



Holly Baril:

Slips, trips, and falls may seem like everyday hazards, but in the aggregates industry, they can have serious consequences. From uneven terrain and changing weather conditions to dust, mud, loose material, and elevated work areas, aggregate operations present unique challenges that require constant awareness and proactive safety practices. In this episode, we're taking a closer look at one of the most common causes of workplace injuries, and importantly, one of the most preventable. We'll discuss the key risk factors, practical prevention strategies, and the role that housekeeping, proper footwear, equipment access, and strong safety leadership play in keeping workers safe.

Announcer:

It's time for the *IHSA Safety Podcast*.

Holly Baril:

Welcome to Footing Matters: Slips, Trips, and Falls in Aggregates. Our guest will share real world experiences, lessons learned, and simple actions that can make a significant difference in reducing slips, trips, and falls across quarry and plant operations. Whether you're an operator, maintenance technician, supervisor, or safety professional, this conversation is packed with insights to help create safer workplaces one step at a time. My guest today is Ryan Smith, health and safety consultant with IHSA. Ryan has a background in civil engineering technology, and prior to joining IHSA, Ryan worked in the construction, surface mining, and industrial sectors, eventually becoming a health and safety professional for those sectors, totalling over 10 years. Welcome, Ryan, and thank you for offering to do this podcast with me.

Ryan Smith:

Thanks for having me, Holly.

Holly Baril:

Considering aggregates is not my thing, even though it is one of IHSA sectors that we do service, I'm just curious, how many of our staff at IHSA understand the aggregate sector?

Ryan Smith:

Well, formally, we have two consultants with others that help. Two with a background in surface mining.

Holly Baril:

Okay, and that other one's not me, so we're good. So I'm going to rely on you to obviously answer the questions and give our listeners some good insight into this hazard, housekeeping. We know that housekeeping is something that every sector can improve upon, but let's keep it strictly to aggregates and see what we can do to help our listeners improve.

Ryan Smith:

You got it.

Holly Baril:

Okay, so just to start off, so why are slips, trips, and falls still among the most common workplace injuries in this sector?

Ryan Smith:

That's a fantastic question. So actually in 2022, the IHSA Surface Mining and Aggregate Sector Working Group made a decision to host a root cause workshop specifically on slips, trips, and falls, following a risk assessment that was done by Dr. Sujoy Dey, who is the corporate risk officer at the Ministry of Labour, Immigration, Training, Skills, Development. This workshop was led by members of the industry representing both workers and management over the course of two days. The workshop indicated that there was 13 top causes increasing the likelihood of slips, trips, and falls and surface mining. The 13 identified causes were housekeeping issues, equipment-related hazards, surface conditions of work areas, a lack of risk assessment, especially for changes to work and new tasks, a lack of policies and procedures outlining safety expectations, weather conditions and changing environmental factors, a willingness to take unnecessary risks, complacency and not addressing hazards, outdated training programs, high production mindset, poor communication, defective ladders, and a reactive approach to addressing health and safety workplace issues.

Holly Baril:

Okay. It's funny you list those, Ryan, because when I hear that list, it sounds like a lot of other workplaces as well.

Ryan Smith:

Yeah, you're absolutely right. A lot of these issues are going to be common to different workplaces. Most workers walking past housekeeping issues because they didn't make that mess or whatever the case may be. And it's a common mindset, unfortunately. The kinds of needs.

Holly Baril:

Or they're accidentally blind to it. Do you know what I mean? We see it, but we don't see it kind of deal.

Ryan Smith:

Yeah.

Holly Baril:

What makes aggregates operations particularly susceptible to these types of incidents?

Ryan Smith:

Excellent question. So in my opinion, mining is particularly susceptible because of production demands. They drive the mindset of workers to work faster and addressing what may seem to be small hazards, like we were just talking about, a housekeeping issue observed, is not given the priority it should because there's so many other things to be accomplished. We have to produce so much in a given time. Small things like housekeeping, not given the hazard recognition and priority that it should be given.

Holly Baril:

Okay. Have you seen any trends lately, over the past few years with these types of...?

Ryan Smith:

Just in my experience, many of the slip, trip, fall related incidents come down to a brief moment in poor judgment. We decide not to tie off because it's a quick, easy job. It's only going to take a minute, whatever that might be. But also things like not maintaining three points of contact all the way to the ground. Workers are often good at maintaining it right to the very last step. And then as they step off of that machine, they kind of let go. What we often see is they'll step onto a rock or a loose object or something like that that increases the likelihood you'll slip and fall or receive an ankle injury, something to that effect. Additionally, as noted again, there's walking past hazards because they didn't make that mess or complacency can be a factor here as well. We don't recognize it as a hazard any longer because that's the way a workplace always is.

Holly Baril:

You see that when you go to. When I go to construction sites and I see workers descending out of a piece of equipment, they always jump.

Ryan Smith:

It's always off the last step. Yeah.

Holly Baril:

Yeah. And it's like, fine, but I have never been on a construction site where it's paved or it's comfy landing. There's always something there. Twist an ankle or whatever. Now adding to those, we know that weather conditions, when we have workers that are working outside, weather conditions are always a factor. So weather, how can rain, ice, how can all of those increase the risk as well in aggregates?

Ryan Smith:

Yeah, excellent question. So often in surface mining, much of surface mining takes place on bedrock. Now that's obviously not true in pits, but when it comes to quarries, we're working on bedrock, which causes water to accumulate a little faster and not drain as quickly when compared to areas that are covered in soils that could absorb that water, which makes surfaces more slippery, faster. And those hazards stay present longer really until that water evaporates because it's not going to seep into the rock as quickly as it would against soils. So we almost need these conditions to be addressed by site personnel to be corrected. Additionally, many working surfaces and mining in general are on metal. You're working on top of machines or whatever that may be, which becomes slick with even just a little bit of water or especially with ice and snow. So when we access the top of machines and equipment in mines can present additional hazards there with precipitation.

Holly Baril:

Can you explain what the regulation 854 dates when it comes to inspections?

Ryan Smith:

You got it. Yeah. So regulation 854 for mines and mining plants requires that supervisors inspect the mine at least weekly for hazards. And really that should include conditions that could contribute to slips, trips, and falls. So poor surface conditions, poor maintenance of haulage roads or pedestrian access ways. What we commonly find is tool storage areas are not well-maintained. Workers leave the tools on the floor and whatever they have access to, whether it's a shipping container, a shed or a site trailer, whatever they're working from, and they don't put the tools away in safe places, which increases probability of workers tripping or something like that over tools and equipment.

Holly Baril:

How often do you visit these sites?

Ryan Smith:

Mine sites, I mean as often as I can. IHSA obviously offers consultant services and we try to do as much as we can at no charge. So I'm always happy to go out and assist mine clients whenever possible. If they have questions on compliance and need a fresh set of eyes.

Holly Baril:

Because I'm just curious, when you read that regulation that supervisors, they understand that and they do do the inspections at least weekly? Or do you find that that might be something that's lacking?

Ryan Smith:

Yeah, that's an excellent question. There are fantastic mine operators that go above and beyond the expectations of legislation, which is always great to see. And then we see some operators that are willing to take more risk, maybe aren't fully aware of what the legislation says and are not completing these tasks. And you can say that again pretty much with any industry. You can go to construction projects and you're blown away by how fantastic they maintain their project. And then you can go to other sites and...

Holly Baril:

You're horrified.

Ryan Smith:

Same kind of thing in mining. It's hit or miss. I'd like to say it's more hit than miss, but some contractors certainly are not doing the weekly inspections. And I will say even the ones that are at times doing weekly inspections maybe aren't doing them as thoroughly as they should, for example.

Holly Baril:

Just kind of getting through it. So on an aggregate site, which area or areas of that site do you think deserve the most attention when it comes to preventing falls?

Ryan Smith:

Obviously high foot-traffic areas need to be maintained at all times. And in mines, what we commonly have is delineated pedestrian ways. Something not everyone is aware of in surface mining is that heavy equipment always has the right of way unless there's a defined pedestrian access way. So obviously those pedestrian access ways need to be maintained at all times, especially if there's going to be any foot traffic or anticipated foot traffic, whether or not there actually is, but need to be maintained certainly. Otherwise, again, those tool storage areas commonly become a disaster very quickly. You could start a day with a perfectly maintained tool grip and then within a couple hours a machine needed service or whatever that looks like, and now the floor is just strewn with tools and equipment. A solution is to make tool storage easier for workers. Give them shelving, give them hooks, give them other aids so that it's easy to put the tools away efficiently.

And then that way it maintains a clear access way to get the tools that they need and to put them away when they're done with them. Now of course, those are predominantly slips and falls to same level. When it comes to falls from heights, mine operators often do a pretty good job at barricading off quarry walls. So we don't see actually as many issues from the top of quarry walls on average. A lot of these fall hazards come from working on top of machines and equipment and things like that in mines that are frequently being serviced, because they're being worked in extremely harsh conditions. So when we get on top of these machines and equipment to do maintenance, to do repairs, that's when we forget to tie

off. Surfaces are metallic and therefore if they're wet or covered in dust, more slippery for that reason, we see more falls from heights from those areas.

Holly Baril:

All right. Well, speaking about equipment, you did talk about some of the risks when climbing on or off heavy equipment, not maintaining that 3-point contact, jumping, and all that wonderful stuff that we see. How do you think equipment design can improve worker safety?

Ryan Smith:

Some observations, and I'd say probably about every equipment manufacturer does this now, but typically aren't solid bars. They aren't flat platforms. They have holes in them so that it kind of evacuates the mud off your boots, which is obviously very beneficial. And we can try to maintain this as well. So instead of using wood to build staircases to get into a site trailer or crushing tower, whatever that might be, using extruded steel for the same reason so that mud and stuff falls off your boots, maintaining these surface areas, applying for traction aids as necessary. So if there's ice buildup, scraping that off with your equipment and then applying sand or salt as needed.

Holly Baril:

Funny how all of that makes sense, right? Yeah.

Ryan Smith:

Yeah.

Holly Baril:

It's like, oh, wait a minute, that makes total sense. So what inspection practices do you think will help identify hazards before someone gets hurt when we're talking about equipment, right?

Ryan Smith:

Yeah, I like that. Now, I always encourage site leadership, supervisors, whomever's on site, to bring different workers with them on their weekly inspections, which can educate them on the hazards that site leadership is looking for and opens up lines of communications. Makes workers more likely to bring concerns forward because supervisors are addressing to them, "Hey, these are things I'm looking for, and these are things I want you to mention to me if you see." It can also give supervisors perspective on hazards that workers see. Supervisors commonly have more field experience. They've been working in the mines for several years, can become complacent. So getting perspective from different workers can reduce that general complacency and get fresh eyes, fresh considerations on different work site hazards.

Holly Baril:

Yeah, for sure. That always helps, to bring in someone new. That's why we like to go to sites, because we're the new person, and we find everything that everybody walks by. And are they happy that we found stuff? I say, yeah, they are. Okay. So how important is housekeeping in reducing all of these

hazards? But I also want to know what simple housekeeping habits have the biggest impact in aggregates?

Ryan Smith:

So during that root cause workshop I was just talking about there, housekeeping was unanimously voted as the highest risk factor—so slips, trips, and falls—by both workers and management representatives, indicating that it's one of the most important factors from representatives from the industry. So that's their vote from that workshop. Some of the bigger tips for staying on top of housekeeping is to not walk past it. If you see a mess, if you see tools lying about, whatever that might be, if you think someone's still using that tool, well maybe just mention it to your supervisor and say, "Hey, there's tools lying about in a pathway. I don't know if anyone's still using them or not." And then they can get to the bottom of that and see what that might be, but not walking past things. And that's IHSA's campaign has been last year and this year is the see something, say something.

Don't walk past a hazard, address it. If you can fix it on the spot, do that. If not, to supervisors so they're aware of the hazard and can educate others and put appropriate precautions in place to reduce the risk.

Holly Baril:

Okay. So that's good that you mentioned that, because my next question basically was how can a supervisor encourage workers to address hazards? So like you said, if you see something, say something or fix it. That's great. So I don't know if you have any other tips, but also how can companies encourage workers to report hazards without hesitation? Because everyone's always afraid to say something. We know that. So how do we encourage that behaviour in the aggregate sector?

Ryan Smith:

Excellent. Yeah, and that is a common problem. Workers often are scared to speak up. So workers need to know that bringing concerns forward would not result in being viewed negatively in any way. Workers should never have the mindset that, oh, if I bring this up, they're going to think I'm just complaining. We need to reduce that stigma. So we need to ensure that workers realize bringing forward these concerns is as valuable as performing any other productive task. You are protecting yourself and people around you. Also, from leadership perspective, potentially reducing liabilities should someone be hurt. So leadership should make efforts to point out hazards to workers, encourage them to speak up. And we need to remember that even just one negative comment or reaction, just an eyeball role to a worker bringing a concern forward, whether or not you actually said anything, can sever not only that line of communication, but can shut down communication from other workers as well when they see that reaction, hear about it after the fact.

Additionally, worker recognition can play a huge role in stimulating these conversations. If a worker is recognized and appreciated for making efforts to keep the workplace safer, they will continue to. And other workers are likely to follow suit so that their efforts can be recognized as well. We found that praise can be a powerful motivator to get workers on board and continue to perform the tasks that you want them to do.

Holly Baril:

It sounds like culture.

Ryan Smith:

Yeah.

Holly Baril:

It sounds like a culture shift where we can say, okay, workers, bring up your concerns. As management or owners, we're going to praise you for that. It's not going to be negative. It sounds like a good idea. It's a great idea, but I mean, how do we convince people that that's the truth or the norm through the culture? What kind of a culture does that company have? What kind of culture are they building or trying to change? Because you can change a culture.

Ryan Smith:

Absolutely. Those changes often though have to come from the top down. This needs to be driven by higher levels of management and encouraged all the way down the chain to make those culture shifts.

Holly Baril:

Yeah, 100 per cent. So speaking of culture, I guess, but how does things like fatigue or rushing, everybody's in a rush, or all of those distractions we have in our world, how do they contribute to these incidents?

Ryan Smith:

And you know what? This is not uncommon. Production demands and all that yet again cause extended shifts. No one in a mine works, that I'm aware of anyways, works an eight-hour day regardless of what legislation's built on. They're working far longer than that. It's physically demanding, especially hot summer days, extreme cold weather. We keep running. So all of these factors, fatigue, rushing, distractions, increase the likelihood of slips, trips, and falls by preventing us from recognizing and addressing hazards. Again, it's another thing tacked onto the plate. "I've got too much to do right now. I don't need to worry about whatever that hazard was. It's a small thing. Someone else will see it too, so it's not a big deal." If you recognize a hazard, that doesn't mean that your peers, your colleagues will as well. I will remind, I'll say everyone in the field, section 28 of the *Occupational Health and Safety Act* defines worker responsibilities.

Whenever a worker observes a violation of the law or a hazard that they weren't otherwise made aware of, they are obligated to stop what they're doing and either address it or report it immediately.

Holly Baril:

Now what is your take on distracted workers? They're operating heavy equipment, and distractions obviously we know can be in many different forms. It's not your typical cell phone distraction anymore. So what's your take on that?

Ryan Smith:

There's many examples for workplace distraction. And I hate to say it, but music. Now when I say music, really a bigger issue is in-ear devices. You've got your AirPods or whatever cranked to the max, and then you don't hear warnings from others. You don't hear specific information coming over your radios and equipment because we're not focused on that. Could be cell phone use, of course. It could be...

Holly Baril:

Personal distractions. It's everywhere. Like we talk about when we're doing our safety training is making sure that as supervisors, we know how our workers are feeling today and how are things going so that some distractions can be kept to a minimum.

Ryan Smith:

Absolutely. Yeah. And they're fit for duty, making sure that the workers' minds are on task.

Holly Baril:

Yeah, that's important. Now, what about complacency? We all are complacent at some point or another, I'm sure. How do we fix that kind of thing? Especially experienced workers. They know better, but it's just that "it's the same task I've been doing."

Ryan Smith:

Yeah, we find this often, especially with routine work. You do the same thing day in, day out. Can cause us to stop recognizing hazards, begin to think that we've developed skills that make us immune from those hazards because we've done it so much that now we're very skilled at it. But eventually we make a mistake or conditions change even very slightly from what we're used to. So that change, that one mental misstep leads to an incident. That routine work is no longer routine. What I commonly say in training programs or consulting on site, all too often it takes something bad happening for us to refocus on safety. We need to do our best to shift that mindset so that doesn't happen. One way to go about is to share experiences on site. Talk about the work you're doing today. Talk about a shared experience, an injury, an incident, statistics.

You could reference IHSA's See something, Say Something video library. For example, on our YouTube channel, where we interview families who experienced workplace tragedies. Obviously very heartbreaking, but reshifts our focus to say, "Well, shoot, I don't want that to happen to me. I don't want the people I care about to have to deal with that after the fact." So in my experience, those shared experiences can refocus our mindset.

Holly Baril:

Yeah. It's almost like we need to be reminded of this stuff more regularly than what we are.

What role does footwear play and what should workers look for when they are choosing a certain type of safety boot for the aggregate sector?

Ryan Smith:

So same as I'll say construction, you need Grade 1 footwear, steel, toe, steel plate. We need to ensure that it's properly worn and maintained. I find often workers will buy the eight, 12-inch boot, which is great. Should have ankle support, but the laces are all the way undone. I don't even know how they walk around like that, but now you're creating your own tripping hazard because your shoes are falling off your feet. The manufacturer of that footwear expects it be laced to the top and tied tight. And there's good reason for that. I personally like a taller boot so that I get that ankle support. I've seen way too many ankle injuries over my career and it doesn't take much. You step on one loose rock, step off a machine the wrong way. Now you have serious tissue damage potentially resulting in longer duration musculoskeletal disorder, soft tissue injuries.

Holly Baril:

Yeah, the stuff that takes forever to heal.

Ryan Smith:

Yeah, exactly. That's it. And therefore I'll say reduced quality of life. One of the things I like to talk about in my programs is why we go to work at all, to make a living so that we can have a higher quality of life. Well, why do we do things then that are likely to impair that quality, to reduce our ability to do the things that we wanted to do, which was the purpose to go into work to begin with?

Holly Baril:

Yeah, right. Exactly. So just to cap it off here, if you were to give every person working in the aggregates industry one piece of advice to prevent slips, trips, and falls, what do you think it would be?

Ryan Smith:

I suppose my one piece of advice might be that everyone needs to look out for each other. If you see a hazard, you need to do something about it. Don't walk past it. We need to avoid the mindset, "it's not my job. I didn't make that mess." If you can't do something about it, talk to management so it can be addressed. No matter how small that hazard may seem to you, it could have serious consequences to someone else who wasn't able to recognize it.

Holly Baril:

Awesome. That's great. That's great advice. Simple, but it's like, yeah, it's easy. It's not hard. We can all do that. Well, thank you very much for letting our listeners know a little bit more about how to prevent slips, trips, and falls in the aggregate sector.

Ryan Smith:

My pleasure. Thanks for having me.

Holly Baril:

Thank you for listening to our podcast. I'm your host, Holly Baril, and be sure to subscribe and like us on your podcast channel and visit us at ihsa.ca for a wealth of health and safety resources and information. And remember, your health, your safety, your future protect all three.

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