

WAH Symposium 2022 – Q&A Responses

No.	Q&A	Response
1	In view of Covid, do we consider that as a prolonged illness when returning to work? Afterward, do we have to restart the acclimatization program (1 to 2weeks)?	Workers returning from any prolonged illness including COVID should consult a doctor before returning to work. They will also need to be reacclimated.
2	Does pre-employment medical examination relate to Heat stress applicable to all workforce in construction? If yes, what is that specific medical examination?	New workers should undergo their pre-employment medical examinations and be declared fit to work before being posted to a hot working environment. Employers should inform doctors that workers are going to be working in a hot environment so that they can be assessed accordingly. This would help the doctor to look out for risk factors in the development of heat injuries in the worker and to manage and advise accordingly.
3	Is there any minimum requirement for a shaded rest area? Is MOM monitoring it?	A shaded rest area can be set up at or next to a worksite. Good airflow and cool drinking water should also be provided. Please refer to the WSH Guidelines on the Management of Heat Stress at https://www.tal.sg/wshc/resources/publications/wsh-guidelines/wsh-guidelines-on-managing-heat-stress-at-the-workplace for more details.
4	What are other preventive measures can employers implement for those drivers or riders to prevent heat stress as they are all by themselves outdoor and not able to practice the buddy system.	The WSH Guidelines on the Management of Heat Stress (available at https://www.tal.sg/wshc/resources/publications/wsh-guidelines/wsh-guidelines-on-managing-heat-stress-at-the-workplace) provides the general measures employers can take to mitigate the effects of heat stress on the worker. These measures will include assessing workers' fitness to work, implementing heat acclimatisation programme, using mechanical aids, and ensuring workers have adequate water intake and rest breaks. Risk assessments should be conducted to identify and control measures implemented to mitigate risks that may be present.
5	Are there any guidelines on how and where can construction sites place the drinking water container? What would you	Drinking water containers and water coolers should be placed at safe, convenient, and easily accessible locations for workers. You may refer to WSH Guidelines on the Management of Heat Stress at https://www.tal.sg/wshc/resources/publications/wsh-

	advise, instead of placing it under the open space?	guidelines/wsh-guidelines-on-managing-heat-stress-at-the-workplace for more details.
6	If worker clothing is one of the causes for heat stress, is there any standardisation for clothing material for the SG environment?	In general, workers should use breathable clothing that is loose-fitting and light-coloured for working in a hot environment. The use of hats or parasols may also be used to provide workers with additional shade at the specific work location if appropriate to the work situation.
7	If the temperature above 32 degrees C is a high risk, do you advise the construction works to be stopped?	Heavy physical work or work under direct sun, where practicable, should be rescheduled to the cooler parts of the day (i.e., early morning or late afternoon). In addition, work and rest periods can be alternated. Under high heat exposure conditions, the duration of rest periods should be increased. For more information, you may refer to the WSH Guidelines for the Management of Heat Stress at https://www.tal.sg/wshc/resources/publications/wsh-guidelines/wsh-guidelines-on-managing-heat-stress-at-the-workplace for guidance.
8	How can the company educate the workers to acclimatize to local weather?	Companies are responsible for implementing a heat acclimatisation programme for newly assigned workers working in hot working conditions. In addition, workers should be educated on the signs and symptoms of heat injury and be advised to report to their supervisors immediately if they feel unwell. You may refer to the WSH Guidelines for Management of Heat Stress at https://www.tal.sg/wshc/resources/publications/wsh-guidelines/wsh-guidelines-on-managing-heat-stress-at-the-workplace for more details on the heat acclimatisation programme.
9	Is acclimatization enforced as a requirement by WSHC to workplaces that are exposed to weather conditions?	All newly assigned workers should be acclimatised to working in hot weather or hot working conditions.
10	What are your thoughts on the usage of electrolyte products as part of a heat stress mitigation plan? Note - These products contained sodium and sugar concentrations, that impact emp health.	In general, electrolytes are present in our diet, and workers who eat normal regular meals would be able to replace electrolytes lost during sweating. Workers should nevertheless be encouraged to drink water till their thirst is quenched. Providing drinking water facilities at convenient and easily accessible locations is recommended.
11	Aside from FES, what other technology or innovation do you think would help prevent fall from height accidents and should be adopted by the industry?	Idea generation is key for new innovations. We are not inventors but there are people out there who are the experts in inventing products to aid our industry. There are several products in the market. An example will be wearable technology. Through wearable devices, internet bandwidth,

		<p>and connectivity of IoT (internet of things), companies can protect workers in real-time. Worker's vitals, geolocation, and status of workers working in the high-risk area are tracked to monitor and prevent accidents.</p> <p>An example would be Spot-r Clip, it's a device to clip onto the safety harness of a worker. The company that innovated it is named Triax, a US-based company. The device is able to alert management if the worker is in a high-risk or restricted area. If a fall occurs, the device can alert the safety / first aiders nearest to aid the situation.</p> <p>Currently, I am collaborating with some university students on the use of IoT devices. We are aiding their research work to collect data via IoT devices and machine learning predictive models to better understand hazards and accident occurrences from Work at Height.</p> <p>These are some examples that industries can adopt to advance, and government organizations can also help industries with funding and awards to specifically recognize technological advancements.</p>
12	Do you conduct FALL EXPERIENCE SIMULATOR for workers?	Of course, we welcome all management representatives, middle management, and workers. If you are interested feel free to drop us a mail at training@wch.com.sg . You will be furnished with the details on attending the session with us.
13	For this AHHAAS system is this only applicable to vehicular? How about in the field of construction work such as scaffolding work?	The main purpose of the system is to avoid the vehicular collision. However, the feature of radar detectors can be utilized as edge protection, especially for works at rooftops or high-rise construction sites. This concept is my suggestion, but alternatively it will be better to consult companies / professional dealing with such systems.
14	It is common to see workers erecting tentage wearing harnesses that are not anchored to anything. Is MOM enforcing the code of practice on tentages and were there any contractors brought to task?	Tentage erection comprises of a few stages, such as work from ladders and work from roof trusses. When it is not reasonably practicable to provide cover, guardrail, or barrier while working at height (e.g., in the case of tentage erection), the law allows travel restraints (and if that is also not reasonably practicable, a fall arrest as a last resort) to be used. All forms of restraints and/or Arrests would need to be effectively anchored. MOM does regularly enforce on errant contractors who disregard WAH safety.
15	Will A-Frame ladder be banned from the industry since there are many incidents related to it? If not, what is the direction for using A-Frame ladder? Can we consider ladders with ANSI	Some of the standards you have cited may no longer exist. A-Frame ladders if properly used has its merits and can be as safe as other forms of ladders. Ladders in Singapore should comply with the requirements in SS EN131: 2019 Ladders Parts 1 to 7. Ladders that are certified to other standards can also be used provided their certifications are equivalent to or

	A14.2/14.5, AS 1892.1 and BS 2037 (Class 1) as equivalent standards to SS/EN 131 (without the need to have buddy system)?	better than those specified in SS EN 131. All WAH should be carried out under supervision. Buddy system where it is not already a requisite under Reg 18(5) of the Regulations for a leaning ladder in use, is a common and reasonably practicable practice when using ladders.
16	Is there any study on the Design for Safety, has it reduce WAH accident and seen improvement?	There are no substantial data collection yet on the benefits that have been reaped through DfS implementation. We will be pleased to share with the industry when such data becomes available.
17	Why is 3m and above height requires PTW if WAH work includes the potential to fall one level to another level even if is shorter than 3m? There are also companies that implement 1.8m or 2m and above require WAH PTW. What is the standardization across all industries?	While falls from lower elevations can be equally hazardous, 3m is the current legislative cut-off to define hazardous WAH and is a reasonably practicable benchmark acceptable to the industry. As shared during the presentation, WAH to a large extent involves risk evaluation - An Occupier, in fulfillment of his/her duty to ensure the workplace is safe, may stipulate additional controls that are more stringent than what is minimum by law, and we encourage that, provided such additional measures are reasonable.
18	Any support from MOM / gov to fund companies to purchase better ladders?	There is currently no such support funding. Many studies have shown that investing in Safety almost always pays out in the long run.
19	What are some uncommon but good practices you have come across that more companies could adopt to prevent falls from heights?	We have seen many progressive WAH examples. One such example is the practice to pre-install temporary edge protection barriers onto precast elements or prefabricated steel structures before such structures are lifted into position, thereby omitting the need to install the fall protections while at height.
20	Can a Safety Harness with shock absorber be used as a travel restraint? Can we bypass the shock absorber when using safety harness as a travel restraint?	The law does not forbid use of a full-body harness with shock absorber for travel restraint purpose. The guiding principle, be it a restraint belt or a full body harness, must be such that when acting as a restraint, it is capable to prevent a person from reaching an open edge when he can be liable to fall. Shock Absorbers that are connected to a full body harness should not be tampered with under any circumstances.
21	With regards to anchoring point, can a worker secure his safety harness on the scaffold guardrail or do we have to install designated anchoring points?	Guardrails would generally not be of sufficient strength to sustain anchorage forces in the event of a fall. All anchorages providing support to fall arrest systems shall be of sound material, good construction and adequate strength.
22	For works on the mast climbing work platform, is it necessary to provide vertical lifeline when the	As shared in the presentation, if the work activity is possible for a person to fall, if the work environment can allow a person to fall, and if the height of fall is such that it is potentially injurious, the ensuing risk assessment would unlikely not require a fall

	mcwp is already considered a safe fall prevention system?	arrest system to be provided. Further, it is a widely accepted industry practice to provide fall arrest systems when working at height.
23	MOM approved WAH trainings need to be replaced by simulator trainings?	There are currently no such plans but that is not to say it will not be possible in the future.
24	How does a worker refuse unsafe work or condition? Do they have any whistle blower platform or apps for them to report errant contractor?	Always report to your reporting officer if you find a work condition unsafe. You can also report to your Employer, the Principal or even the Occupier as under the workplace safety and health act, general duties are placed on respective duty holders to abate safety and health risks. Feedbacks on unsafe WSH matters can be directed to: https://service2.mom.gov.sg/efeedback/Forms/eFeedback.aspx
25	Will WSHC/ MOM be considering funding or spearheading WAH VR/ AR video or headsets to bring workers WAH awareness training to another level ?	There are currently no plans for such support funding. Many studies have shown that investing in Safety almost always pays out in the long run.
26	How does Safety in Design during project construction phase is being synergise with construction safety such as work at height to minimize or eliminate falling hazard?	We have seen many progressive DfS examples implemented during the construction phase. One such example is the incorporation of slab reinforcements across riser duct floor openings during floor casting, so that workers carrying out ensuing riser duct works (Wet trade, M&E etc) can do so without exposing themselves to Falls from Heights.
27	Whst is the the measurable level impleting WSH Design for safety had been incorporating adopting into WSH Construction Regulation.Are they achieved?....	If this is similar to item 4 above, there are no substantial data collection yet on the benefits that have been reaped through DfS implementation. We will be pleased to share with the industry when such data becomes available.
28	Wobbling ladders were due to uneven ground surface, loosen screws/rivets or worn-out rubber footings. Can rubber footings from the ladder be remove and replace without dispose away the ladder?	Ladders are proprietary products. If there is a need to replace worn-out parts of a ladder, it is recommended that the ladder be returned to the Manufacturer for servicing. If that is not possible, we recommend that you carry out a detailed risk assessment before deciding if you should be using non-proprietary replacement parts, bearing in mind potential incompatibility issues could negate the proper and safe function of a ladder.
29	From the WSH(WAH) Regulations 2013, it appears it is mandatory to establish fall prevention, restraint, or arrest	Yes, this has been stipulated under Reg 8 of the WSH (WAH) Regulations. The over-arching rule, however, is to avoid WAH where it is reasonably practicable to carry out the work safely otherwise than at height.

	system (in that order of priority) for WAH 2m and above? Is that correct?	
30	Is accessing ladders (cage/monkey ladder) considered as WAH? Example: Going up and down from an excavation pit/shaft.	We see accessing ladders as part and parcel of WAH activities, rather than a stand-alone WAH.
31	Can we use different brands of Safety harnesses and lanyards?	Mix-n-match systems are not recommended.
32	Could you advise how can we increase workers' awareness at WAH and strengthen communication between workers and management?	Management direction and policies are critical toward championing WAH awareness across the board. Regular periodic engagements between the project management teams and workers are equally critical and would be beneficial as messages can be delivered in a more direct and hands-on manner.
33	Is FPE required while working on a safe scaffold platform with adequate guard rails that serve as fall protection?	As shared in the presentation, if the work activity is possible for a person to fall, if the work environment can allow a person to fall, and if the height of fall is such that it is potentially injurious, the ensuing risk assessment would unlikely not require a fall arrest system to be provided.
34	is it about time what have prescriptive WAH like what we have for scaffold Regulation? like tableform, jumpform, slab opening etc....	Anything from a 1m fall from a ladder to a 6.4m fall through a floor opening could potentially be hazardous. WAH is therefore dynamic to say the very least, and because of that, a prescriptive approach is unlikely to be suitable. The best approach would still have to be a performance-based approach based on First-principles and based on Risk-assessment.
35	We engaged contractors to do some repairs at the canopy roof. Upon completion, I need to check, do I need to be trained on Work from height? If they're using MEWP (scissor lift) for site inspection.	All work at height activities requires proper training and supervision. The Workplace Safety and Health Act requires Employers to ensure that all workers are provided with sufficient instruction, training, and supervision so that they can work safely. Depending on the situation involved, mandatory WAH training may be but one training amongst others.
36	Can we wear full-body harnesses to secure it onto a travel restraint system where the anchor point is lower than a person's height? Or is wearing a travel restraint belt the more appropriate option?	You would need to decide if the fall protection system is that of a "Restraint" system or an "Arrest" system. If a "Restraint" system is adopted (which is always preferred over an arrest system), the law does not forbid the use of a full-body harness over restraint belt. The guiding principle, be it a restraint belt or a full-body harness, must be such that when acting as a restraint, it is capable to prevent a person from reaching an open edge when he can be liable to fall. If an "Arrest" system is adopted, the position of anchor point plays a part in the

		impact energy experienced during a fall - an anchorage lower than a person's height would result in a larger fall factor with a consequential increase in the impact force experienced during an arrest.
37	Is there any whistle blowing contravention to MOM shared in the presentation? How/what would MOM do after receiving such whistle blowing contravention?	You can report any unsafe WSH acts to MOM via our generic feedback channel, available at: https://service2.mom.gov.sg/efeedback/Forms/eFeedback.aspx
38	The fiberglass ladder is one of the recommended ladders used for various industries in Singapore as it eliminates electrocuted incidents. Is there any possibility moving forward, to be included in the guidelines and be regulated?	Fiberglass ladders and other ladders are covered generally under the regulations and its testing and specifications are included in the approved code of practice SS EN 131. Correctly mentioned by you is that these are widely recognised and used in various industries due to its benefits. Considerations are being made to include mention in future updates to the WAH-approved code of practice.
39	Understand that it is required to put on a safety harness when working on a mobile crane. However, in this situation, if the working height is less than 3 meters, would a safety harness be effective to save the worker if he falls?	Depending on the type of personal fall arrest system (PFAS), the required fall clearance in the event of a fall varies. Some common PFAS require a min fall clearance of 6.3m from the anchorage point, which in the case of a 3m fall, would be disastrous. It is hence critical for persons working at height and their supervisors to understand the limitations of different PFAS and to use only systems appropriate for the working environment. Some alternative fall arrest systems can include Self-Retracting-Lifelines (SRL) which require lower fall clearances (subject to other operating requirements).
40	What are the control measures for head injuries (crushing point) for MEWPs, since we are prohibited to modify and install the 'stopper' on the MEWP?	Modifications such as "stoppers" to MEWPs if not properly constructed/configured could potentially pose additional hazards, such as entanglement. Any secondary guards and anti-entrapment devices are to be acceptable-to by the Original Equipment Manufacturer before implementation. Always be on the alert when working from MEWP with overhead constraints.
41	With more aging workers in the workforce, how would you advise companies on executing WAH activities safely? Are there any guidelines that we can refer to?	While there are no hard rules to guide the industry, Risk assessments may be extended to include where appropriate, the health and age of workers. Based on the risk assessment, if some workers are found to be more at-risk than others given any specific task and environment, control measures could be considered to mitigate the risks.
42	Why are some companies allowed to use the safety belt, especially in shipyards, when it	Restraint belts are allowed to be used for restraint purposes. Restraint belts are not designed to arrest falls as a person can sustain serious bodily injury if a fall is arrested using restraint

	is known to be not a good fall mitigating device?	belts. If you observe any non-compliance, please notify MOM with supporting evidences at: https://service2.mom.gov.sg/efeedback/Forms/eFeedback.aspx
43	Can Work At Height Permit incorporate with Lifting Permit? i.e some lifting operation required to lift large size tires for mining trucks and using scissor lift as well.	WAH and Lifting operations are generically different and the permits should generally not be combined. For example, a WAH operation would require separate considerations on incompatible work that may pose risk to the safety and health of other persons working at the same time in the same vicinity while a scissor lift operation might focus on matters such as traffic risks instead.
44	With regards to WSH (WAH) Regulation 9(3) on the good construction of guard rail and barrier, are stainless steel cables tightened with turnbuckles considered to be acceptable standards?	There are various best practices published by the WSH Council on edge protection. One such example is the "WSH Guidelines on Anchorage, lifelines and temporary edge protection" which provides recommendations for guardrails used under different situations. If the steel cable system can be proven to be equivalent or better than the minimum guidance, the law does not forbid such use.
45	Does MOM encourage a penalty system in the company?	The stick and the carrot are but a few tools to promote safety. Other more holistic tools such as shaping behaviours and promoting environments that are conducive and encouraging toward safety should also be considered.
46	What is the most common misconception people have about mental well-being? What is the first step a workplace should do to improve this mental-wellbeing concept?	The most common misconception is confusing mental stress with mental illness and often people avoid the subject because they don't know what to do next. The first step to improving workplace mental wellbeing is creating a work culture where it is ok to talk about mental health and encouraging people to find balance in their lifestyle between physical health, sufficient rest (of sufficient quality), and having meaningful work (understanding why their role is important for the organisation to be successful).
47	What can companies do to support their workers' mental health and well-being without breaking the bank?	It starts with leaders of the company talking about this subject openly to make it less of a taboo subject - this part costs nothing. There are also non-profit organisations such as HealthServe that can provide low-cost counselling and wellbeing services aimed at migrant workers in Singapore.
48	Some cultures are typically less likely to share with their work colleagues or superiors on workplaces challenges such as mental health issues. How to get people to open up?	Companies can nominate people within the business from a diverse range of cultural backgrounds to act as ambassadors (in Lendlease we call them Friends In Need) who are there to listen in a safe and confidential setting. It certainly helps when the listener is from a similar cultural background.
49	During a plant turnaround, 17 to 19 hrs are used for work &	In our industry, there are periods where extended hours are unavoidable for short periods of time - such as plant

	<p>travel. Leaving the workers less than 6 hrs of rest & they need to work 13 straight days. What well-being can be designed to help the workers?</p>	<p>shutdowns. The key here is that manpower planning is done responsibly so that there are sufficient resources to share the load and that workers are allowed sufficient rest before and after the shutdown. Owners have a responsibility here too, to ensure that sufficient time is provided for the work to be completed without creating a situation where work hours become excessive.</p>
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