

VEHICLE AND MACHINERY BANKSMEN SAFETY COURSE (VMBSC)










ENSURE SAFE CONSULTANCY



VEHICLE AND MACHINERY BANKSMEN SAFETY COURSE (VMBSC)

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1. Introduction

Objective :

By the end of the course, participants should be able to :

- Ensure the safe passage of reversing vehicles in confined areas.
- Identify areas of danger within the site.
- Guide all vehicles/machinery excavator's rigid and articulated lorry using recommended codes of signals.

1. Introduction

As you may know, construction sites can be very dangerous places. The movement of heavy equipment and vehicles can pose a significant risk to workers and pedestrians on the site. This is where the Banksman comes in.

A Banksman is a trained and qualified individual who is responsible for coordinating the movement of vehicles and equipment on a construction site. They play a critical role in ensuring the safety of all workers and pedestrians on the site

1. Introduction

In this presentation, we will provide an overview of the key responsibilities and tasks of a Banksman.

We will cover the importance of risk assessment, effective communication, site layout and traffic management, vehicle and equipment safety, and emergency procedures. By the end of this presentation, you will have a better understanding of the role of a Banksman and the importance of safety in construction sites.

2. Roles and responsibilities of the Banksman

- ✓ As a Banksman, your primary responsibility is to ensure the safety of all workers and pedestrians on the construction site.
- ✓ This involves coordinating the movement of vehicles and equipment, and communicating effectively with drivers and other site workers.
- ✓ Let's take a closer look at the key roles and responsibilities of a Banksman:

2. Roles and responsibilities of the Banksman

- ✓ A Banksman is responsible for directing the movement of vehicles and equipment on a construction site.
- ✓ They are responsible for ensuring that all movements are carried out safely and efficiently.
- ✓ They must be able to effectively communicate with drivers and other site workers.
- ✓ Key safety responsibilities:

2. Roles and responsibilities of the Banksman

- ✓ A Banksman must be able to assess risks and identify potential hazards.
- ✓ They must be familiar with safety regulations and guidelines.
- ✓ They must be able to identify and report any safety violations or hazards.
- ✓ Coordinating the movement of vehicles on site:
- ✓ A Banksman must be able to safely coordinate the movement of vehicles and equipment on a construction site.

2. Roles and responsibilities of the Banksman

- ✓ They must be able to direct the movement of vehicles and equipment using clear and concise hand signals.
- ✓ They must ensure that drivers can see them at all times, and that they have a clear view of the site.
- ✓ Ensuring safety of all workers and pedestrians on site:
- ✓ A Banksman must be aware of all workers and pedestrians on the construction site.

2. Roles and responsibilities of the Banksman

- ✓ They must ensure that all movements are carried out in a way that minimizes the risk of accidents or injuries to workers and pedestrians.
- ✓ They must be able to effectively communicate with workers and pedestrians to ensure their safety.
- ✓ By fulfilling these roles and responsibilities, a Banksman plays a critical role in ensuring the safety of all workers and pedestrians on a construction site.

3. Legal Requirements

General Worker Duties

Do's

- Wear PPE provided by the employer.
- Must follow the company's safe work procedures

Don'ts

- Must not misuse the PPE.
- Must not endanger himself or others.

Reporting

- Must report unsafe Condition / Acts
- Must report work-related incidents / accidents

3. Legal Requirements

Penalty

	Conviction	Fine
If any person contravenes to wear PPE shall be guilty of an offence	First time	\$1,000
	Second and subsequent conviction	\$2,000

3. Legal Requirements

Penalty under WSH Act

- For Individuals- Max **\$200,000** and/or **24 months jail**
- For Corporations- **\$500,000** fine.
- For repeat offenders where a fatality occurs during a previous offence and a 2nd fatality is caused – Max.fine is **doubled**.

3. Legal Requirements

WSH Act and Regulations

- WSH Act
- WSH (General Provisions) Regulations
- WSH (Risk Management) Regulations
- WSH (Construction) Regulations
- WSH Incident reporting
- WSH (Shipbuilding and Ship-Repairing) Regn.
- WSH Guidelines on Workplace Traffic Safety Management

RISK ASSESSMENT



Why should we do Risk Assessment?

Allows us identify the hazards at the workplace and implement effective risk control measures before they escalate into accidents and injuries

Workplace Safety and Health (Risk Management) Regulations – September 2006

RISK ASSESSMENT FORM (SAFETY, HEALTH & ENVIRONMENT)

likelihood \ Severity	Remote (L)	Occasional (M)	Frequent (H)
Major(H)	M	H	H
Moderate(M)	L	M	H
Minor (L)	L	L	M

Legend: H- High Risk; M-Medium Risk; L-Low Risk

Company:	ABC PTE LTD	Conducted By	
Process / Location:			
Approved By:		Last Review Date	Next Review Date

S/N	Work Activity	Hazards	Possible Accident / Consequences	Severity	Likelihood	Risk level	Risk Control Measures	Action By	Residual Risk	Verification Sign with Date
							Additional Risk Control Measures			

Risk Assessment

Process of:

- Formation of Risk assessment team
- Identifying and analyzing safety and health hazards associated with work
- Assessing the risks involved and
- Prioritizing measures to control the hazards and reduce the risks
- Communication between the team
- Recording



Risk Assessment

3 main process:

- 1. Hazard Identification
- 2. Risk Evaluation
- 3. Risk Control

Part 2: Generic Steps of Risk Assessment



- Identify hazards
- Identify potential accidents or incidents

- Estimate the risk levels of the workplace hazards identified
- Prioritise the hazards to be controlled

- Formulate the control measures according to the Hierarchy of Controls
- Analyse and evaluate residual risks

Risk Assessment

Step 1: Hazard Identification

Hazard Identification involves identifying the hazards associated with the activity of each process and type of potential accidents or incidents

For

- Machinery Movement
- Trip and fall
- Environmental
- Heat stress etc.. Etc... (as discussed in the other chapter)

Step 1: Hazard Identification

Work Activity	Divide into Major Steps	Spot the Hazards	Accidents or Ill-health Arising from Hazards
<i>e.g. Spray Painting</i>	<i>1. Moving metal drums to the spray booth</i>
	
	<i>2. Preparing and mixing paint</i>
	
	<i>3. Carrying out spray painting</i>	<p>Further expansion for step 3:</p> <ul style="list-style-type: none"> - <i>Toxic solvent vapours</i> - <i>Flammable spray paint mists or vapours and ignition sources</i> 	<ul style="list-style-type: none"> - <i>Exposure to spray paint solvents can result in ill health</i> - <i>Explosion from spray paint mists and vapours can result in serious injury or death of the worker and nearby people</i>

Step 2: Risk Evaluation

Risk evaluation is the process of estimating the risk levels for the hazards and their acceptability

Two factors that govern risk:

▶ **SEVERITY** (Consequence of the hazards)

▶ **LIKELIHOOD** (Probability of the incident happening)



Step 2: Risk Evaluation

Risk Evaluation Map

Determine Severity

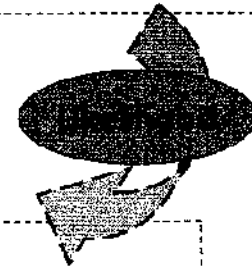
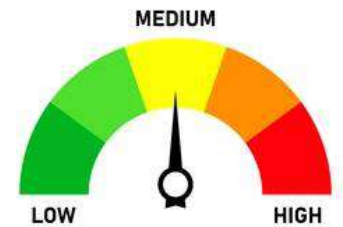
Minor	No injury, injury or ill-health requiring first aid treatment only (includes minor cuts and bruises, irritation, ill-health with temporary discomfort)
Moderate	Injury requiring medical treatment or ill-health leading to disability (includes lacerations, burns, sprains, minor fractures, dermatitis, deafness)
Major	Fatal, serious injury or life-threatening occupational disease (includes amputations, major fractures, multiple injuries, occupational cancer, acute poisoning and fatal diseases)

Determine Likelihood

Remote	Not likely to occur
Occasional	Possible or known to occur
Frequent	Common or repeating occurrence

Determine Risk

Severity \ Likelihood	Remote	Occasional	Frequent
Minor	Low Risk	Low Risk	Medium Risk
Moderate	Low Risk	Medium Risk	High Risk
Major	Medium Risk	High Risk	High Risk



Example:

If the consequence of a hazard is identified to have moderate severity and occasional likelihood, the risk level may be determined to be medium.

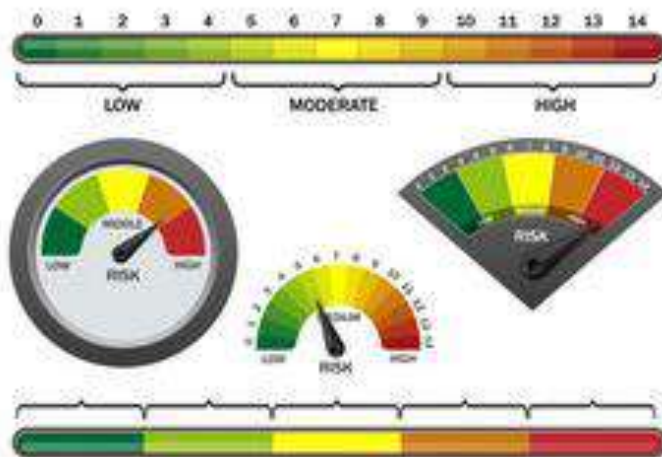


Step 2: Risk Evaluation

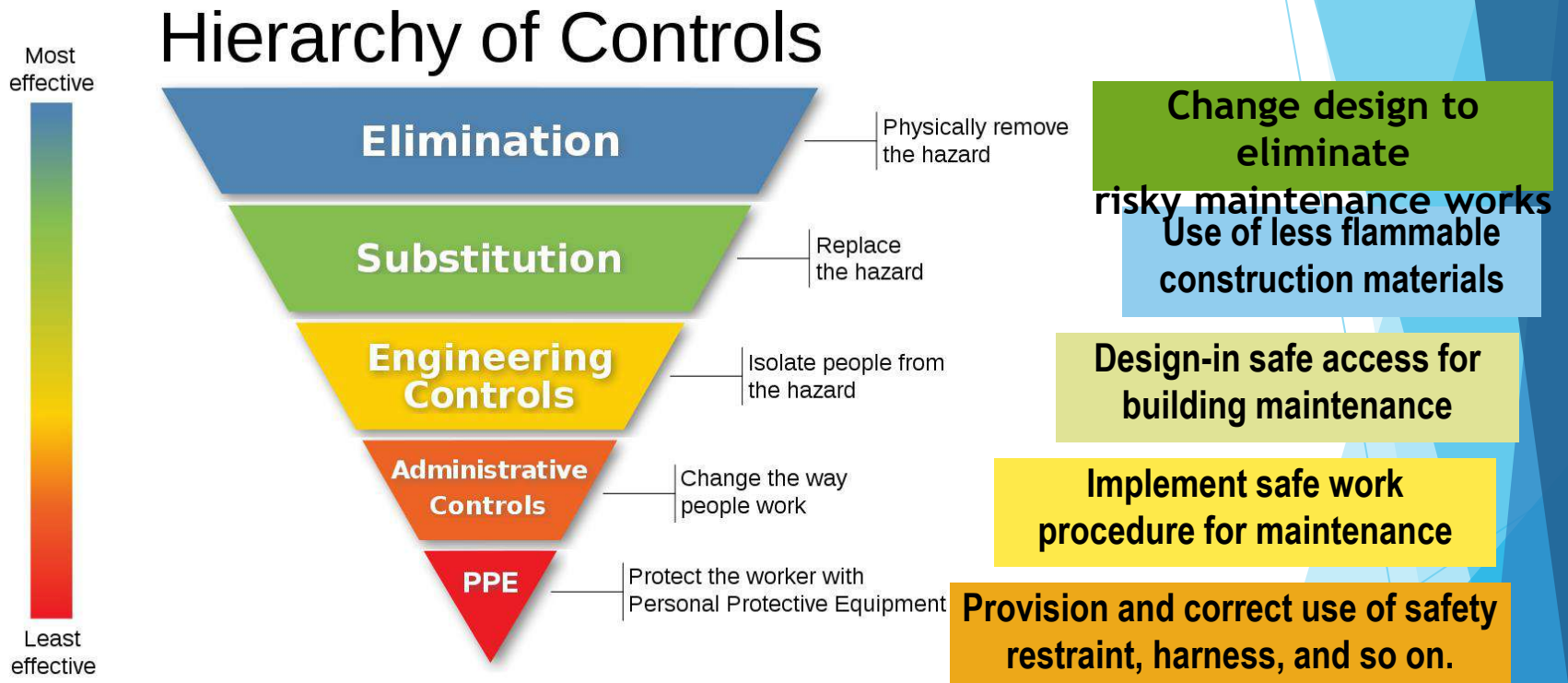
		Consequence				
		Negligible 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	5 Almost certain	Moderate 5	High 10	Extreme 15	Extreme 20	Extreme 25
	4 Likely	Moderate 4	High 8	High 12	Extreme 16	Extreme 20
	3 Possible	Low 3	Moderate 6	High 9	High 12	Extreme 15
	2 Unlikely	Low 2	Moderate 4	Moderate 6	High 8	High 10
	1 Rare	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

Step 3: Risk Control

Risk Level	Acceptability of Risk
Low	Acceptable
Medium	Moderately Acceptable
High	Not Acceptable



What risk control methods are there?



Example:

1. Write out all work activity

3. Consequence of the hazards (remember severity)

4. Rate risk level based on **SEVERITY** & **LIKELIHOOD** from the matrix

RISK ASSESSMENT FORM (SAFETY, HEALTH & ENVIRONMENT)

likelihood \ Severity	Remote (L)	Occasional (M)	Frequent (H)
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										Sign

2. With respect to the activity !! List the hazards

5. Determine the control measure based on Hierarchy of Control measures

6. Authorize the person responsible to implement the control measure

7. After the control measure rate the Residual Risk

4. Types of Vehicles Required to Guide by the Banksman / Signaler

- Lorry
- Lorry crane
- Mobile crane/crawler crane
- Concrete pump/truck
- Boom lift
- Scissor lift
- Excavator
- Piling machine etc.

4. Types of Moving Machineries / Vehicle to guide by the Banksman / Signaler

- Excavator
- Pilling machine (when required)
- Boom lift
- Scissor lift
- Lorry / lorry crane / mobile crane / crawler crane etc.

DUTIES & RESPONSIBILITIES

- The operator/driver must be able to see the banksman during the communication process.
- The banksman must be stationed in such a way not to be in the line of fire. (front, behind or in-between)



Excavator

DUTIES & RESPONSIBILITIES



DUTIES & RESPONSIBILITIES

- Banksman must ensure that safety barricades and safety signs are in place.
- Do not let any site personnel to enter when the raising and lowering of the boomlift movements.



Boomlift

5. Safe operations and Banksman Code of signals

Safe Operation at Main Gate (During Entry):

- 1.To Stop vehicle outside the gate at STOP line
- 2.Check the standard PPE of the driver, if don't have proper PPE ask supervisor in-charge to arrange PPE for driver.
- 3.Brief driver to follow his instructions at all times (at site)
- 4.Check the condition of the load / materials on the vehicle; is fastened/secured properly. If not fasten / secured properly tell drive to do it.
- 5.Open the gate, the right part of the gate and secure the door so that it cannot retrieve due to wind (might be cause of incident – door hit the vehicle)

5. Safe operations and Banksman Code of signals

Safe Operation at Main Gate (During Entry):

6. Guide the vehicle to enter and again STOP at the 2nd STOP line
7. Close the gate and secure
8. Guide the vehicle to desired location.

5. Safe operations and Banksman Code of signals

Safe Operation at Main Gate (During Exit):

1. Check the condition of load is fastened/secured properly
2. Guide the vehicle to main gate
3. Stop at the washing point and wash the vehicle tires before move off from the site
4. STOP at stop line
5. Open the door and secure so that any strong wind cannot automatically retrieve the door (might be cause of incident – door hit the vehicle)
6. Guide the vehicle to move out

5. Safe operations and Banksman Code of signals

Safe Operation for Moving Machineries/Equipment:

1. Stay away from the moving vehicles (e.g. Stay at a safe distance from excavator while guiding it)
2. Ensure the area is barricaded
3. Ensure the required safety signage displayed
4. STOP when noticed any abnormality situation during operation of machine
5. STOP unauthorized people to enter to barricaded area.
6. Banksman to guide at all times during operation of machinery/equipment.

E.g. of moving machineries / equipment boom lift, scissor lift, excavator, piling machine, roller machine, lorry, cranes etc.

Banksman's Signals

- ✓ Using banksmen to control reversing operations can put banksmen in the potential danger area of a reversing vehicle.
- ✓ If you do use banksmen, make sure that they are trained to carry out their duties safely.
- ✓ There must be a safe system of work that ensures the banksmen and driver are using standard signals, so that they are easily understood.

Banksman's Signals

- **START**

Both arms are extended horizontally with the palms facing forwards.



Banksman's Signals

- **STOP**

The right arm points upwards with the palm facing forwards.



Banksman's Signals

- **MOVE FORWARDS:**

Both arms are bent with the palms facing upwards and the forearms make slow movements towards the body.



Banksman's Signals

- **MOVE BACKWARDS:**

Both arms are bent with the palms facing downwards and the forearms make slow movements away from the body.



Banksman's Signals

- **LEFT:**

The left arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the left.



Banksman's Signals

- **RIGHT:**

The right arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the right.

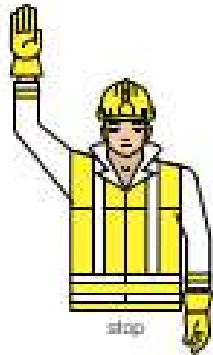


Banksman's Signals

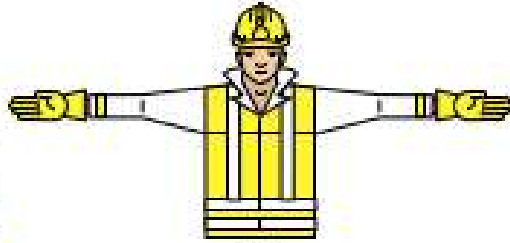
- **DANGER (EMERGENCY STOP):**
Both arms point upwards with the palms facing forwards.



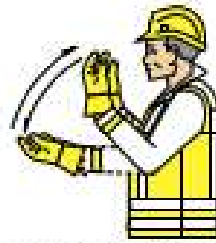
Banksman's Signals



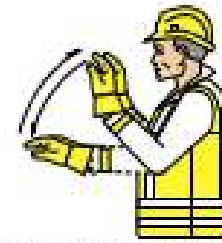
stop



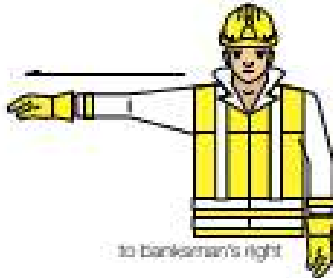
start



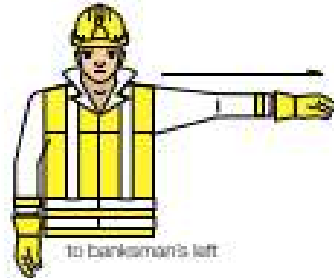
move towards banksman



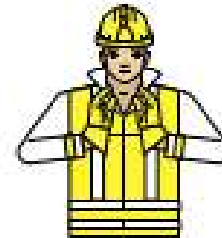
move away from banksman



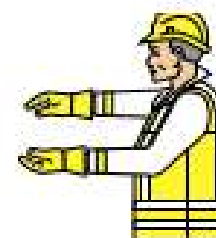
to banksman's right



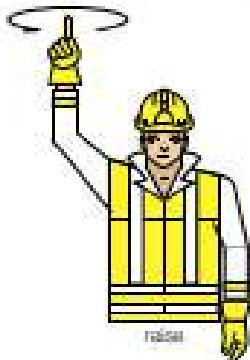
to banksman's left



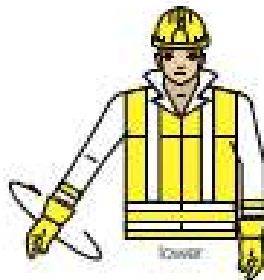
horizontal distance



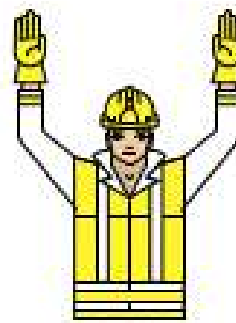
vertical distance



raise



lower



danger



end

6. Personal Protective Equipment (PPE) used for Banksman Job

Attire :

- ❑ Full PPE with whistle and hi-visibility red vest.
- ❑ Assist in assessing the ground conditions prior to the entry of equipment/machinery/vehicle.
- ❑ Ensure there is permit-to-work.



6. Personal Protective Equipment (PPE) used for Banksman Job

- ❑ Use standard signals to guide the movements of machinery/equipment/vehicle at/to the location of works to be carried out.
- ❑ Banks man to provide barricade for the work area
- ❑ Communicate to the drivers/operators during the movements of the machinery/equipment/vehicle



Emergency Procedures

Banksman must be familiar with the emergency procedures on the construction site, including evacuation procedures and emergency contact numbers.

They should understand their role in emergency situations and be prepared to take action to ensure the safety of workers and pedestrians on the site.

Emergency communication protocols:

Effective communication is essential during emergency situations.

Banksman should be familiar with the emergency communication protocols on the construction site and be prepared to communicate clearly and effectively with other workers and management.

Emergency Procedures

First Aid training and response:

Banksman should be trained in First Aid and be prepared to provide immediate assistance to workers or pedestrians who are injured on the construction site.

They should be familiar with the location of First Aid kits and be able to administer basic First Aid in emergency situations.

By understanding the emergency procedures on the construction site, effective communication protocols, and First Aid training and response, a Banksman can help to ensure the safety of workers and pedestrians in emergency situations on the construction site.

Conclusion:

Banksman are responsible for coordinating the movement of vehicles and equipment on a construction site.

Risk assessment, effective communication, site layout and traffic management, vehicle and equipment safety, and emergency procedures are all essential components of a Banksman's job.

Banksman must wear appropriate PPE, be familiar with emergency procedures, and be prepared to respond to emergency situations.

Importance of Banksman in ensuring safety on construction sites:

Conclusion:

The role of a Banksman is critical for ensuring the safety of workers and pedestrians on a construction site.

By effectively coordinating the movement of vehicles and equipment, and prioritizing safety, Banksman can help to prevent accidents and injuries on a construction site.

Encouragement to always prioritize safety on site:

We encourage all workers on a construction site to prioritize safety at all times.

By following safety protocols and procedures, we can all help to prevent accidents and injuries on a construction site.

By working together and prioritizing safety, we can ensure that all workers and pedestrians on a construction site are protected from potential hazards and can work safely and efficiently.

Questions and Answers

Thank you for your attention throughout this presentation. We hope that you have found it informative and helpful. At this time, we would like to open the floor to any questions or comments that you may have. Please feel free to ask any questions or clarify any doubts that you may have. We are here to help and ensure that you have a full understanding of the role and responsibilities of a Banksman in ensuring safety on construction sites.

TOTAL WSH

What is Total WSH

Total Workplace Safety and Health (Total WSH) is an approach that looks at work, safety and health together, as these areas are closely interrelated. For example, companies with good work processes have fewer accidents and cases of ill-health at work. This leads to better physical and mental well-being. It also results in increased productivity as companies that focus on safety have fewer employee injuries and companies with healthy workers tend to enjoy reduced absenteeism and are less likely to be involved in accidents arising from poor health.

Please click this links for more information

<https://www.tal.sg/wshc/programmes/total-workplace-safety-and-health>

Benefits of Total WSH

The benefits of Total WSH include:

- Healthier and more effective workforce.
- Safer workplaces and fewer employee injuries.
- Improved quality of life for employees.
- Improved employee engagement and retention.
- Improved productivity and business performance.
- Reduced absenteeism rates and healthcare costs.

Please click this links for more information

<https://www.tal.sg/wshc/programmes/total-workplace-safety-and-health>

SGSecure for workplace

Why you need to take steps today?

SGSecure is a national movement to enable our community to prevent and deal with terrorism. Company need to prepare their workforce and workplaces against crises. Preparedness is a set of learned skills and behaviours. It requires you to take active steps. Do it today to prepare your workforce, protect your workplace and partner your community.

- ▶ Implementing the 3Ps
- ▶ Prepare Your Workforce
- ▶ Protect Your Workplace
- ▶ Partner Your Community



Three essential steps

- ▶ Prepare your workforce
- ▶ Protect your workplace
- ▶ Partner your community



In the rare event of a **FIREARMS** or **WEAPONS** attack

RUN · HIDE · TELL

RUN away from danger. Do not surrender or attempt to negotiate.

If escape is not possible, **HIDE**. Find cover and stay out of sight. Be very quiet and switch your phone to silent mode.

When it is safe to do so, **TELL** the Police. Call 999 or SMS 71999 if it is not safe to talk. Provide details on your location and the attackers. You may also use the SGSecure app to provide information to the authorities.

Useful contacts

ORGANISATION	WHAT THEY OFFER	RESOURCE & CONTACTS
Ministry of Home Affairs	<ul style="list-style-type: none"> Find out more about the SGSecure movement Access e-learning modules, posters, videos and publications 	Website: www.sgsecure.sg
Ministry of Manpower	<ul style="list-style-type: none"> Register your SGSecure Rep Read more about implementing SGSecure at your workplace 	Website: www.mom.gov.sg/sgsecure Tel: 6438 5122 Email: sgsecure_workplaces@mom.gov.sg
Singapore Police Force	<ul style="list-style-type: none"> Register as a SSWG member (for building owners) Access e-learning modules on SGSecure 	Emergency Hotline: 999 Emergency SMS: 71999 Website: www.police.gov.sg/sgsecure Non-emergency Hotline: 1800 - 255 - 0000 Enquiries (Police HQ): 1800 - 358 - 0000 SSWG Email: spf_sswg@spf.gov.sg
Singapore Civil Defence Force	<ul style="list-style-type: none"> Sign up for Community Emergency Preparedness Programme training in fire-fighting, CPR/AED and First Aid 	Emergency Hotline: 995 Website: www.scdf.gov.sg Customer Service Centre Tel: 1800 - 286 - 5555 Email: scdf_csc@scdf.gov.sg
Workplace Safety and Health Council	<ul style="list-style-type: none"> Sign up for bizSAFE programme 	Website: www.wshc.sg/bizSAFE Email: bizSAFE@wshc.sg
Singapore Red Cross Society	<ul style="list-style-type: none"> Sign up for certification courses such as Standard First Aid, Psychological First Aid and First Responder Programme 	Website: www.redcross.sg Tel: 6664 0563 Email: academy@redcross.sg
St John Singapore	<ul style="list-style-type: none"> Sign up for certification courses such as Basic and Occupational First Aid 	Website: www.stjohn.org.sg Tel: 6298 0300 Email: firstaid@stjohn.org.sg

