

David Glanz: Beauty they say is skin deep, but as anyone who's had sunburn or rash or worse knows, having good skin isn't just about looks but about good health. Elderly residents in aged care homes can suffer skin tears that open them up to infection or just make life miserable. Eczema can lead to hospital treatment for some children. Effective skin products can reduce human suffering and save the cost of treatment along the way.

David Glanz: My guest today has spent three decades applying the science of skincare to practical outcomes. Her work, building the company that her husband's parents founded in the 1950s, has just won here The Clunies Ross Entrepreneur of the Year Award. I'm David Glanz from The Australian Academy of Technology and Engineering, and I'm talking to Dr. Jane Oppenheim, who is Executive Director of Ego Pharmaceuticals in Braeside, which is a suburb of Melbourne.

David Glanz: Jane, let's start with the science and your journey. How did you end up here at Ego Pharmaceuticals?

Jane Oppenheim: Well, I started my work doing an undergraduate degree at Monash University where I met my husband, Alan Oppenheim. I was doing mathematics and biochemistry and he was doing chemistry and he was very interested in joining his parents' company and I found that very interested. He went on and joined the company and got very involved in what he was doing, really, really keen on seeing it grow. While he was doing that, I did a PhD. My PhD was in the biochemistry department, although I found that I was looking at path sequences of human growth hormone, and to do the experiments I needed to do I was always short of material to test, which led me to become very interested in peptide synthesis.

Jane Oppenheim: Professor Ian Rae from the Chemistry Department was able to help me there and help direct my PhD, which turned into looking at the synthesis... oath sequences of human growth hormone that I could then test in the animal models. From there, I found that I had the right qualification at the right time that the world was looking for peptide chemists because the world had just finished sequencing DNA. Once they'd finished sequencing DNA, they wanted to make all the path sequences. I was very fortunate to be offered a job at The Walter and Eliza Hall Institute, which was just fantastic. It was just a great experience.

Jane Oppenheim: I joined The Walter and Eliza Hall Institute when they got a massive grant from both the Australian government and the American government to continue their work on malaria. As I arrived, so did a peptide synthesizer machine and they didn't need me to do peptide synthesis, but I went on and I learned a lot about immunology and a lot about malaria and had a tremendous time at The Walter and Eliza Hall.

Jane Oppenheim: All this time, my husband had joined the company and had got very, very interested in developing skincare products, and in particular, the first range of

sunscreens that contains the physical blocker. We were the first people who put out a sunscreen with titanium dioxide, and that was just great. You could get so much more protection for the skin with so much smaller quantities of the organic absorbing agents and the products were so beautiful to use, so easy to use, so easy to apply to the skin, and so much less greasy than all the other products.

Jane Oppenheim: When I wanted to go on and do a postdoc overseas, Alan who had then become my husband, was very keen to stay in Australia and continue building the company, and so that got me more and more interested in it and eventually... in fact, what happened was that. as a PhD student, I was demonstrating, as many PhD students did in those times, and one of my students applied for a job here. I thought, "Well, isn't that funny? Here I am gone on and done a postdoc and I'm worrying about work where this is good work there at Ego to do." I joined Ego back then more than 30 years ago now, and I've never looked back. I've always been very grateful for the trust that Alan had to firstly lead research and development and then lead science, and then to take on the operations part of it. It's been a wonderful trip all the way.

David Glanz: Sounds amazing. How do you take that basic science and turn it into a product that I can walk into a chemist shop and buy off the shelf and use safely and effectively? What's the process?

Jane Oppenheim: The R&D process, it all sort of starts with R&D, and R&D worked towards really finding a problem that they can solve. How can they make a product that's new and different and better than anything else is on the market? How can they really identify a problem and solve a problem? They do a lot of work. They go to conferences all around the world and they keep up to date with the dermatology literature, the pharmaceutical literature, all the information they need to know about those products. Then, they write a proposal and then that's discussed very widely within the organization and, in particular, with our marketing colleagues and together we build up a brief for the product and we really test out, can we provide something different, something new? Something that is really high quality because what we want is products that work, underpinned by science.

Jane Oppenheim: Once we've got the product proposal, then we go into the formulation stage and eventually we get a formulation out of that. We then have to go and take that into production to get sufficient product to do the stability testing and also the clinical and efficacy studies. That can all take quite a long period of time, depending on what sort of product it is. After we have done that, then it's a matter of commercializing it. It's a matter of normally at that stage, we've only done a pilot, a commercial batch, then we have to build it up into a production scale batch, and then we make it and make it available to the market. All the time, we're working very, very closely with our sales and marketing colleagues that are preparing the materials that we need to tell the dermatologists, the pharmacists, and the general public about the product that we have made.

Jane Oppenheim: The research and development people are in fact the scientists involved, have a very big role to play, not only in the development of the product, but also the substantiation of the claims. They do the clinical studies or the efficacy studies, they write the papers, and then those papers are presented in peer review journals and certainly at the dermatology conferences as I have the posters of papers. Of course, we not only present in Australia but we present to all of our markets, so we present in Asia and the Middle East and in the UK. It's really a matter of getting the best product supported by the best science that people are really going to want to use.

David Glanz: You talked about the efficacy. Can you give me some idea about actually what impact your products make?

Jane Oppenheim: Well, all the products are a little different, of course. MOOV Head Lice, we developed MOOV Head Lice based on Australian natural ingredients, tea tree oil and similar and we did a clinical trial in the Southern suburbs of Brisbane. We were absolutely amazed. We compared our MOOV Head Lice treatment against the two market-leading treatments at the time, one was malathion and the other one was based on pyrethrins. What we found is that our product was more than twice as effective, nearly three times as effective as the other two products.

Jane Oppenheim: In this case, the effect of that product was that we had in Australia now a product that was effective against head lice. The other two products had developed resistance, and when we thought about that, we realized that our product was not only not resistant to head lice, but unlikely to develop resistance to head lice because the product evaporates from the skin fairly quickly and therefore isn't there for the head lice to change and adapt to. We produced an effective product.

Jane Oppenheim: The sunscreens, we produced products that are light and easy to use, that are truly protective, that truly provide some of the best protection you can buy anywhere around the world, and therefore, people can continue their normal life while being out in the sun, although we always say don't expose yourself unnecessarily, but the fact is, you can continue life. You can play golf, you can pick the children up from school, you can do all of those things and know you are being protected from the sun.

Jane Oppenheim: Another product that we have is our QV Range. Now, with QV, we see children that are hospitalized because their skin is so bad, but where I want to provide products that don't sting, that are really helpful to those children, that get them out of hospital and, in fact, get them back to school and make them feel good about themselves because eczema is a really difficult problem for young children. It's really very isolating. It's much worse than you imagine until you see some of the children with atopic dermatitis.

David Glanz: That's tremendous. That's obviously made a huge difference to many people's lives, and it probably helps explain why Ego has grown so much. I'm told that you now have markets in 24 countries, and an annual growth rate of 12% over the 30 years or so that you've been involved. What's your secret?

Jane Oppenheim: Well, I have to say the 12% growth has been absolutely wonderful. It's been terrific to be able to continue to grow and have the history that tells you that that growth will be able to continue into the future. I strongly believe you've got to prepare for your own success. It's been so much fun, and certainly in the last 10 years, constantly building and expanding our facilities to make really world-class, really efficient manufacturing facilities that have a life of 30 years and we just know are going to endure beyond when Alan and I are going to be here. I think it's wonderful because it really means that there's going to be manufacturing, and therefore, employment in Australia.

David Glanz: We're sitting here having this conversation at Braeside, and I know behind us we have some incredible buildings and manufacturing facilities. Could you tell us a little bit about the facilities you've got here and the pride you take in them, quite clearly? For instance, I hear you have a flammable facility. That sounds a bit scary. Can you tell me about it?

Jane Oppenheim: Yes. Look, a flammable facility is where we make our flammable products. I think it was just a fun alliteration that we haven't dropped, but we have a product called Aquim, which is 70% alcohol, and it's a very popular product, a fairly high-volume product for us. Now, we were making it in a small, flammable-rated room, but we decided that this product could be really big and there could be something that we're doing differently to anybody else in the world. We developed a building that was on really the last bit of green field site at this Braeside site. We had a little bit of green land. It was actually car park, and we put in place a two-story, four-hour fire-resistant building.

Jane Oppenheim: We have 2X24 tons of ethanol, and that's piped to state-of-the-art mixers and mixers with a side vessel. We're able to make our product very efficiently, and then what we do is we transfer it over into six storage vessels, and those six storage vessels are connected to the filling line below. Now, the manufacturing vessels and side vessels are all connected to a clean-in-place system, so the whole thing is computerized and automated, and in fact, we've got something like 18 bits of equipment that are all connected in sequence that really allows us to run from making the product through to putting the product, or in fact, taking the product off the line in pallets and putting it into a specially-designed flameproof warehouse.

Jane Oppenheim: That was a great project to do. I think that it was the engineering in that building is state of the art and it was just tremendous fun. It was fantastic for all of our engineers to be involved in such a project.

David Glanz: I understand you've invested a great deal in upgrading productivity. I think you've mentioned to me that you regard yourself as very much at the cutting edge of Industry 4.0. What does that look like in reality?

Jane Oppenheim: Yes, well, what we're doing here at Braeside is that we designed the plant originally for every part of it to be able to grow and we have done that. We have expanded very laterally and, in fact, now we've expanded vertically, but what we realized is that we can get even more value out of the real estate here if we have the latest machinery. We constantly come back and think about renewing all the machinery and we've written machine guidelines and specifications so that all the machines that arrive here at Ego are actually Industry 4.0 ready so that they can be connected up.

Jane Oppenheim: As I said, the flammable facility was a \$20 million suite, but it was a prototype for us. Now, what we're doing is we're using the lessons that we've learned in building the flammable facility to come back and upgrade some of our older facilities so that we have the same connectedness between the raw materials to the mixing plants, the mixing plants being connected to the storage plants, the storage plants being connected to the fillers, and everything being clean-in-place. What's more, everything being connected to our planning platforms so that we've just got a connectedness through the whole plant which is giving us incredible productivity increases.

David Glanz: That's tremendous. Now, in business success is first and foremost, measured in terms of dollars and rates of return and so on, but do you get direct feedback from your customers about the effectiveness of your product? Do you get that empathy coming back to you? Not just the dollars, but the stories?

Jane Oppenheim: Yes, we certainly do, and that's one of the nicest parts about our job. I know we get customer letters all the time and we actually have a particular seminar once a year where the lady who looks after customer complaints routinely thinks back and gives us some of the funny and really cherished stories, but also, we get so many of these letters that they go into our internal Egogram. In addition to that, one example is we sell our products in the United Arab Emirates, and my husband Alan was over there on one of his business trips and he was at a trade fair and he was introduced one of the emirs of one of the Emirates. The emir said that he had used Ego products. He had just simply gone into a pharmacy and bought Ego products and he said, in fact, his children couldn't go to sleep at night without using the Ego products.

Jane Oppenheim: Very recently, we were in Hong Kong and we went to talk to some dermatologists and one of the dermatologists was a pediatric dermatologist and he said to Alan, "I'd really like you to come to the hospital", and he took Alan to the hospital and introduced Alan to a young boy who had been hospitalized and he was hospitalized because his mother couldn't help him anymore. What had happened is he'd been at school and the teacher had said to the mother, "Take this child out of school. He's scratching and he's distracting my whole class." The

mother was so desperate she took him to the dermatologist and the dermatologist said, "Let's hospitalize him for a little while and see what we can do to help this fellow."

Jane Oppenheim: Alan was able then... the doctor was able to show Alan exactly the effect of the QV products on his skin and how that really helped this boy. He was just about to be released from hospital and hopefully being able to go back to school in the near future. They're wonderful, wonderful stories all the time.

David Glanz: That's tremendous. It's lovely to know that your... sure for you to know that you're making such a difference, as well as building such a tremendous facility here and providing jobs in the Southeast suburbs of Melbourne.

David Glanz: My last question really is, you are the Clunies Ross Entrepreneur of the Year. What does winning a Clunies Ross Award mean to you?

Jane Oppenheim: Well, to start with, I'm very surprised and delighted. I think it's wonderful. I reflected on this for the last couple of days and I was thinking that if I've done something good, it's the fact that I've kept a great team of people together. I think none of what we have been able to do any one person could do alone, but what has made it easy and what has made it fun is that the people that work here at Ego very often commit and we have people who stay here for 25, 35 years, people who stay a long time. I think that their history with the company, their history with the projects means that you're constantly reaching forward and I think we're able to make great progress. I'm very grateful to the people that have worked with me and I think that I feel just a little bit of pride in the fact that I've been able to keep them together as a team.

David Glanz: Well, congratulations and thank you for your time.

Jane Oppenheim: Thank you.