



Kyle Turner Pearlii

Kyle Turner started Pearlii because he doesn't want any kid to grow up with bad teeth. Pearlii is a MedTech startup that uses artificial intelligence to scan photos of teeth and check for dental problems. Users can upload a photo of their teeth to the Pearlii app for a fast and free dental check-up. He just closed a million-dollar investment round and has his sights set on \$10 million. Kyle, an epidemiologist with a PHD from Oxford University, would never have imagined a career like this when he was a teenager. He failed his first semester at Uni, kept going and ended up at the top of his class. He also failed his first startup, and then went on to create Pearlii. Kyle isn't afraid of failure and considers this one of the oddball traits of entrepreneurs, along with determination and grit. Kyle offers a 101 in entrepreneurship and breaks down the steps of; defining a problem, testing your idea, finding product market fit, building a demo, and entering pitch competitions. The best part, he says, is "this could all be done for free. A 15-year-old could do it."



Hi Kyle! Please introduce yourself, where are you from?

My name's Kyle, born in Dubbo on my mum's Wiradjuri Country – my special place. If you ever get out there, it's quiet and still. In primary school we moved up to South East Queensland, which is where I stayed until university, and then moved down to Canberra. There were a lot of Wiradjuri people in Canberra which was nice. I studied epidemics – I'm sure you are all aware of what they are now. Until recently, nobody knew what an epidemiologist is. We work on epidemics like the Coronavirus, develop vaccines, run trials, make drugs. We also try to contain outbreaks.

How did you become an epidemiologist? What's the education pathway?

I did anthropology as an undergrad, archaeology, biostatistics and I had a mentor Dr Jill Guthrie. She's a Wiradjuri woman and a Fellow at ANU in Canberra. I didn't know what I wanted to do towards the end of my Undergrad when she told me about epidemiology. She gave me a few books and I went back packing that summer around South America and I read them, and I loved it. They're a good read.

You read epidemiology books whilst backpacking around South America? That's a lot of weight for a backpack, you must have really liked them.

They were heavy. I took them all around a 13-day hike. It was a wonderful time to read and I fell in love with it.

What did you fall in love with?

I love health. Health is really fun. No matter what you do, you should be helping people.

And then?

I did a Masters of Applied Epidemiology at ANU in Canberra. That was really cool, I worked in prisoner health. So, I spent 21 months working in a maximum-security prison.

“We are trying to do something that hasn't been done before.”



When was the last time you looked inside your mouth?



I worked on a bunch of diseases, worked on Swine Flu when that pandemic hit. Fast forward, I went back to Brisbane in 2011 and I was an epidemiologist there. I worked on the Deadly Ears program at the hospital. We would fly in, fly out every second week to remote Indigenous communities, checking kids' ears. Chronic ear disease is a huge problem, a silent epidemic. It stuffs kids' development; if you can't hear, and then go to class and have teachers yelling at you, parents yelling at you, but you don't know why. It's a really bad disease that affects 90% of kids in the outback. It doesn't get enough attention. I worked on Deadly Ears for two years, it was great, I got to see all of remote Queensland and spent heaps of time in the outback. Then I went off to Oxford because I always wanted to do a PhD. I went to live overseas with my girlfriend at the time, we both wanted to travel. I spent five years at Oxford, and did a PhD around childhood obesity prevention, trying to make schools healthier. Health, epidemiology is a really fun thing. No matter what you do, it's fun.

Anything is fun when you love it, right.

Doesn't this sound fun?

Not for me. But I love how much fun you find it. You speak so casually about being an epidemiologist with a PhD from Oxford. When you were 15, did you see yourself being an Oxford scholar?

Absolutely not. But when you get to uni you get more freedom to study what you want. I failed subjects in the first semester – actually all the subjects in the first semester. I didn't know how to write, how to reference. But, then a mentor took the time to show me how to reference and the basics. Then the next semester, I just passed and by the end I was doing pretty well, I ended up with the highest grade in my year. University is pretty easy compared to doing a trade. I got two brothers who are in trades. I see how hard they work in putting in the hours. I did a little bit of stuff with them and I was like, "I'm going to university."

Your career does sound intimidating. It's cool to know that like so many of us you had rocky teenage years and just kept pushing through. You were saying you failed your first semester at uni, but you just kept going?

That's it. I've never been afraid to fail. Going to university, I knew I was going to really struggle early on. It was hard, it sucked but it didn't bother me that much to take that risk. A lot of people don't have that trait, but it's a good trait. To be an entrepreneur you need to be comfortable with taking risks. You get better at it. You get better at taking calculated risks. You get to enjoy it. It's fun.

It's a personality trait that gets better as you practice it?

It's a behaviour and you get better at the behaviour.

Entrepreneurs can find it difficult to work for other people, especially if the workplace is very hierarchical or slow moving. Is this something that you experience?

I feel sorry for the employers I've had. In my last job I really liked my boss but I'm not a great employee. I like leading a team. I work really hard when it's my team, when I have a sense of ownership, like I can mould the project. Then I feel like I do good work. But when I'm being told to do something, then I am terrible.

There is an industry around entrepreneurship, with its own language, fast paced ways of working, a community of founders and a community of investors. Did you know about this world? Or did you stumble across it?

Yeah, the last five years I've stumbled across it. I generally go with my gut. If I think something is a good idea, I'll give it a go – even though it's a bit risky. The world of entrepreneurship, when I learnt about it, I thought "That sounds really good." It was what I was looking for. Just to rewind to the Deadly Ears program, that was a government program. I wanted to make an impact. I've always wanted to make an impact and that was a program that does really well. But I hated working for the government, I found it really constraining and it wasn't for me. It was too slow and there were too many rules. So that was why I did a PhD, I thought academia might be a better fit. There are less rules but it's still very slow. Painfully slow and quite risk averse. Then towards the end of my PhD, I was very frustrated. Then entrepreneurship kind of came on the scene. There's an accelerator

program at Oxford that I went into with an idea. In hindsight, they should have never let me in. I stuck around at Oxford for a year, gave it a go, failed, lost all the investors' money (we raised about \$100 thousand). But it was great, I learned a lot.

I think it was you that got you in.

Yeah, I guess all the hustle. When I say I want to do something, I come across as pretty stern. But man, I knew nothing. I was always going to lose that money. But I don't think they cared. That wasn't what that program was about.

Can you explain how it's OK to lose \$100 thousand? And how financing entrepreneurship is different to say, starting a café. If you start a café you might get to a bank and get a business loan and if you lose the money, you still have to pay it back. But in entrepreneurship you don't have to pay back the investors. Can you tell us more about entrepreneurship process?

Let's do a quick run-down of the entrepreneurship process.

Don't worry about trying to find the world's greatest idea. Start by finding a problem. The bigger the problem, the better.

Try to stick in areas that you know about. Let's say you're into a certain sport, what are the problems you see in that sport? Once you have identified a problem you need to know if other people are having that same problem. Once you have defined your problem, and you know other people are experiencing it, then you start brainstorming ideas.

Test your ideas. You might do a focus group or get a diverse group of mates together. But your mates might sit there nodding, so strangers are even better. Talk to people on the bus, taxi drivers, people at the checkouts. Test your ideas on strangers and see if you get a good reaction. Look for really little things, like if their eyes light up. You get faster and better at it. The first time you do it will be slow. But the best thing is you can do it all for free. You don't need any money to find a big problem or to test an idea. That's a really important point. Anybody can do it.

“No matter what you do, you should be helping people.”





Then, you want to build a demo. Or it's called a minimum viable product (MVP), it's a really confusing term. Basically, it means the most basic version of your idea. You can build a very basic prototype. So far, the steps are: define the problem (hopefully it's an area that you know a bit about), come up with an idea to potentially solve that problem, come up with a crappy demo, and then...

Wait, so a demo, a prototype and MVP are all kind of the same thing?

Yes, all the same thing. It's a lean version of what you're imagining. Then you want to test it. Don't test it on your mates or family, test it on people you don't know. A really good website is Product Hunt. It's a platform that any digital project, website, app can be tested on. If you are a tech entrepreneur, you just throw it up, it's free. You create a page like on social media – usually a little video explaining your idea. It's a little bit of work, but you can do it all for free. And you can just throw it up there. We did that with Pearlly's MVP back in April. But before we did that, at the end of last year, we had a really bad demo that we trialled on a few people. It was really basic.

You want to look for people's reactions. It's called product market fit. Product market fit is actually a really funny thing. It's really hard to define. You get better over time at

spotting product market fit. So, when we launched on Product Hunt it was pretty basic, it's embarrassing now looking back, only three months ago. You should see the designs now, we've got a team and resources. It's looking pretty sweet.

We had loads of people emailing us complaining. I was very excited by that. We had heaps of people saying the platform was crashing and then still using it. These two things, I would argue, are really good signs. The fact that they are still putting up with all the crappy tech and design, means they are trying to get to something that you are going to offer, it means you are on the right track. And they are taking the time to email you. Imagine all the things they have to do in their day, and they are actually going out of their way to email us. Hundreds of people emailed us, to say "Hey this isn't working" or "What does this mean?" and they were sending photos. These are signs of what is called product market fit.

Again, this could all be done for free. A 15-year-old could do it. You just have to follow those steps. Then if you've got signs of product market fit, a demo/MVP, then you can go to an investor.

It's easy to feel protective of your business and to feel personally attacked when you receive criticism. Were you always so resilient to criticism?

It still hurt at the time, getting those emails and criticisms. There were long nights trying to respond and fix the bugs. Yeah, in hindsight it's exactly what we needed, that early feedback. It sucked at the time. We just put up with it. There was never a moment where I wanted to stop. Resilience is definitely something you need as an entrepreneur. Risk-taking means you're going to get knocked down, it's a bumpy road. There have been so many times where I wanted to give up. There were some horrible times where it looked like there was no way out of the dark times. Last year was a rollercoaster – a few people came in for a couple of months, they start really excited to work on a startup, they worked really hard. I felt great. Then it becomes a bit of a drag and you're not getting your wins; you don't get investment. And then you see who really has resilience and who really believes in what you're doing. Maybe that's another really important trait.

The resilience to go, "Yes that hurts but I'm going to keep going and try to solve it."

Resilience is probably the best word. But I always used the word "grind". You've got to be comfortable taking risks, and you've got to know how to grind. Really just stick at it. Even when it looks hopeless. This reminds me of a really important point I was thinking about in preparation for our conversation. The "why". To have that grind, you have to have an extremely strong "why". That's why I think social enterprises are at an advantage, because usually they have a really strong "why". Like if you're a finance startup, I don't know how they do it, you would need to get some wins early on otherwise stuff that. But if you've got a really strong "why" you want to help people, do something good, it makes it easier to get through those really tough times.

Tell us about when you started looking for investment.

Be prepared to hear “no’s”. Try your best but most, if not all, investors in the early stages are going to say no. What we did – what you’ve got to do – is hustle: go to all the networking events, pitch fests. I’ve bombed a couple of times at pitch fests – it was horrible. There’s a really good saying, I think it was Einstein: “If you can’t explain it simply, you don’t understand it well enough.” And to give a good pitch, you’ve got to be crystal clear. Early last year, I was bombing, but I was learning. Then the pitches started to get more refined, and you start getting those people’s reactions.

What are pitch fests?


It’s a competition, you get up and you have one, maybe three minutes to talk about your startup, and usually there’s some prizes. There’s an audience –it’s terrifying, especially when you go after someone whose pitch was really good. But you’ve got to be comfortable getting up there. I don’t like getting up on stage. But it’s a good learning experience. Because it’s terrifying, it means you do a lot of work to prepare. You need to have small goals and milestones along the journey and early on, pitch fests are really good goals to set yourself and they are free to enter. You might bomb on the first couple, but eventually you get your name out there, and you get to know the startup scene in your area.

There are generally investors in the crowd, and you go have a drink afterwards, and they want to know a bit more about your idea. They’re testing you. And you just keep doing that. Eventually you build up a little bit of a rep. Hopefully you’re developing your demo and you are getting those signs of product market fit. Then you go back to the investors. At one point your investors are probably going to say no –all of our investors said no to us in June/July/August/ September last year, and we were pitching to tons of them. But, some of them were interested and they did eventually invest in Pearl.ii. They gave us really good feedback, like, “Go away and do this”, which we did and that is probably a key takeaway. Listen to their feedback. If you think that you are close, definitely listen and try to get crystal clear instructions of what they want to see, then go do it.

Can you tell us how much you have raised now?

The round in December last year we raised \$200 thousand. It’s called pre-seed capital. There are stages of investment. So, you often start at pre-seed, which is basically when

“There was never a moment where I wanted to stop. Resilience is definitely something you need as an entrepreneur.”



you're testing out the idea. When you raise pre-seed, it means you have the capital to test your idea.

We needed to buy tens of thousands of dental equipment, to improve our machine learning performance. We needed to buy some other stuff. We need a bit of capital. We developed the idea enough that someone would take a punt on us. That was our pre-seed round. There were targets we needed to hit for our capital, and we hit those.

Capital is money isn't it?

Yep. It's kind of gone to plan this year. Last year was a shit show, but this year has actually gone to plan. We launched and then we wanted to raise our seed round. We wanted to be bigger, more ambitious. We sold 20% of the company. There's a bit of a rule of thumb in startups. For each round, you want to sell about 15-20% of the company and that should give you enough capital for 18 months of runway. Without any revenue, it should cover your cost for 18 months. That's the rule of thumb for each round. We've raised just over \$1 million, which is cool.

This is such an incredible story. I'm imagining 15-year-old Kyle, struggling at school in a regional town, and telling him, "In a few years you will be the head of a tech startup and raise a million dollars for your idea."

That is really cool. Now I'm done with that, I'm thinking about the next round. I want \$10 million. We're going to spend that really quickly. We've got seven of us in the team now, and they've all got wages, superannuation, laptops, it goes like that.

A lot of us feel embarrassed to fail. And there can be a lot of pressure to do well, especially if you're the first person from your family to go to university or to have certain opportunities, you can feel like you're letting people down if you fail. In the startup world, is it shameful to fail? Will investors not invest in your company because you've had a failed startup?

Failure is an accepted part of the startup world. There is, and there should be, a really good culture around failure. My investors loved that I had done startups before and failed. Roger, who led our seed round, he would not have invested in me if I hadn't done a startup before. Even though it sucks, to be comfortable with it makes you a bit of an oddball. My family thinks, "Why do you do that, why do you just go off and fail something?" You have to be really weird to do that. If you find yourself that one in the family who's a bit weird, and you're comfortable taking risks, I think you've got the makings of an entrepreneur.

In your company is there a culture of acceptance around failure?

We've got this funny thing I started. We use Slack, it's free to start with. It's a communication tool that teams often use. I highly recommend it to any young entrepreneurs if they've got co-founders or teammates. You make different channels in there, so one would be the marketing channel to put marketing content in. We've got one called Friday Failures, so I've created a culture in the team where we don't hide our failures, we celebrate them. We have team lunches on Wednesdays, and I shout lunch

to whoever has the best failure on the Friday before. They compete with each other now, and I've won it a couple of times. With our pre-seed round, I gave the wrong bank details to the investors – I was definitely the winner that week.

Why is this important to you? What does it encourage in staff?

You want them taking risks. Because you're a startup, you want to try and create something new. There's no precedent. You want to get them comfortable pushing it. Get comfortable failing. You know, we are trying to do something that hasn't been done before. It's really important to have a culture that supports that.

What is the difference between a startup and a business that is starting up?

Rapid growth. Startups are designed for rapid growth. They lose money early on, while you are building it. Then, it should just take off, like a hockey stick. That's why most of them are tech startups because you can get your tech out there so fast around the globe. Compared to a standard business, they usually grow a lot slower.

I've learnt so much stuff about entrepreneurship just from messing it up for five years.

All of this learning, about entrepreneurship and investing, you've learnt in the last five years through trial and error?

Yeah. I found some really good mentors. If you find a mentor, latch onto them. Don't be afraid to go up to them and ask them, "I think I can learn some things from you- do you mind if we get a coffee once a month?" They will never say no, they'll find it so flattering. Now I've got like 20. I've gone for a walk in the morning with a billionaire, which is just stupid. That's because I latched onto him last year. It sounds ridiculous.

This world of entrepreneurship is ridiculous. That's what is so fun about it.

If you want to make money and have a real big impact – working for someone else, you're not going to get either of those things. You've got to take a leap.

What's your "why" with Pearlii?

I don't want any kid growing up with bad teeth.

Another thing you want to look for is a heavily fragmented sector. 90% of dentists are private, they've been really slow to change. There's not a big chain, they are all independent. It's a really good industry to go after because you can consolidate. There's no big player in dentistry.

Any advice to young ones?

To be an entrepreneur, you've got to be a bit of a weirdo. There will be family members that don't understand. You do sort of stand out a bit, and that doesn't always go down well. They see you as big-headed or something. You're just trying to change yourself and make your life better. That doesn't always go down well. But those that really do love you, they'll stick by you and support you. It takes years to change your life but if you've got those core characteristics that we talked about, maybe entrepreneurship is the right option.

