

3M Transcript for the following interview: Ep 96 Jane Whitelaw – RESP-FIT

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(R) Welcome to the 3M Science of Safety podcast presented by 3M Australia and New Zealand Personal Safety Division. This is the podcast that is curious about the science and systems of all things work, health and safety, that keep workers safe and protect their health. I'm Mark Reggers, an occupational hygienist, who likes to ask the questions "Why", "How", and "Please Explain." Whether you are a safety professional, occupational hygienist, someone with any level of WHS responsibility in the workplace, maybe you are a user of safety equipment, or maybe you are a bit of a safety nerd who finds this stuff really interesting, then this is the podcast for you.

Today, we're talking all about RESP-FIT with Jane Whitelaw. Welcome, Jane.

(W) Thanks, Mark. It's great to be here.

(R) Now, before we get into what RESP-FIT is and what that's all about, can you please introduce yourself; Who are you? Where you from and what do you do?

(W) Well, thank you for inviting me to speak today. I'm actually very excited, as you can tell, because RESP-FIT is really close to my heart. It's a huge collective of work by a whole heap of AIOH members. And I'm really, really privileged to speak on this topic.

(R) So, what do you do for a living? What takes up most of your time, Jane?

(W) Well, I'm currently the Academic Program Director for Occupational Hygiene and Occ. Health and Safety at the University of Wollongong. And I've been here for about 10 years now, and I'm just completing my PhD on the physiological effects of respirator use.

(R) So an interesting topic. I would like to talk to you down the track when you have completed your PhD there. Because we do talk a lot about respirators, as most of our listeners would know about this podcast.

(W) My background is in heavy manufacturing industry, and I spent 25 years across Australia in site and corporate occupational hygiene and OHS roles, broad industries, aluminium, paper and steel before moving into education and research here at the University of Wollongong. I've been involved in developing and implementing respiratory protection programs on sites, as small as six workers to very large national sites where there's thousands of workers. I was fortunate early in my career to be involved in some respirator design for the aluminium industry in conjunction with 3M, and that really piqued my interest in respiratory protection. And it's been a bit of a lifelong passion.

(R) So, we have covered a few episodes in the past on respirators and respirator fit testing. But for a bit of a revision. What is a respirator fit test? And why is it so critical when it comes to respiratory protection in the workplace for the wearer?

(W) Well, we need to make sure that if we provide respiratory protection or any type of protection that it actually fits the worker. For example, we wouldn't put on a seat belt or a parachute and not check that fit. So, when we put on a close-fitting respirator, we need to make sure that it seals right around the face and gives the maximum protection. Otherwise, there's a concern that people might think they're protected and actually end up more exposed than if they weren't wearing the respirator at all.

(R) I know when I do training, I always talk about the three critical elements of respiratory protection. It needs to be worn, pretty obvious, it needs to be the right filter or cartridge to take out the contaminant - we're talking air purifying respirators, and it needs to fit because we could have those other two things in place and if the fit isn't there, the worker unfortunately or the wearer, is still going to be exposed to that contaminant. So, it's so critical that fit and a respirator fit test.

(W) What is this fit testing? I've never heard of this before. You've just been given a respirator and had to put it on as best you could in a workplace. Before using a respirator, we need to know what the manufacturer's instructions are. How do we fit it correctly, and how do we then make sure it fits? Well we actually have three different methods, where we can fit test the respirator and usually in a workplace

one of these would be in place is part of an overall program. So, the three specific methods are the first one's called a qualitative fit test. And that's usually an aerosol taste test with something like Bitrex or Saccharine that's sprayed around the respirator and the wearer determines "Can I taste this? Is it coming around the respirator?" Because we know the respirator will filter out these aerosols and the challenge agents.

The second type, which is has been in the press a lot lately, is a quantitative fit test, and that's using an aerosol counting nuclei counting method, and you might have heard of an instrument called a "PortaCount". I'm sure Mark is very familiar with this, but our listeners may have seen that in the press or even seen one in their workplace. And that's an instrument that measures the concentration of particles outside the respirator to the concentration of particles inside the respirator. And that will determine whether or not the respirator is leaking around the outside. That will give us a fit factor for the respirator.

The third type of fit testing still a quantitative fit testing, and it's a controlled negative pressure method. Now this is relatively new in Australia, and it's used with the reusable respirators, not with our single use disposable respirators, and it involves measuring the pressure inside the respirator to make sure there are no leaks. So, it's a little higher level of skill required for that and not as common but is now used extensively, particularly in the US.

(R) And I did cover, way back in Episode 23, we spoke about respirator fit testing with Terry Gorman. So, if you do want to find a bit more about those processes, do jump back to Episode 23. We also did, in Episode 89 and 90 about the process of conducting a fit test. So, what we're talking about today really follows on from those other episodes I have done way back over the past two years, since I've been doing this podcast. So, the question for many workplaces Jane; Is respirator fit testing legally required? You've said a good case there of why it's important, but do workplaces have to do this?

(W) Well, that's a great question, Mark, and it's one that has been asked broadly across industry. In Australia, our legislation is performance-based rather than prescriptive. And by that, I mean an employee is required under the Act to provide a safe working environment that's free from harm and hazards, as far as reasonably practicable. So, what does that mean? It means that the employee needs to do a risk assessment whenever there's a hazard or likelihood of a hazard. Then they need to have available suitable control measures so that workers aren't exposed to that, hazard at too high a level or at an unsafe level. So, how does that fit in for PPE like respirators? Well, we know that PPE is the

lowest on the order of hierarchy of control, and if it's used, it's got to be part of an overall program. So, when we say, "Is fit testing legally required?" Absolutely, because if we provide PPE, there's a duty on the employer to make sure that is part of a comprehensive program. And our Australia and New Zealand standard, 1715 specifically states that part of that program is respirator fit testing. Now we have seen occasions where state regulators have issued improvement notices or even fines to businesses who provide respirators and don't include fit testing.

(R) So, for employees and PCBU's (a Person Conducting a Business or Undertaking), which is a common term in a lot of our states and territories here in Australia. So, if they're issuing the PPE, they need to be able to show that it's going to fit the person they're giving it to. Is that essentially what you're saying? So, they need a way to demonstrate that, to show that they're meeting their legal obligations?

(W) Absolutely. That's it, Mark, in a nutshell.

(R) Is it all respirators require fit testing? You use that term close-fitting before. Can you just explain what close-fitting or tight-fitting, which is also a common term used out there?

(W) So, a tight-fitting respirator or a close-fitting respirator is one that relies on a seal around the face. The respirator actually seals against the face to give you the protection. We're not talking about other sorts of respiratory protection where you might have a hood, where the air is supplied into the hood, and it doesn't rely on a close seal around the face. So, any respirator that relies on a seal around the face, I mean being close-fitting to get the level of protection required, needs to be tested for the individual user of that piece of equipment.

(R) I know in my travels, sometimes people are only aware of the negative pressure tight-fitting respirator requiring fit testing. But if you're wearing a Self-Contained Breathing Apparatus (SCBA) or a Powered Air Purifying Respirator (or PAPR as it's sometimes commonly referred to) and you have a tight-fitting respirator on those particular units, they also need to be fit-tested because the protection assigned to that combination is relying on that tight-fitting seal as well. So, it really is; What is that face piece? - whether it's negative pressure or positive pressure, they all need to be fit tested just to be really clear there and there's no confusion for workplaces what may or may not need to be fit tested.

Now you mentioned RESP-FIT. I've mentioned RESP-FIT, but what is RESP-FIT and what are the objectives of that program?

(W) Well, RESP-FIT - I'm so passionate about RESP-FIT - it's a fantastic program that AIOH, the Australian Institute of Occupational Hygienists, has developed because we're all about improving worker health and protecting worker health. So, looking around, there was actually no standards in Australia for anybody providing a fit test. Anybody could go out and perform a fit test, and we really didn't have any objective measure of what was a good fit test and what were the competencies of somebody who was doing that fit testing?

(R) Because I would imagine, you know, the competence of that person who is conducting the fit test, and I've been involved in RESP-FIT as well, and we've been working hard the last couple of years to get this out, off the ground, is that, it's a make or break moment that fit test and the result whether a respirator can or can't fit is so critical to what's going to happen on the job and the confidence of that person wearing it. So we're just trying to reinforce the competence of the person conducting a fit test is so important.

(W) Absolutely, Mark and I know this has been dear to your heart, and you have really pushed a lot of us and assisted and supported our volunteer group to get this off the ground and honestly without your drive and dedication, we wouldn't have this fantastic program that we've been able to launch.

(R) Very, kind words there.

(W) I just want to say that there hasn't been any clear guidance in Australia on what defines a good respiratory fit test. And unfortunately, we've seen plenty of examples of poor fit testing practice and misinformation in many industries. So, we thought the implementation of a respirator fit testing and training program would fill that gap in Australia and provide employers and PCBU's, as you say, the means for improving the quality of fit testing in Australian workplaces. It will give them some security in assurance that the fit testing has been conducted professionally and properly.

(R) We started this RESP-FIT journey way back at the start of 2019 off the back of the silicosis and engineered bench top tragedies that were happening in Australia and other parts around the world and

then also we had the pandemic in 2020 which raised the profile of respirator fit testing. So, there really is sort of real world examples of where the respirator doesn't fit or a worker doesn't know how to fit a respirator has real world consequences, be it short term or long term so, RESP-FIT is really about trying to improve that worker health through competent fit testers and a competent framework and program around that. So, who are the people involved in the AIOH developing this program? What's their background?

(W) Well, RESP-FIT has its own board that's made up of AIOH members and allied professionals. So, we come from a broad range of backgrounds. We are occupational hygienists, occupational physicians, OH&S equipment suppliers, a whole range of people who have knowledge and interest and a passion for respiratory protection. And we came together with the aim to improve worker health protection for those wearing this tight-fitting respiratory protection. We've developed a standardized training syllabus so that people out there have somewhere to go to, learn how to do fit testing properly and professionally and then following on from that, an individual can then go through an accreditation process to become an accredited fit tester. So, that's really like a badge or a card to practice. So, if you see someone out there who is an accredited fit tester, you know that they've gone through a competency assessment and they have a professional level of knowledge and can perform that out there in practice.

(R) Are there other programs like RESP-FIT out there internationally with other countries? Is RESP-FIT the standalone one out there?

(W) Absolutely not Mark. This has been in place in countries such as the UK for a number of years who have a "Fit2Fit" program and our UK British Occupational Hygiene Society have been very generous with their program and materials and provided them to us to review as a basis for our program.

(R) As well as the British Safety Industry Fund - the BSIF. We can't forget those guys as well, because they've been really supportive in our development process over the last couple of years. So, thank you to our UK counterparts over there.

(W) Absolutely. Fantastic organization.

(R) There is others in New Zealand called “Commit2Fit”, which has recently launched last year in 2020 as well. So, certainly there are other countries with a similar mindset, a similar approach to improve worker health through this particular way as well. So great to know we're not alone and other countries will hopefully pick up a similar-type program pathway as they see the success that the other countries, like Australia or the UK and New Zealand have had with this type of program. So, RESP-FIT has got some high, lofty goals which is improving worker health. But how will it do that for workplaces who are issuing tight-fitting respirators, or maybe you're a safety person and you are issuing tight-fitting respirators and not sure where to go on what to do when it comes to fit testing. How could RESP-FIT help?

(W) Great question, Mark. The first thing that RESP-FIT will provide for you is a training syllabus. So, what that means is we have developed a training syllabus, and there are companies out there who will provide training courses based on that syllabus so that you can go to a training course on respirator fit testing. It might be there might be some online that might be all face to face, but there will be a minimum practical component to that, so you can go learn how to do fit testing and then take that back into your workplace, gain experience and fit test within your workplace.

(R) If we, let's say I'm not comfortable or confident and don't have the resources to do that and to undertake it - maybe I've got hundreds of workers and I just don't have the time within that role. Can they engage someone to come and do fit testing on their behalf?

(W) Absolutely. And that's a really common practice for large organizations, right down to small organizations. So, to do that the RESP-FIT website does have a list of accredited fit testers, so you could approach any of those and they can come in and set up a program for you, give you some advice, help you with the particular application for your workplace and roll out a fit testing program for your workers. You don't have to know it all. The reason that RESP-FIT has been set up with an enormous amount of resources is that it's a one-stop shop. It's the great platform to go and have any of your questions answered.

(R) So really, it boils down to whether you're choosing to do it in house or you're engaging someone, that person needs to be competent and professional with what they're doing and how they're doing it to

have reliability in the result of that fit test. Whether it's an adequate fit has been achieved or no, that respirator doesn't fit you. Is that sort of where it's coming down to? It has to be that competent person?

(W) Yes, if we do fit testing and the person is not competent, it's a very dangerous situation. So how do we prove the competence? Well, we've got a training syllabus and we've got an accreditation so that when you perform fit testing in the workplace, you engage someone to do fit testing, there's a roadmap to follow

(R) And we should add that with those training courses, the training providers will nominate what methodologies. So, you did mention about the aerosol taste test, the condensation nuclei counting machine (the CNC) or the Controlled Negative Pressure (CNP). So, different training providers will provide the different methodologies, depending on what pathway you want to go down. Now there's pros and cons with each methodology, so it is good to speak to a fit tester or attend that training course to get an understanding on what those methods are and what may or may not be suitable in your workplace. So, it's some good stuff there, Jane.

(W) Yes, that's a great point around the different fit testing methods they all acceptable under our Australian and international standards. And RESP-FIT doesn't differentiate between any of those three fit testing methods. It's like respirators. You've got to select the size of the fit that works best for you and gives you the best protection.

(R) So, maybe I'm a training organization that's just heard about RESP-FIT and I would like to become a training provider and go through that process. Could you quickly give an overview of what that would look like for them?

(W) Certainly. Well, the first thing is that you need to be competent in conducting fit testing. So, because RESP-FIT has developed a training course, a syllabus based on the Australian and New Zealand standard 1715, and also based on ISO 16975-3, as an organization, that's a great port of call. So, you go into the RESP-FIT website, review that syllabus, and then you develop your own course material so that you're going to deliver your course mapped out according to this syllabus. So, if you're a training organization interested in providing fit testing, jump onto RESP-FIT. We've developed a syllabus, which is an outline of all of the elements that you need to have in your training course. You

can then map your training course against that, apply at RESP-FIT to be an approved training course. And that will come up under the list of approved training providers so that when individuals out there or companies are looking for a training course to go to, they know that there's been a level of rigor that your course has gone through and you wear the RESP-FIT-approved training course badge.

(R) And the trainers delivering those courses also need to be an accredited fit tester, which we'll go through that process. So, it's really trying to provide confidence to workplaces in this space that they've met the criteria against the standards in the framework we have developed. So, the AIOH is not delivering a course or RESP-FIT isn't delivering one course. There's going to be many training providers out there covering the country. Australia is a very big country and there's a lot of people wearing respirators out there, and a lot of people should be undertaking fit testing as the profile rises. So please do go to the website, search by your geographical location where you're looking. There should be a number of training providers pop up there as your first port of call. Whether you're looking to train someone in house or do it yourself. And I should just add there Jane that those training companies don't need to be a Registered Training Organization (RTO). That is a common question that does come up, but you certainly do need to meet specific standards of criteria to be able to deliver a RESP-FIT approved course. I just want to add that in there.

(W) That's right. The nominated trainer needs to hold training qualifications and also be an accredited fit tester under RESP-FIT

(R) As well as having some broader experience in Workplace Health and Safety. So, they're certainly not going to jump straight to PPE as the first control order. They are going to start with the proper hierarchy of control and provide some broad advice there as that comes up - as questions usually do in training sessions - so important that trainer has that broad knowledge around fit testing, workplace health and safety and as well as training and delivery, which is just as important.

(W) Yes, that's a very important point. Mark. This is really serious business. We wear respirators and recommend them to workers to protect people's lives to protect them from chronic diseases like silicosis asbestosis. And it's really, really important that they fit properly. So, we want to make sure that the people out there doing the fit, testing and doing the training also have, a professional level of competence and are able to do that correctly.

(R) So that's the training side of things very briefly. Now the accreditation process -and if someone wants to become an accredited fit tester - can you explain that process very briefly?

(W) Well, firstly, I recommend that if a person wants to be an accredited fit tester, that they actually attend an approved training course and have practical experience, so months of practical experience in the workplace, doing fit testing, then jump onto the RESP-FIT website and apply to undertake the accreditation process. Now this is a fairly rigorous process, but it's relatively straightforward. So the first thing to do is apply, and then you'd sit a one-hour theory examination. So that's an online exam and it requires an 80% pass rate. But don't be scared by that. It is based on ISO and Australian standards, so it's not something that you know we've come up with out of the blue. It's basic good practice, and the information is all there in the standards and in your training courses. Once you pass the theory examination, it's time to get into the fun stuff and move on to the practical demonstration. So, each person applying will supply a video of them performing practical fit testing to their chosen methodology. Now I might choose to only do qualitative fit testing and be assessed for that and become an accredited fit tester for qualitative fit testing. Or I might choose all three methodologies. So, if I'm going to do three methodologies, then I need to perform three practicals and submit that for examination.

(R) And we should highlight that the whole accreditation process is done online. It was a decision based on early days, just with the size of Australia and obviously, off the back of the pandemic, it's sort of fallen quite well, obviously social distancing, so as long as people have internet connection wherever they are in Australia; Mount Isa, in the Pilbara, North Queensland, Olympic Dam, all the remote places in Australia, where mining and workers do require to wear respirators, they can absolutely go through this process. So, I just want to make sure that people wear it. It isn't in person, but it is all done online to make that accessibility really wide for people out there.

(W) Yeah that was a deliberate decision that we made early on, as you say, and that doesn't limit RESP-FIT just to Australia. It doesn't limit it, as you say to any single location.

(R) We spoke about respirator fit testing is legally required, but is it legally required to attend a RESP-FIT course or use a RESP-FIT accredited fit tester?

(W) No. Our legislation states that we need to provide a safe place of work and provide safe systems and be able to demonstrate that. So there is no specific requirement to have attended an approved training course. You maybe someone who's been doing respirator fit testing for many years and already feels comfortable and competent. So, then you might apply straight to be accredited. In the same way, there is no legal requirement for a workplace to use an accredited fit tester. I would say it's a demonstration of good practice, and it is insurance, it's like an extra level of security. So if you're a workplace who's just getting into this and doesn't know a lot about fit testing and doesn't have competent people in your organization, I would really encourage you to send people along to an approved training course and move through the accreditation process.

(R) I know I found in my travels over the years and part of the motivation of, we put together RESP-FIT, is that without that clear guidance or consistent message out there, a lot of workplaces don't know where to begin and where to start. And so RESP-FIT was that starting point is to be helpful to work places and to have that legal obligation to demonstrate. And this is trying to make it easier for workplaces to know where to go, how to demonstrate it through this whole entire process. So, although RESP-FIT is not legally required, we put it out there to help people to meet their legal obligations. So, I really do recommend people in the respirator fit testing space to be involved with RESP-FIT. So, we've got that consistent and right message out there to workplaces and workers everywhere. To wrap this all up, Jane, RESP-FIT launched in December 2020 and we've covered a fair bit of stuff about fit testing and RESP-FIT and the importance of fit testing, but how would you want to wrap up our conversation about RESP-FIT and its objectives?

(W) So, what RESP-FIT does, is it provides a framework for anybody practicing respirator fit testing or for an employer, worker, any organization out there who wants to know how to implement a fit testing program. So, it's a one stop shop and the respfit.org.au should be your first port of call. So, my takeaway point really is that selecting a respirator isn't a simple process, and PPE should be the last resort. So, if people need respiratory protection, it needs to be fit for purpose. It needs to be the right class and type, as you mentioned earlier, and I know that you and Terry Gorman has spoken previously about selecting respiratory protection. It needs to be approved under our Australian standards. We need to select respiratory protection that meets our standards. So during 2020, as you'd be really aware Mark with the bushfires and COVID, we had an influx of counterfeit and substandard respirators come into our market. So, a P2 purchasing guide was written to help navigate this difficult area, and

you can also find that on the RESP-FIT website. Thirdly, make sure the respirator fits by having an annual fit test and by, I recommend, by an accredited fit tester, then fit-check it every time you use it. Every time you put the respirator on, it needs to be fitted correctly and checked that it does fit you. When you go through a fit test, the fit testers should train you in how to do a fit check. A fit check doesn't negate the need for fit testing it's just your daily check, like when you get in the car and you put your seatbelt on. You check that it fits tightly, but you need the annual check of your respirator to make sure it's fitting your face, that it's secured and it's giving you the maximum protection that is designed for.

(R) I've used the analogy in the past. Jane, about a fit test is like sizing up your shoe so it fits you and we check that. But then the actual fit check is like doing up the laces. We need both things to be in place for it to be suitable, sized and perform its function each and every time, and fit testing is such an important part to check that a fit can be achieved, and it can be adequate. But it still does rely on the wearer, the worker to correctly fit the respirator each and every time. Someone may pass the fit test today, but if they choose not to put it on correctly, well obviously protection is not going to be there. So fit testing ties all that information the coaching, the whys to put the respirator on correctly and to be able to demonstrate that through the fit test that it all wraps up so that at the end of the day to be confident that the wearer, the worker is going to be protected each and every time that they need to be.

(W) Absolutely. So our tagline for RESP-FIT is "Fit test to fit right."

(R) "Fit test to fit, right" Absolutely love it. So, for workplaces, when you're talking to your workers just say "Fit test to fit right", go through the fit testing process to know that you can fit it right and they're going to fit right every single time. So, for those that want a bit more information about RESP-FIT Jane, we've mentioned the rest fit website www.respfit.org.au. Are there any other locations that people can head to to find out more about respirator, fit testing and respiratory protection in general?

(W) There certainly are. RESP-FIT really is a one stop shop, though. It has a whole heap of other resources. Links to sites such as the Australian Institute of Occupational Hygienists, Safe Work Australia, Standards Australia, the international standards.

(R) And we'll make those links all available on our blog post, as we usually do, so make it nice and easy for everyone to find that information. And lastly, for those listeners who want to get in contact with

yourself, because you do know a fair bit about respiratory protection or maybe want to go and study at the University of Wollongong, what would be the best way to get in contact with yourself?

(W) I'd love to hear from your listeners, Mark. Anytime. I'm at the University of Wollongong. Just Jane_Whitelaw@uow.edu.au But just Google University of Wollongong Jane Whitelaw and you'll see my smiling face there.

(R) Smiling all the time. Jane, we love that. We certainly do.

(W) And the best way to get any questions answered quickly and consistently really is to go to that RESP-FIT at www.aioh.org.au . And if I'm not available, then Mark or someone else would jump in and get you an answer as soon as we can.

(R) Well, thank you so much for your time today, Jane. Obviously, I'm involved with the RESP-FIT and really excited to talk about this since we launched at the end of last year. But thank you so much for your time today.

(W) You're really welcome, Mark. It's been a pleasure.

(R) Well, thanks for listening, Everyone. You can get in contact with the show by sending an email to scienceofsafetyanz@mmm.com if you have any questions, topic suggestions or you would like some assistance in your workplace when it comes to the appropriate use of respirators and respirator fit testing, 3M are certainly here to help. You can also visit our website a www.3m.com.au/sospodcast for further resources on RESP-FIT, respirators and respirator fit testing. And there will be a transcript of the chat that Jane and I have just had today, as well as all the other previous episodes we have recorded and released. Be sure to subscribe rate review and share through Apple Podcast, Spotify, Google Podcast or wherever you get this podcast from. And as John Mason said, "You were born an original. Don't die a copy." Thanks for listening and have a safe day.