE Radiation Department,
Level P4 - 6 July**

**PARKTOWN Hazeldene Hall (opposite Netcare
Parklane Hospital) - 14 July 09:00**

**CHARLOTTE MAXEKE Radiation Department,
Level P4 - 20 July**

**PINEHAVEN, WEST RAND July date TBA,
Netcare Pinehaven Hospital, Krugersdorp**

Enquiries: 062 275 6193

or email cansurvive@icon.co.za

www.cansurvive.co.za

www.facebook.com/cansurviveSA

The Groups are free and open to any survivor, patient or caregiver.

Music and meditation for cancer patients

The American Society of Clinical Oncology has published its endorsement of integrative therapy guidelines recently established by the Society for Integrative Oncology (SIO).

The SIO guidelines were reviewed by an ASCO expert panel co-chaired by Dr. Gary H. Lyman, an oncologist with Fred Hutchinson Cancer Research Centre in Seattle, and Dr. Lorenzo Cohen of the University of Texas MD Anderson Cancer Centre in Houston.

Some of the key recommendations include:

- Music therapy, meditation, stress management, and yoga are recommended for anxiety/stress reduction.
- Meditation, relaxation, yoga, massage, and music therapy are recommended for depression/mood disorders.
- Meditation and yoga are recommended to improve quality of life.
- Acupressure and acupuncture in addition to anti-nausea medications are recommended for reducing chemotherapy-induced nausea and vomiting.
- Glutamine is not recommended for improving nausea and vomiting during chemotherapy.
- Acetyl-L-carnitine is not recommended to prevent chemotherapy-induced peripheral neuropathy because of a possibility of harm.
- No strong evidence supports the use of ingested dietary supplements to manage breast cancer treatment-related adverse effects.

CALENDAR

June 2018

- 30 Wings of Hope, German International School, Parktown.
9:30 for 10.00 – **Birthday celebration.**

July 2018

- 4 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
10 Reach for Recovery West, Kruijnpark Restaurant 13h30 for 14h00
14 Reach for Recovery (R4R) : Johannesburg Group.
Meetings: Lifeline offices, 2 The Avenue, Cnr Henrietta Street, Norwood 14:45 for 14:00
14 CanSurvive Cancer Support Parktown Group, Hazeldene Hall, Parktown 9:00
18 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
19 CANSA Pretoria support group, 32 Lys Str., Rietfontein
21 CanSurvive West Rand Group, Pinehaven Hospital, Krugersdorp. 09:00
28 Bosom Buddies, Hazeldene Hall, Parktown, 9:30 for 10:00

August 2018

- 1 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
11 CanSurvive Cancer Support Parktown Group, Hazeldene Hall, Parktown 9:00
11 Wings of Hope, German International School, Parktown.
9:30 for 10.00
15 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
16 CANSA Pretoria support group, 32 Lys Str., Rietfontein
18 CanSurvive West Rand Group, Pinehaven Hospital, Krugersdorp. 09:00

September 2018

- 5 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
8 CanSurvive Cancer Support Parktown Group, Hazeldene Hall, Parktown 9:00
8 Bosom Buddies, Hazeldene Hall, Parktown, 9:30 for 10:00
11 Reach for Recovery West Rand, Birthday Bash - Venue to be announced
12 Reach for Recovery (R4R) : Johannesburg Group.
Meetings: Lifeline offices, 2 The Avenue, Cnr Henrietta Street, Norwood 14:45 for 14:00
15 CanSurvive West Rand Group, Pinehaven Hospital, Krugersdorp. 09:00
18 Hospice Wits Walking on Sunshine, Melrose Arch.
19 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
20 CANSA Pretoria support group, 32 Lys Str., Rietfontein
29 Hospice Wits Cyclethon, Melrose Arch.
29 Wings of Hope, German International School, Parktown.
9:30 for 10.00

October 2018

- 3 CanSurvive Charlotte Maxeke Group, Radiation Floor P4.
6 Bosom Buddies, Hazeldene Hall, Parktown, 9:30 for 10:00
13 CanSurvive Cancer Support Parktown Group, Hazeldene Hall, Parktown 9:00

CONTACT DETAILS

CanSurvive Cancer Support
Parktown and West Rand Group ;
Contact: 062 275 6193 or cansurvive@icon.co.za
Charlotte Maxeke Group: Contact Duke Mkhize 0828522432
Jabulani Group: Contact Sister Bongwiwe Nkosi: 0835760622
CancerCareSupport Group, 4th Floor, Rondebosch Medical Centre. Contact: linda.greeff@cancercare.co.za or phone 0219443700 for more info
CancerCare Cape Gate Support group: 10h00-12h00 in the Boardroom, Cape Gate Oncology Centre.
Contact: Caron Caron Majewski, 021 9443800
CancerCare Outeniqua, George Support Group. Contact: Engela van der Merwe, 044 8840705,
engela.vandermerwe@cancercare.co.za
Cancersupport@centurion: Marianne Ambrose 012 677 8271(office) or Henriette Brown 072 8065728
Bosom Buddies: 011 482 9492 or 0860 283 343,
louise@mybreast.org.za
Venue: Hazeldene Hall, 13 Junction Ave, Parktown, Johannesburg. www.bosombuddies.org.za.
More Balls than Most: febe@pinkdrive.co.za,
www.pinkdrive.co.za, 011 998 8022
PinkDrive: www.pinkdrive.co.za, Johannesburg:
febe@pinkdrive.co.za, 011 998 8022;
Durban: Janice Benecke: 031 201 0074/082 557 3079
janice@pinkdrive.co.za
Cape Town: Ebrahim Osman: 021 697 5650
ebrahim@pinkdrive.co.za
Prostate & Male Cancer Support Action Group,
MediClinicConstantiaberg. Contact Can-Sir: 079 315 8627 or
Linda Greeff: linda.greeff@cancercare.co.za, phone 0219443700
Wings of Hope Breast Cancer Support Group
Contact wingsofhopecancersa@gmail.com.
CHOC: Childhood Cancer Foundation SA; Head Office:
086 111 3500; headoffice@choc.org.za; www.choc.org.za
CANSA National Office: Toll-free 0800 226622
Netcare Clinton Support Group 10:00 Netcare Clinton Oncology Centre, 62 Clinton Rd. New Redruth. Alberton. Second Friday each month.
CANSA Pretoria: Contact Miemie du Plessis 012 361 4132 or 082 468 1521; Sr Ros Lorentz 012 329 3036 or 082 578 0578
Reach for Recovery (R4R) : Johannesburg Group, 011 869 1499 or 072 7633901. Meetings: Lifeline offices, 2 The Avenue, Cnr Henrietta Street, Norwood
Reach for Recovery (R4R) : West Rand Group. Contact Sandra on 083 897 0221.
Reach for Recovery (R4R) Pretoria Group: 082 212 9933
Reach for recovery, Cape Peninsula, 021 689 5347 or 0833061941 CANSA offices at 37A Main Road, MOWBRAY starting at 10:00
Reach for Recovery: Durban, Jenny Caldwell, 072 248 0008.t
Reach for Recovery: Harare, Zimbabwe contact 707659.
Breast Best Friend Zimbabwe, e-mail bbzfim@gmailcom
Cancer Centre - Harare: 60 Livingstone Avenue, Harare
Tel: 707673 / 705522 / 707444 Fax: 732676 E-mail:
cancer@mweb.co.zw www.cancerhrc.co.zw

News in brief

FDA approves paxman cooling cap for solid tumours

The US Food and Drug Administration (FDA) has approved the Paxman Scalp Cooling System - which reduces the likelihood of chemotherapy-related hair loss - for patients with solid tumours, such as ovarian, breast, colorectal and prostate cancers, according to a press release by Paxman, the United Kingdom-based manufacturer of the system.

Commonly known as a cooling cap, the Paxman Scalp Cooling System is a device that is placed on patients' heads, similar to a hat, and uses cold temperatures to narrow the blood vessels in the scalp, reducing the amount of chemotherapy that reaches hair follicles. It was first approved for patients with breast cancer in April 2017.

Nancy Marshall, founder of the Rapunzel Project, says "If you can go through your illness with a relative amount of looking normal, you maintain privacy. If you have your privacy, you can choose who you want in the circle of people who know and people who support you."

<https://tinyurl.com/y8aoom4n>

Proton therapy killed tumour in 70% of liver cancer patients

Proton therapy is a type of radiation treatment that uses positively charged particles called protons to destroy cancer cells.

Researchers from Samsung Medical Centre have published a study that showed proton therapy to be an effective and safe treatment for liver cancer.

The research team, led by Professors Park Hee-chul and Yu Jeong-il from Samsung Medical Centre's department of radiation oncology, studied 101 patients with liver cancer who got proton therapy for one year starting in January 2016. According to them, almost all patients saw notable improvement with proton therapy administered as an alternative to local cauterization treatments such as surgery or high-frequency heat therapy.

Of the 78 patients who underwent a three-month follow up after proton therapy, around 70 percent (54 patients) had their tumours completely disappear, and about 18 percent (14 patients) saw their tumour size shrink.

Almost 90 percent of the patients tracked over three months maintained class A status on the Child-Pugh score, findings showed.

Patient safety - considered to be the greatest strength of proton therapy - has been proved again by the study, the researchers said. Samsung Medical Centre pointed out that proton therapy reduces adverse effects of existing radiation therapy and requires a lower dose of radiation.

<http://www.koreabiomed.com/news/articleView.html?idxno=3289>

A new mode of proton treatment for lung cancer

"Beaumont researchers have invented a new mode of proton therapy for lung cancer," said Peyman Kabolizadeh, M.D., Ph.D., clinical director, Beaumont Proton Therapy Centre in Royal Oak. "A continu-

ous proton arc treatment can significantly reduce the adverse effects of respiration-induced motion on lung cancer treatments. This advancement will also result in a better and lower dose of radiation to adjacent organs."

Proton therapy uses positively charged atomic particles, traveling up to two-thirds the speed of light, to fight cancer. A cyclotron, or particle accelerator, creates protons from hydrogen molecules. The proton beam is sent to the treatment room through a transport system consisting of magnets, called the beam line, finally arriving in the gantry, a device that rotates around the patient. The beam is directed to the patient through a nozzle that targets the tumour.

While proton therapy is not effective against all cancers, it is effective in treating many solid and localised tumours.

"Our IBA ProteusOne single-room treatment system includes precision technologies," said Dr. Kabolizadeh. "Intensity Modulated Proton Therapy with Pencil Beam Scanning technology and 3-D Cone Beam CT, can target a tumour within less than a millimeter."

Pencil Beam Scanning refers to the delivery of protons in a thin beam. Like a pencil, the beam uses back and forth motions to target the treatment area - the shape, size and depth. It "paints" a radiation dose on tumours layer by layer. Compared to X-ray beams, which pass through a patient, proton beams deliver targeted radiation to the tumour and then stop - resulting in no exit dose.

<https://tinyurl.com/ydar7dxd>

Cannabis can be an option in palliative care

"Cannabis is an effective and safe option to help patients cope with malignancy related symptoms, such as nausea, vomiting, sleep disorders, pain, anxiety, and depression. In a scenario where a physician often prescribes one medication for each symptom, cannabis becomes a desirable therapeutic option, as a comprehensive treatment." These are the conclusions of a study, in the European Journal of Internal Medicine. The analysis gives a representation of cannabis users for different types of cancers, analysing the benefits over an observational study in Israel lasted six months. 2 960 patients took part on the analysis, but only 1 742 had survived through the entire period: 60% of them achieved treatment success, according to Victor Novack, MD, PhD, director of the Cannabis Clinical Research Centre and Research Authority, Soroka University Medical Centre, Beersheba, Israel.

The Israeli Ministry of Health had approved the use of medical cannabis in 2007, but no evidence existed regarding characteristics of the patients, their use patterns, possible adverse reactions and in general the overall epidemiology of patients receiving medical cannabis treatment. For this reason, the private Israeli company Tikun-Olam ("repair the world" in Hebrew) that grows and supplies medical marijuana supervised by the Ministry of Health itself, sponsored this investigation: the team reviewed data three times, from questionnaires at baseline, at 1 month and at 6 months, on about 3.000 cancer patients who were prescribed with medical cannabis between 2015 and 2017.

The main symptoms were: sleep problems (78,4%), pain (77,7%, median intensity 8/10), weakness (72,7%), nausea (64,6%) and lack of appetite (48,9%). After six months of follow up, 902 patients (24,9%) died and 682 (18,8%) stopped the treatment. Of the remaining, 1211 (60,6%) responded; 95,9% reported an improvement in their condition, 45 patients (3,7%) reported no change and four patients (0,3%) reported deterioration in their medical condition. Due to the observational nature of the study, "no causality

between cannabis therapy and symptom improvement can be established” authors said.

Seventeen different cancers were taken into account, and treatment success rates varied among them. Treatment for 69,2% of renal cancer and Hodgkin lymphoma patients succeeded. Other cancers with high rates of treatment success included brain/central nervous system tumours in adults (67,8%), multiple myeloma (67%), and cervical cancer (66,6%). The lowest success rates were prostate cancer (53,4%) and melanoma (31,2%). Among the side effects, the most common were dizziness (8,0%), dry mouth (7,3%), increased appetite (3,6%), sleepiness (3,3%), and psychoactive effect (2,8%).

Most patients use cannabis to reduce pain. Results of this study demonstrate that pain intensity levels were initially reported as very high (8–10 out of 10, VAS scale) in over 50% of the population, while after 6 months of treatment less than 5% of patients reported such high levels. Another successful result was the significant decrease in opioids use: in fact, after the study, 36% patients had stopped taking opioids, and 9,9% had decreased the dose.

<http://cancerworld.net/news/marijuana-is-a-desirable-option-in-palliative-care/>

Compound in citrus oil could reduce dry mouth in head, neck cancer patients

A compound found in citrus oils may help alleviate dry mouth caused by radiation therapy in head and neck cancer patients, according to a new study by researchers at the Stanford University School of Medicine.

The compound, called d-limonene, protected cells that produce saliva in mice exposed to radiation therapy - without diminishing the tumour-fighting effects of the radiation. The researchers also showed that d-limonene taken orally is transported to the salivary gland in humans.

The finding was possible because of a close collaboration between clinicians and basic scientists, said co-senior author Daria Mochly-Rosen, PhD, professor of chemical and systems biology. “This is a perfect example of two pieces that could not work alone.”

About 40 percent of head and neck cancer patients who receive radiation therapy develop dry mouth, known clinically as xerostomia.

The key to retaining salivary function is protecting these rare but critical stem and progenitor cells. That’s tricky because, following radiation therapy, toxic, highly reactive compounds called aldehydes are created in the gland, gumming up cellular function.

https://www.eurekalert.org/pub_releases/2018-05/sm-ci051618.php

Smoking during prostate cancer treatment increases risk for metastases, mortality

Patients who smoked during treatment for localised prostate cancer faced an increased risk for biochemical recurrence, metastasis and cancer-specific death, according to findings published in JAMA Oncology.

“Tobacco smoking is known as a preventable risk factor for the development and mortality of several genitourinary cancers, such as bladder cancer, upper tract urothelial carcinoma and renal cell carcinoma,” Sharokh F. Shariat, MD, department chair and professor of the department of urology at Medical University of Vienna, and colleagues wrote. “In contrast, the effect of tobacco consumption on

the incidence of prostate cancer is still a matter of debate. Nevertheless, the association between cigarette smoking and prostate cancer mortality seems to be robust.”

“Our findings encourage radiation oncologists and urologists to counsel patients to stop smoking, using primary prostate cancer treatment as a teachable moment,” the researchers wrote. “Further studies with clear definitions of the study population and a precise assessment of the smoking exposure are needed to clarify the association of smoking cessation with long-term oncologic outcomes.”

<https://tinyurl.com/y77kdt5b>

Adding dye to colonoscopy may boost detection

By having patients swallow a blue dye tablet as part of colonoscopy prep, doctors can boost their chances of catching telltale signs of cancer, new research suggests.

The dye is technically referred to as “oral delayed-release methylene blue.” When patients ingested the dye in tablet form alongside their usual pre-procedure cleansing preparation, it worked to highlight colon polyps also known as adenomas — by upwards of 9 percent.

Use of the dye “allowed gastroenterologists to better detect and remove difficult-to-see polyps, which has great implications for further preventing this disease,” said study author Dr. Alessandro Repici. He is a professor of gastroenterology and director of endoscopy at Humanitas University Medical School in Milan, Italy.

<https://tinyurl.com/y94yjz5v>

USPSTF recommendation

Last week the USPSTF (United States Preventive Services Task Force) issued its Final Recommendation Statement on Prostate Cancer Screening with a grade “C” for men aged 55 to 69 years (upgraded from a “D” issued in 2012) and a grade “D” recommendation against PSA-based screening for prostate cancer in men 70 years and older. The statement acknowledged that African American men and men having a father or brother with prostate cancer are more likely to develop prostate cancer, and African American men are more likely to die from prostate cancer. However, the USPSTF is not able to make a separate, specific recommendation on PSA-based screening for these high-risk groups based on the available evidence. In response to the USPSTF Final Recommendation Statement on Prostate Cancer Screening, Us TOO has developed Guidelines for PSA-Based Screening for Prostate Cancer offering additional facts and perspective for a man to consider for an informed discussion with his healthcare providers on the potential value of PSA testing for prostate cancer.

Netcare Midrand adds chemotherapy unit to existing oncology services

A new modern chemotherapy unit has opened at Netcare Waterfall City Hospital in Midrand, in addition to the existing oncology services already available at the hospital.

According to Netcare, the chemotherapy services are backed by evidence-based protocols and a dedicated multidisciplinary team of specialists, nurses and other healthcare professionals.

“The new chemotherapy unit extends the range of treatments we are able to provide to cancer patients, and we hope that this development will help to make it more convenient and accessible for them if they have to undergo chemotherapy,” said Netcare’s

Gauteng South West Regional Director, Sandile Mbele.

"With nuclear medicine and surgical treatment options, including the highly advanced Da Vinci Si robotic-assisted surgery system used to treat localised prostate cancer, as well as kidney and bladder cancers, already operational at Netcare Waterfall City Hospital, the introduction of a chemotherapy service there means that we are now able to fight a bigger range of cancers in the most effective way," added Netcare's executive responsible for oncology, Noeleen Phillipson.

The chemotherapy unit has five treatment stations, and treatment is provided in accordance with the South African Oncology Consortium's protocols.

Mbele says Netcare Waterfall City Hospital's cancer services are furthermore strengthened by diagnostic capabilities, such as those offered through the radiology and pathology departments.

Evolving role of radiotherapy in liver cancers

Although the adoption of radiotherapy in the treatment of liver tumours has been slow, its role continues to evolve as more data becomes available.

Radiation therapies such as stereotactic body radiation therapy (SBRT) currently have a role in the treatment of patients with hepatocellular carcinoma (HCC), liver metastases, and biliary cancers, but there is still a need for further high-level evidence, explains Laura Dawson, MD.

Additionally, ongoing trials are now investigating the potential promise for using radiotherapy in combination with immunotherapy to help improve the efficacy of immunotherapies in patients with HCC.

<https://tinyurl.com/ybyz6yom>

Reprogramming cancer cells back to their pre-cancer state

Cancer cells typically acquire a common set of properties, including unlimited proliferation potential, self-sufficiency in growth signals, resistance to cell death, and an ability to activate invasion and metastasis, as described in a seminal 2000 study by American biologists and cancer researchers Douglas Hanahan and Robert Weinberg. While cancers are diverse in type and etiology, the researchers also say they all share metabolism abnormalities, regardless of cellular or tissue origin. Tumour cell metabolism is now seen as cancer's Achilles' heel, providing a unique therapeutic opportunity to effectively eliminate tumour cells by targeting their energy metabolism.

Now, a group of researchers from Israel's Ben-Gurion University of the Negev (BGU) have developed a new molecule that they claim inhibits the growth of cancer cells and reprograms them to act non-cancerous. The groundbreaking treatment is based on preventing the expression of the protein VDAC1, which is highly expressed in different types of tumours and found to alter cancer hallmarks, including the rewiring of pathways for growth and survival that underlie the malignant phenotype.

<https://tinyurl.com/y9netbgd>

Cancer drug keytruda - a new weapon against advanced lung tumours

Keytruda (pembrolizumab), a cancer drug that boosts the immune system, extended life four to eight months longer than chemotherapy in lung cancer patients whose immune systems had been duped by their cancer cells.

"This trial shows that pembrolizumab used alone improves survival as opposed to chemotherapy," said lead researcher Dr. Gilberto Lopes, a medical oncologist with the Sylvester Comprehensive Cancer Centre at the University of Miami Health System.

But while Keytruda works better than chemotherapy, the combination of the two is likely to be the best first choice for treatment of lung cancer, Lopes added. "We do believe based on a study presented about a month ago that the combination of chemotherapy plus pembrolizumab probably is better than pembrolizumab alone," Lopes said. "What we likely will see as the new standard of care is for us to combine both drugs."

Keytruda fights cancer by "taking the brakes away from the immune system so our own defense cells can recognise cancer cells and kill them," Lopes explained.

<https://tinyurl.com/ya2fqpod>

New combination treatment against relapsed head and neck cancer

The five-year survival rate for locally-advanced head and neck cancer is only 46 percent, even with treatments including surgery, radiation, chemotherapy and/or genetically targeted treatments such as cetuximab. Often, the problem is that while treatments initially work, cancer evolves to resist treatment.

"The question has been how are cancers resisting these treatments," says Sana Karam, MD, PhD, University of Colorado Cancer Centre investigator and assistant professor of Radiation Oncology at the CU School of Medicine.

To answer this question, Karam worked with first author and post-doctoral fellow, Shilpa Bhatia, to explore the genetics of tumour samples taken at the time of a patient's first surgery and then again once cancer progressed following treatment.

"By finding what was different between tumours that responded to treatment and those that had learned to resist treatment, we hoped to find some biological predictors or targets that we could exploit or manipulate to improve outcomes," Bhatia says.

What they found is that a pair of genes associated with early brain development but silent in healthy adult tissue had been turned back on in tumour samples that resisted therapy. The genes were EphB4 and its partner ephrin-B2.

"Both of these go up after the patient fails, so we thought, why don't we target them and see if that works," Karam says.

<https://tinyurl.com/yd4mau6u>

New treatment approach could help prevent recurrences of some bladder cancers

Flushing the bladder with the chemotherapy drug gemcitabine (Gemzar) after tumours have been removed surgically may reduce the risk of the cancer returning, according to the results of a large clinical trial.

In the trial, patients with low-grade nonmuscle-invasive bladder cancer who received a single dose of gemcitabine in the bladder through a catheter after surgery were much less likely to experience a recurrence of the disease within 4 years than patients who received a placebo.

Low-grade bladder cancers recur frequently, and recurrences require treatment with a procedure called transurethral resection for blad-

der tumour, or TURBT. Some patients experience multiple recurrences and, as a result, undergo repeated surgeries.

"This surgery is one of the most common operations done in urology," said Edward Messing, M.D., of the University of Rochester School of Medicine and Dentistry, who led the trial. "It's expensive, and it is difficult for many patients with bladder cancer, who tend to be older and have other health conditions."

Among all of the 406 patients in the clinical trial, the use of gemcitabine after surgery reduced the rate of the cancer returning. Over 4 years, the recurrence rate was 35% in the gemcitabine group, compared with 47% in the placebo group, the researchers reported in JAMA on May 8.

Among this group, 34 of 102 patients receiving gemcitabine (34%) had a recurrence, compared with 59 of 113 patients receiving placebo (54%)—a 37% relative reduction in the recurrence rate.

"Based on these results," Dr. Messing said, "the addition of gemcitabine after surgery should be the new standard of care for patients with low-grade bladder cancer."

<https://tinyurl.com/y73wy3pc>

Heartburn drugs and aspirin could help prevent oesophageal cancer

A new Cancer Research UK-funded clinical trial has found that two over-the-counter, widely available drugs could help cut cases of oesophageal cancer in people at higher risk of the disease. And when these drugs - a stomach acid blocker and aspirin - were used together, their effects were even greater.

"We weren't expecting such overwhelmingly positive data," says lead author Prof Janusz Jankowski from the Royal College of Surgeons in Ireland. The drugs caused a reduction in overall death and oesophageal cancers. It really surprised us how big the effect was, the effect for strong acid prevention was four times higher than we expected."

For the study, scientists wanted to find out whether giving people with Barrett's oesophagus a drug - called a proton pump inhibitor (PPI) - to treat their acid reflux could prevent their condition from worsening, and cut cases of oesophageal cancer. They also wanted to test whether adding aspirin could have a beneficial effect too.

When they dug into this data gold mine, they found that high dose PPI treatment not only reduced progression of people's Barrett's oesophagus, but cases of oesophageal cancer and the number of people dying from any cause were lower too. And when aspirin was added in to the mix, the effect was even greater.

"There's no question of whether this study will be practice-changing," he says. "We found low dose PPI therapy isn't as effective as high dose, so the results could alter their use."

<https://tinyurl.com/y723fj8t>

Magnetic 'metal seed' destroys brain tumours in ten minutes

Deadly brain tumours could be removed in just ten minutes with a groundbreaking new treatment which uses MRI scanners to heat up cancer cells until they die.

The new therapy, developed by University College London, involves injecting a tiny magnetic metal 'seed' into the bloodstream and directing it to the site of the cancer.

Higher vitamin D levels may cut colorectal cancer risk by 31%

A report, led by the Harvard, adds weight to a theory that Vitamin D is protective for all groups but particularly for women. They found that three quarters of Americans and a fifth of Brits are vitamin D deficient, and colorectal cancer rates are rising globally.

Higher vitamin D levels significantly drive down colorectal cancer risk, a large new international study has found.

The vitamin, fatty fish like salmon, cheese, fortified milk, eggs and sunshine, strengthens resistance to stomach tumours by blocking a common gateway that cancer cells pass through - and it was most protective in women.

The report, led by the Harvard TH Chan School of Public Health, adds weight to a long-suspected theory which, until now, had not been proven.

It also suggested the ideal amount of vitamin D we should be aiming for may be higher than current guidelines suggest.

The scanner is then used to heat up the metal seed which causes the cells to die in the surrounding tissue. Not only does it quickly kill cancer cells, but it saves healthy cells from the damaging effects of invasive surgery or radiotherapy.

The team at UCL has already proven it is effective in the brains of pigs and plans to move to human trials on patients with prostate cancer within the next two years with the hope it will be available for many cancers on the NHS within five years.

Launching the new technology at The Cheltenham Science Festival, Mark Lythgoe, professor of imaging at UCL, said: "The aim is to turn every MRI scanner in the world into a therapeutic device. At the moment it just take pictures.

"The simple idea is the patient goes into the MRI scanner, you locate a tumour in the brain or the prostate and then we implant a tiny magnetic particle, a little bit smaller than a grain of rice, to the site of the tumour.

"We can guide it with real precision avoiding any areas that we don't want to go to, like the sensory motor-cortex in the brain, the area with memories.

"Once it's in there we're able to fire in a simple radio wave and these seeds heat up remarkably well, and kills all the cells around it. You then just guide the seed through the tumour, killing all the cells. And you can do it with real precision right up to the margins of the tumour so there is no tumour left. This is life-changing."

<https://tinyurl.com/yadnt8u2>

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