

Introducing BREAST

Thousands of Australian women are affected by breast cancer every year. ST is committed to providing new therapies that can make a difference, but we also want to share the stories and experiences of those women who are diagnosed, as well as insights from some of Australia's most respected oncologists. We've produced a breast cancer publication, designed to cover many elements of the experience and answer some of the questions women ask.

Here's a short preview of BREAST. We will be publishing thousands of copies in the next few months, which our team will distribute to oncologists for their patients. We look forward to your feedback.



COVID-19



Specialised Therapeutics CEO Carlo Montagner has appeared on a national business program, discussing the potential impact of the COVID-19 crisis on the global pharma supply chain, and the race for an effective COVID-19 vaccine and therapy.

He told business journalist Ahron Young that ST's Spanish partner PharmaMar is now fast-tracking trials of its myeloma compound as an anti-COVID-19 agent, with laboratory tests delivering highly promising results. Mr Montanger says Australian pharmaceutical companies have sufficient inventories for the next six to nine months, warning that logistics and supply deliveries must be considered essential services. Click on the video banner above for more.

Breast Surgeon Jane O'Brien discusses Oncotype DX



Respected Australian breast cancer surgeon Jane O'Brien discusses the Oncotype DX breast cancer assay.

Click on the video banner above for more.

ST COVID-19 Update



Like all companies globally, ST is closely monitoring the COVID-19 pandemic. In any kind of health crisis, all pharmaceutical companies must contribute their expertise to find answers. A key ST partner is Spanish company PharmaMar, which has announced its novel marine-derived multiple myeloma compound is showing encouraging laboratory results as a promising COVID-19 target. ST hopes to engage with some of Australia's most-respected research authorities to ensure this compound is made available for trial purposes at the earliest opportunity. We also wish to assure our customers that ST has an ample supply of its oncology medicines and we do not foresee any shortages or any impact to patients.

See below for full PharmaMar press release.



PharmaMar reports positive results for APLIDIN[®] against coronavirus HCoV-229E

- These studies have been carried out at the National Biotechnology Centre (Centro Nacional de Biotecnología) of the Spanish National Research Council (CSIC).
- PharmaMar will contact regulatory authorities to analyze the possibilities of studies on patients infected with Covid-19.

Madrid, March 13th, 2020. PharmaMar (MSE:PHM) reports that the in vitro studies results of APLIDIN[®] (plitidepsin) on the human coronavirus HCoV-229E, which has a multiplication and propagation mechanism very similar to COVID-19, have been positive with a potency of the nanomolar order. These studies have been carried out at the National Biotechnology Centre (Centro Nacional de Biotecnología) of the Spanish National Research Council (CSIC) by Dr Luis Enjuanes, Dr Isabel Solá and Dr Sonia Zúñiga.

These results confirm the hypothesis that the therapeutic target of APLIDIN[®] (plitidepsin), which is EF1A, is key to the multiplication and spread of the virus.

With these data, PharmaMar will contact regulatory authorities to analyze the possibilities of studies on patients infected with COVID-19.

Legal warning

This press release does not constitute an offer to sell or the solicitation of an offer to buy securities, and shall not constitute an offer, solicitation or sale in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of that jurisdiction.

About PharmaMar

Headquartered in Madrid, PharmaMar is a biopharmaceutical company, focused on oncology and committed to research and development which takes its inspiration from the sea to discover molecules with antitumor activity. It is a company that seeks innovative products to provide healthcare professionals with new tools to treat cancer. Its commitment to patients and to research has made it one of the world leaders in the discovery of antitumor drugs of marine origin.

PharmaMar has a pipeline of drug candidates and a robust R&D oncology program. It develops and commercializes

YONDELIS[®] in Europe and has other clinical-stage programs under development for several types of solid cancers: lurbinectedin (PM1183), PM184 and PM14. With subsidiaries in Germany, Italy, France, Switzerland, Belgium, Austria and the United States. PharmaMar wholly owns other companies: GENOMICA, a molecular diagnostics company; Sylentis, dedicated to researching therapeutic applications of gene silencing (RNAi). To learn more about PharmaMar, please visit us at www.pharmamar.com.

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Philanthropy: MZFF recognised at TLC Ambulance Launch



The MZFF is extremely proud to be a foundation sponsor of the TLC Ambulance Project – an initiative developed by TLC for Kids in collaboration with Ambulance Victoria. This project will enable terminally ill children to be transported to a final destination of their choice – under the care of a full volunteer ambulance crew. The MZFF has donated \$150,000 over three years to help bring this project to life. ST co-founder Bozena Zembrzuski was invited to speak at the official ambulance launch.

Click on the video banner above for more.

Logistics: How ST Transports

Specialty Medicines

Specialised Therapeutics ensures its specialty medicines are transported seamlessly and reliably. Sophisticated planning makes this happen. Our Quality Assurance Manager and GxP Associate David Wilson explains below.



OUR CAPABILITY: Specialised Therapeutics' Quality Assurance Manager David Wilson explains how we transport specialist medicines to patients around the world

What are the main considerations ST must take into account when transporting specialty medicines?

There are a few important issues. First and foremost, we need to ensure that our medicines are securely transported and that they remain at the correct temperature for the entire journey. This requires sophisticated planning and monitoring. Appropriate physical and environment protection containers are employed and our transporters are carefully selected for their expertise in this area. Importantly, we must be mindful that all relevant export and import permits are up to date to avoid airport delays.

Are our products fragile? Do they need to be handled with kid-gloves, and why? What are some of the primary considerations?

Generally, our products are designed to be rugged when transported. The most important issues are environment control and having them in transit for a short time.

How do we assure our partners that we will manage a quality, timely delivery at all times?

We have experienced, reliable transport sub-contractors both internationally and within Australia, who have demonstrated high-level expertise. Domestically, we aim for overnight deliveries to major centres and overnight plus one day to more remote centres. Outside of Australia, we use several different service providers, all of whom are experts in their fields.

What sorts of procedures does ST have in place to ensure seamless, timely and safe deliveries?

Complex products require sophisticated planning, both prior to deliver and on an on-going basis. We continually demand and carry out audits of our key service providers to ensure all deliveries are optimally managed.

What would you say to our partners and potential partners about our logistics and distribution capability in this complex environment?

I believe our procedures and policies around the delivery of specialist medicines are world class. Our procedures are rigorously scrutinised to ensure we are meeting global best practice standards. We don't develop products in-house so we are 'caretaking' the products of our international partners. This responsibility is one we don't take lightly and our commitment is to champion these products in our regions and ensure they are delivered seamlessly. For this reason, we only

engage carefully selected, specialist operators to handle our products.

Finally, how does ST select logistics partners?

We select local and international logistics partners with demonstrated capability in the pharmaceutical industry.

From there, we create a short-list and conduct a thorough due-diligence operation to ensure all our requirements are met. When we have selected final contenders we visit their operations to see first-hand if they are the right fit and we then work through a list of acceptance criteria.

The final step is a qualification audit to accept a partner company into our list of approved suppliers. We are confident we have the right companies in place to deliver our medicines in a way that meets all international standards demanded by global pharma companies.

Brain Cancer Awareness Week



Kate's Story

Royal Melbourne Hospital Head of Neurosurgery Associate Professor Kate Drummond toyed with the idea of teaching and science before finding her way into medicine. Born and bred in Sydney, she credits her parents for inspiring her academic achievement, with their never-ending encouragement instilling a firm belief she could do anything. And while brain matter is interesting enough, it is the people she treats every day who matter most. In this piece, she explains her motivation and outlines her next mission to improve global health.

You were the first person in your family to attend university. What inspired this brilliant career?

I don't think it was anything other than parents who were just totally encouraging. I was the long-awaited child of adoptive parents. They had been waiting for me for a long time and my Mum and Dad poured all their love into me. I was read to, constantly encouraged and told I could do anything. It did not strike me at the time, but this sort of culture of achievement was built into me and encouraged. Of course I would go to university! My family did not have medical backgrounds themselves. My mother teaches piano and my father started out as a draftsman but then worked in building management for fire protection. There are no medical people in my family at all.

It was not right until the end of school, until a teacher said to me, 'If you study hard you might get into medicine'. I thought it sounded interesting, but I was planning on teaching or maybe science. It was not until the end of school that I even considered medicine. I estimated I would need 430 out of 500 in the HSC to get into medicine at Sydney University. I had not hit 400 in my trials, but I got 431 in the finals. It was a bit of a late decision!

How did you find it initially?

I really struggled at the beginning. We did not start out training in hospitals. The first two and a bit years were sitting in a lecture theatre, learning about comparative biology and other dry basic science topics. It was not until I started seeing patients that I thought 'okay, this is what I want to do'. I started out wanting to be an obstetrician and then I delivered a baby (which really changed my mind!). Seriously though, there are a lot of things about it that made me realise it was not going to be for me. There are a lot of moral dilemmas in obstetrics. I did quite like the gynaecological surgery in my rotation. I intended on doing general surgery, but when I was an intern I had to do a term in neurosurgery to get the general surgery rotation I wanted. The rest is history.

What is it about neurosurgery that fascinates you?

A lot of people come into neurosurgery saying, 'I am really fascinated by neuroscience and the way the brain works'. It is kind of interesting, but I am actually much more fascinated by the people I look after. These are vulnerable people and I am really fascinated by how they respond and cope and be wonderful humans even when everything is going wrong.

You have been a practising neurosurgeon since 1997. Do any patients stand out?

There are so many. But I will never forget the young woman with brain cancer who, against all odds, felt that she had to have a child despite her limited prognosis. She wanted to leave a legacy and managed to deliver twins between radiation and chemotherapy. She started off with a low grade tumour but ended up a glioblastoma. She was only in her 30s, but fell pregnant while having treatment for cancer.

Was falling pregnant against your advice?

Absolutely not. My job is to make things happen if I can. This is what she desperately wanted and she achieved her goal. She had a girl and a boy and was exhausted, but joyful.

Her twins were just over a year old when she passed away. And then there was the beautiful young couple who postponed their wedding for the brain surgery.

They took the wedding photos so you could not notice that one side of his face was drooping. He went through radiation and everything else. Just as they were about to go on their honeymoon, the tumour came back. He started on chemotherapy the night before they got on the plane. They went all over Europe on chemotherapy so they could still have a honeymoon. These people are extraordinary. I am always inspired by the lives that they make with what they have got. This man lived for maybe 18 months after the wedding.

Stage 4 brain cancers are incurable. What do you hope to achieve for your patients?

I want to give them the longest good quality life that we can get. Ultimately, what we hope to achieve is some cure or longer term control. But at the moment, the reality of the job is I help them achieve their goals as best we can. I think long-term control is within our grasp. We need to translate what we are seeing in immunotherapy to other cancers. It has been disappointing so far, but sometimes it is just one piece of knowledge that drops in, like HER2 inhibitors for breast cancer and Glivec for leukaemia, or BRAF inhibitors and immunotherapy for melanoma.

What's a day in your life like?

I generally start at 6am, so I am up at 5am. I try and get a bit of paperwork done, then hit the wards at 7 am for a ward round. My days are varied: it could be all day in clinic, all day operating, it could be meetings, it could be research. Outside work, I go to movies, I go to plays, I go to the symphony. I read books, I exercise and I hang out with my family. I mostly like superhero movies. I don't want to watch movies where people are having bad things happen to them. I work with people who have bad things happen every day. I don't need to see it to have a good cry. I want happy movies.

You are now a department head. Where to from here?

Being Head of Unit was kind of my end-game. So now, I think I would like to

probably have more influence in brain-tumour research. And I have a real commitment to global health education through my role as Chair of Pangea (formerly Specialists Without Borders). Growing that part of my career portfolio is something that is a real focus at the moment as well.

Tell us about Pangea, how it works and your long-term goals for this organisation.

Pangea began 13 years ago, originally as a lecture series in Africa. Basically it involves healthcare professionals from Australia and New Zealand travelling to developing countries to impart some of our knowledge to healthcare professionals working on the ground there.

These people (in developing countries) may be very good doctors, but they are living in a place where there is not very good infrastructure. What Pangea really wants to do is through education, leave behind the expertise to change the health system. We are leaving a sustainable legacy. The lessons we leave behind will benefit health outcomes for their communities for many years. These Australian and New Zealand health professionals pay their own way to do these trips and take annual leave to be part of it all. But it is incredibly rewarding and it is great fun.

My ambition for Pangea is that it becomes a massive organisation. I want it to be the go-to organisation for global medical education needs – providing flexible, practical, scalable, targeted health education in low-resource settings. We have now done several trips to Africa, teaching our counterparts in Malawi, Zimbabwe and Rwanda.

In 2019, we are hoping to go to Myanmar and start educating health professionals in that area to improve outcomes there. The possibilities are endless. Africa we love, but I think we need to have some programs a bit closer to home.

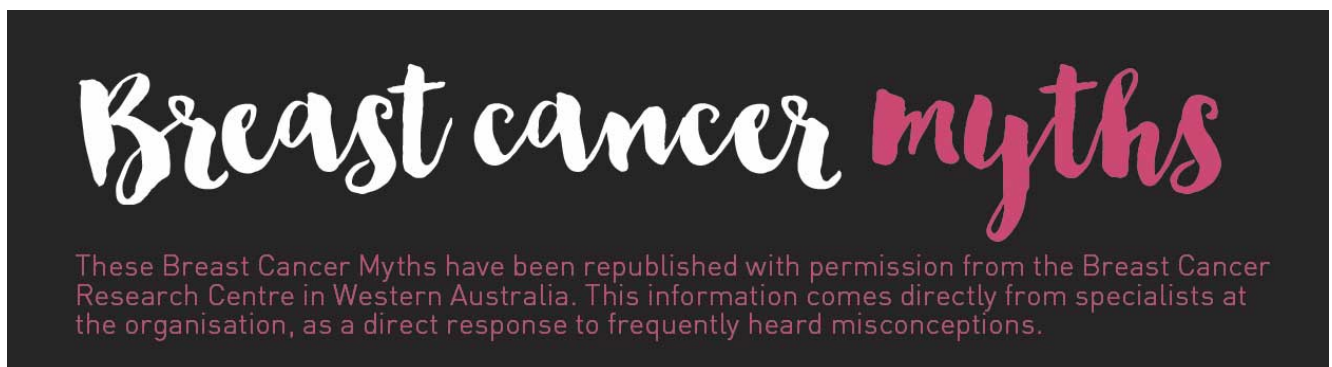
What would you say to a young person now contemplating a medical career?

I would say 'Become a doctor'. It gives you an unlimited range of career

possibilities. You might not end up in the clinical care of patients – you could end up in research, administration or international health. It is a ticket to so many fulfilling careers, in specialty practice or general practice. You don't have to worry too much about where the end point will be, it is just a great thing to do. You will find your niche.

*November 2018.

Breast Cancer Myths



1. All breast cancer patients have the same type of treatment.

Different patients respond differently to treatments, and the sequence and type of treatment should always be tailored to the individual. One person's treatment plan and experience is very unlikely to be the same as that of a friend, relative or colleague.

There are many different types and degrees of aggression of breast cancer, which are generally distinguished by pathology testing of tissue following surgery. In addition, the diagnosis can occur at different stages (i.e. how large the breast cancer is and much it has spread into nearby or distant tissues). These factors lead to a wide range of different treatment recommendations. Treatment plans for individual breast cancer patients are usually made by the treating team, following

multidisciplinary review, to ensure the best co-ordinated treatment program for each patient.

2. You can't go on public transport or eat take-away food while on chemotherapy because of suppressed immunity.

Not all chemotherapy for breast cancer suppress the immune system to the same extent. There are usually short periods (measured in days) during each course of chemotherapy when some patients have a slightly higher risk of developing an infection than normal. Depending on the type of chemotherapy you are receiving, and whether there are other medical conditions that you may also suffer from, the risk of infection is very variable. Common sense will usually guide you as to what situations you should avoid during your chemotherapy treatment. For instance, it is advisable not to sit next to someone who is obviously coughing and unwell, or be in close contact with children who are suffering from a diarrhoeal illness. You do not need to keep yourself isolated from society. Severe dietary restrictions are also unnecessary.

So you CAN go on public transport and eat food which has been prepared hygienically - you can decide if that is the case for the take-away restaurant you go to!

3. Needles and blood pressure testing on an arm without lymph nodes cause lymphoedema.

There has been no proven research that demonstrates that lymphoedema is caused by either of these two manoeuvres. A recent study of 632 patients with a total of 3,041 arm measurements showed no increased risk of lymphoedema with blood draws, injections or blood pressure readings. If necessary, you can use your arm without lymph nodes for these purposes, but it is reasonable to avoid this by using the other arm where this is possible. The important aspect to minimise the risk of lymphoedema is to reduce the risk of infections in the arm from which the

lymph glands have been removed.

4. Rest is best.

This is an old adage if anyone is seriously ill. While there are times when rest does help the body to recuperate after critical periods of illness, the treatment for breast cancer is over a long period, and moderate exercise is actually more beneficial. Exercise can offset fatigue. Strangely, when you are very fatigued and least feel like exercise, a walk can make you feel better. Exercise is also important to maintain good health during treatment and to prevent weight gain.

Weight gain is best avoided as there is good scientific evidence that excessive weight can increase the risk of breast cancer recurrence.

So again, avoiding excessive inactivity is an important step to avoid gaining weight.

5. You will feel better as soon as the treatment is finished.

Breast cancer treatment side effects can take some time to resolve completely. The good news is that symptoms such as nausea, vomiting, bowel disturbances, risk of infection and altered taste sensation usually disappear within a few weeks of the last chemotherapy treatment. Hair regrowth usually takes 2 to 4 months to reach the length that a woman may be happy with. Fatigue, in particular, can last for some time, depending on the person. Most people gradually regain the strength and fitness they need to return to their previous lifestyle, so don't be concerned if it doesn't happen quickly. Patients need to be patient! Also, if treatment has rendered a woman post-menopausal, time is usually needed for the woman to adjust to the menopause symptoms of hot flushes/sweats, aching joints and frequent fatigue.

6. I burn easily in the sun so I will get a radiation burn.

All people react to radiation treatment differently and there are many factors that determine how troublesome the skin reaction will be. These are often technical factors. Skin that has been damaged by the sun over many years reacts differently to skin that hasn't been exposed to the sun. Good skin care is important to minimise whatever reaction you will get, and protecting the treated area from sunburn during treatment is important. Your radiation nurse or team members will advise the best skin care for you. Some patients may finish treatment with minimal skin reactions even if they burn easily in the sun.

7. You can't use soap during radiation treatment.

This myth dates back many years to when soaps were very harsh on the skin. For the majority of patients using a mild soap will not be a problem, and your radiation nurse will be in the best position to advise you on your most appropriate skin care. Remember, this advice applies to the area being treated and it's not necessary to follow the instructions for your entire body.

New Deal: ST signs new license agreement



ST has signed a third license agreement with Spanish partner PharmaMar, providing Australian patients the opportunity to access a globally-recognised sarcoma therapy. [Click for more.](#)

Breast Cancer Awareness Month: Celebrating Kee-moh Snacks



“Sometimes life guides us to where we will be the most impactful or where we will be the most fulfilled. Sometimes, that is the same place.”

Alexandra Stewart had forged a professional career as an orthoptist and was studying forensic science at university when she was diagnosed with breast cancer - just nine weeks before her wedding. She endured a double mastectomy, surgery, chemotherapy and early menopause. The side effects of her treatment were horrendous. She clearly remembers the nausea and metallic taste in her mouth, as well as the mouth ulcers and malnutrition.

She also remembers the “jelly and custard” hospital food she was served because she could not keep anything else down and the weight loss she suffered because she was so depleted.

It was only when her treatment was all over and she’d come out the other side of breast cancer that she found her new purpose - an online food business for cancer patients called “Kee-moh Snacks”, featuring recipes she designed and trialled herself with the help of nutritionists.

This business also spawned her first book, ‘Festive Fare’, which is a collection of Christmas-inspired recipes tailored to people undergoing cancer treatment. Now a second publication, ‘Jelly is Not Food’ has just been launched.

From here, Alyx dreams of Kee-moh Snacks becoming a

global enterprise, informing hospitals around the world that cancer patients need foods that are nourishing, palatable and delicious.

This is her story.

“In my early thirties, I found a tiny speck of a lump in my right breast and I mentioned it to a doctor who told me it was probably just hormonal. But 18 months later, it felt like the lump had suddenly grown exponentially overnight and it had become painful. I went to my regular GP and the rest, as they say, is history. It was such a whirlwind. The following week I was into surgery. This was exactly a week after diagnosis. I had a single mastectomy initially and then I had the other breast off a year later because there were signs of pre-cancer in my other breast. Because of my age, the surgeons said to get it done.

Chemotherapy and Other Treatment

The side-effects of chemotherapy were brutal and took an inordinate toll on my body. The biggest issue was nutrition and actually being able to get food in (and stay in). Side-effects had made it so difficult to eat that I had developed disease-related malnutrition. It's very common in the cancer world but not widely dealt with. My entire diet for months (when I could eat) consisted of lamb, garlic, the freshest white bread with the crusts removed and strawberry jam. I was so malnourished that I lost about 10 kilograms. For the duration of chemotherapy, I was also on other hormone-suppressing medication which put me into early menopause. I had hideous hot flushes. At the peak, I was having a hot flush every minute and a half. That was the most distressing thing. I had to sleep on towels on the bed because I was soaked through.

Fertility

Egg freezing was provided as an option to me early on, but we opted against it because we wanted to do everything in the shortest possible time that we could. My cancer was so hormone-positive that a pregnancy would have tipped me over the edge. I would have been putting more hormones into my body to feed that cancer.

I had not found anybody I wanted to have kids with until I met James, so it was a

whole new area for me anyway. I thought he was good breeding stock! It's more these days that I think about not having children. Sometimes I wonder which one of my nieces and my nephews I will be able to rely on and if I will be lonely when I am older. I find that not having the opportunity to have children plays more on my mind now.

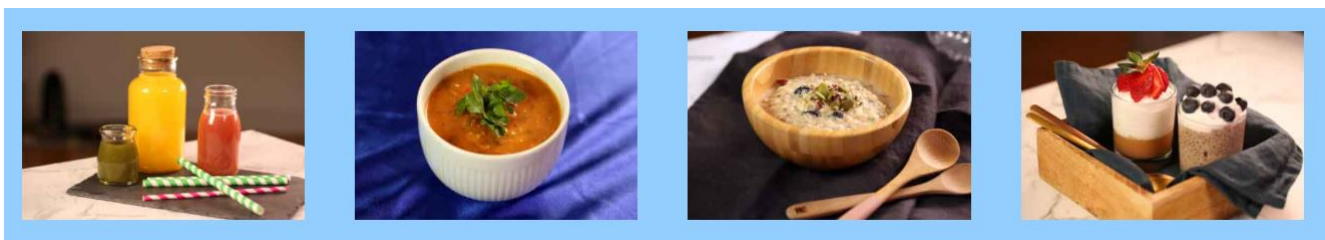
Work and Friends

I went back to work too soon after my chemotherapy, way too soon. It was only couple of weeks after finishing chemotherapy. It was a ridiculous move in hindsight, but I just wanted to be out of the house. Cancer can really be a lonely and isolating experience. I lost a lot of friends because I think they don't know what to say; it scares them. Nobody wants to hear the truth; they want everything to be rosy for them and for you.



Kee-moh Snacks

A few years ago, I realised I had to find my new purpose. Cancer had changed me. I had learnt so much from my cancer experience and I realised there was something else I needed to be doing. I started listening to people with different ears. I had always enjoyed cooking, but I have found I am really good at improvising and making up recipes! I realised I wanted to give people the tools they needed to prepare nutritious and comforting food while going through cancer. That was really how Kee-moh Snacks began and the cookbooks are an extension of that.



Fear of Recurrence and the Future

It's 13 years now since my experience and I am doing well. I am fit and healthy but the fear of cancer returning is always there. I call it the 'black shadow' and it comes in waves. I don't know how I get out of it; I just need to let it run its course. I think it is becoming more prevalent now because I realise I have so much more to do. For me, it is about leaving a legacy and what if I don't get the time to do that?

If I was diagnosed with secondaries tomorrow, I think I would be in a heap. I want the time to do what I need to do.

For now, I am exactly where I am meant to be. I have never had a real feeling of purpose until now. I will never be grateful for having had cancer, but I am grateful for what it has given me."

*Alyx shared her story in August 2019.

For more on Kee-moh Snacks or to order a cookbook, please go to <https://kee-mohsnacks.com.au/>