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THE HONG KONG OCCUPATIONAL SAFETY AND HEALTH ASSOCIATION

Lessons Learned from Managing COVID-19 Risk at Workplace – A Perspective from A Safety/Risk Practitioner

Authored by: ***Ir Prof. Vincent Ho, Risk Management and Safety Professional***
Edited by: Mr. Sam Sum, HKOSHA President

Author's Profile:

Ir Prof. Vincent Ho has over 35 years of experience in transportation, nuclear and defense industries. Prof. Ho actively promotes the applications of risk management in enhancing safety. He is the Founding Chairman of the Hong Kong Association of Risk Management and Safety (HKARMS). He had served as the Institution of Occupational Safety and Health's (IOSH) 52nd President and the President of Southern California Society for Risk Analysis. Prof. Ho holds PhD, MS, MBA and BS from the University of California, Los Angeles. He has been appointed Adjunct Professorship at the University of Hong Kong, the Hong Kong University of Science and Technology and the City University of Hong Kong, where he delivers lecture on risk management and safety.

It was a great opportunity to have Ir Prof. Vincent Ho, a well-known risk and safety practitioner from Hong Kong, to share with HKOSHA an inspiring topic during this difficult time impacted by COVID-19: "Lessons Learned from Managing COVID-19 Risk at Workplace - A Perspective from a Safety/Risk Practitioner" on 16 March 2021. Let's recap some of the contents from his presentation during the webinar and see how it might help or change the way you think and make decisions in a fast-changing world, from an emerging risk to the application of new technology.

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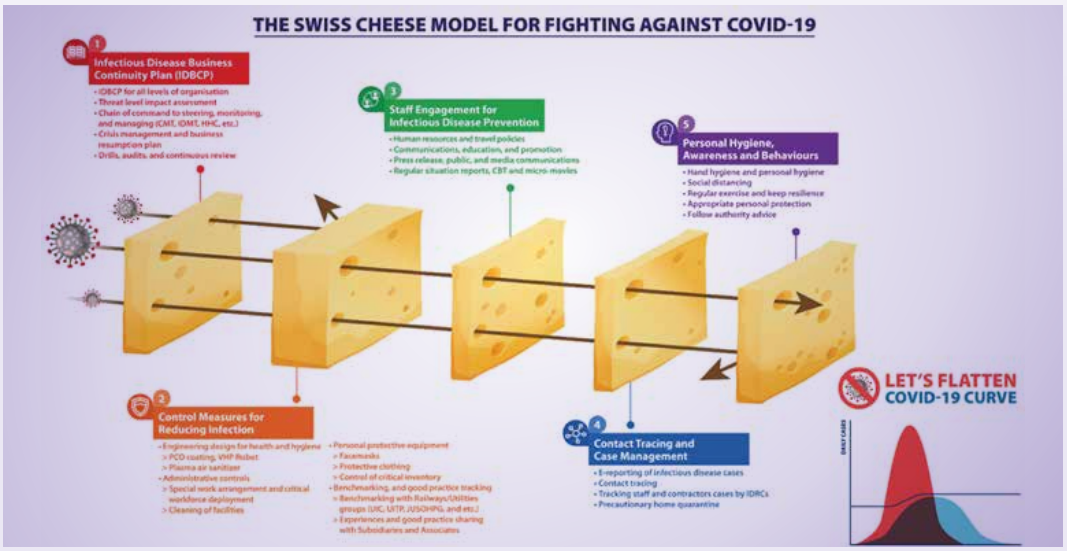
Known and Unknown ➔ Uncertainties

The first topic covered is how we could manage uncertainties by utilizing a matrix of knowns and unknowns for different scenarios as shown below:

Generally, people are more comfortable about Known - Knowns scenarios and Known - Unknowns scenarios as we are aware of the issue and it is a matter of time to understand and investigate further and define effective controls. However, looking at these scenarios we have to be vigilant as over-confident, complacency, lack of motivation to further explore could cause negative impact to these scenarios.

While the Unknown - Unknowns scenario is a concern as they are unexpected or unforeseeable situations, since we don't know what the situation will be, risk absorption is one of the keys to help us manage the potential negative impacts. For example, our emergency response and crisis management that provide a mechanism of fast response based on development of situation, also they should be flexible and adaptive balancing various aspects such as public concerns, health and safety, environment, operations, corporate image and etc. Bruce Lee's "Be Water" was quoted as one of the best ways for us to cope with this situation, that means we need to be prepared and be resilient.

Prof. Ho said his most interested situation is the Unknown – Knowns scenarios, which are risks that often overlooked or misinterpreted, such as untapped knowledge, planning and communication errors. Sometimes there are issues that everybody knows, but don't want to do anything about it. He quoted one example, regulation stated that safety harness could not be anchored to scaffold, how many times do we see that happen in various workplaces in a practical situation? Various countries had looked into this and work with the trade union to develop workable solutions, hope one day we are able to move in this direction. Prof. Ho encouraged fellow Occupational Safety and Health practitioners as we have the experience and knowledge to manage COVID-19 risk as we had our experience during SARS in 2003. He illustrated by using James Reason's Swiss Cheese Model of Accident Causation to explain the various layers of defences we have to mitigate risk of COVID-19. We could use this well-known model to explain the controls in place to the mass public via an easy-to-understand graphic as shown below.



Prof. Ho also used the 7 Golden Rules of Vision Zero promoted by the International Social Security Association (ISSA) as another way we adopt what we know to the COVID situation, response management in this case.

What is Useful? What is Adequate?

After discussing about risk management, another topic is focused on controls or mitigations. When COVID-19 emerges, face mask becomes the hottest item to purchase. Various countries produce face mask with various specifications, types, standards, etc. While companies tried their best to procure available stock in the market to ensure enough stock for continuous operations, there are a lot of questions and concerns needed to be answered, from senior executive to the workforce. Occupational Safety and Health practitioners could base on their experience in selection of PPE to further investigate what is the most appropriate for their situation and exposure, before jumping into conclusion to the highest standard (e.g., ASTM Level III vs. Level II vs. Level I). It is also very important to explain the reason to the users as it is a media-driven society, while sometimes there are contradicting messages or even false information flowing around the social media.

There are a lot of consumer and commercial products being introduced to the market in 2021, from temperature measurements, robotics, personal air purifiers to area sterilization devices, etc. As an Occupational Safety and Health practitioner, we should be scientific and try to understand whether such products are effective before giving advice to our management. We have to understand the theory, assumptions and limitations of these products. It is much easier to research with today's Internet, also professional organizations and networking could help us to understand the technology before making a decision. However, as Prof. Ho quoted, sometimes we have to manage expectations from the workforce, we might need to make a decision if that makes them feel better protected. When the outbreak emerged, there was a query from one of our members that work in a hospital about the use of disinfecting fogger, it was a great experience as we asked a Certified Industrial Hygienist (CIH) to help this member. We also learnt from them that the most effective way is manual cleaning if there is a risk of exposure to body fluid.

Conclusion

Where there is risk, there is opportunity. During this difficult time of COVID-19, a lot of Occupational Safety and Health practitioners have more exposure to senior executives as we are a crucial contributor to ensure business continuity. It is time for us to use this opportunity to utilize what we know and learn what we don't know in order to push our professional role to the next level. On behalf of the Association, our President would like to once again thank Prof. Ho for his time to share with us, not only the knowledge but the way of thinking.

Be Prepared! Be Resilient! Be Scientific!

Smart Work Injury Management (SWIM) System: Artificial Intelligence in Work Disability Management

Authored by: ***Dr Andy S.K. Cheng, PhD***
Associate Professor, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University

Author's Profile:

Dr Cheng is an Associate Professor at the Department of Rehabilitation Sciences, the Hong Kong Polytechnic University. He is also the Programme Leader of the Bachelor of Science (Honours) course in Occupational Therapy. He is also a registered occupational therapist (HK & UK), chartered safety and health practitioner, certified work capacity evaluator, and registered driving assessor. He received his professional training in occupational therapy in former Hong Kong Polytechnic. He got his bachelor's degree in Health and Safety at the Curtin University and completed his MPhil and PhD at the Department of Orthopaedics and Traumatology, Faculty of Medicine, the Chinese University of Hong Kong. He was the first Asian recipient of Canadian Institutes of Health Research (CIHR) Scholarship for postgraduate training on the Work Disability Prevention CIHR Strategic Training Programme at the Universite de Sherbrooke and University of Toronto. Dr Cheng was the President of the Hong Kong Ergonomics Society. He is currently the treasurer of the Chinese Association of Ergonomics Societies, and council member of the International Ergonomics Association.

Introduction

On 29 March 2021, Dr Cheng gave a presentation in the HKOSHA webinar on Smart Work Injury Management (SWIM) System: Artificial Intelligence in Work Disability Management. Below is an abstract of his paper. For more details, the full version could be retrieved from the following link:
http://hkosha.org.hk/blog/wp-content/uploads/2021/04/Smart-Work-Injury-Management-System.pdf
The presentation file is also available at HKOSHA website.

Purpose

This paper aims to illustrate an example of how to set up a work injury database: the Smart Work Injury Management (SWIM) system. It is a secure and centralized cloud platform containing a set of management tools for data storage, data analytics, and machine learning. It employs artificial intelligence to perform in-depth analysis via text-mining techniques in order to extract both dynamic and static data from work injury case files. When it is fully developed, this system can provide a more accurate prediction model for cost of work injuries. It can also predict return-to-work (RTW) trajectory and provide advice on medical care and RTW interventions to all RTW stakeholders.

The project will comprise three stages. Stage One: to identify human factors in terms of both facilitators and barriers RTW through face-to-face interviews and focus group discussions with different RTW stakeholders in order to collect opinions related to facilitators, barriers, and essential interventions for RTW of injured workers; Stage Two: to develop a machine learning model which employs artificial intelligence to perform in-depth analysis. The technologies used will include firstly, text-mining techniques including English and Chinese work segmentation as well as N-Gram to extract both dynamic and static data from free-style text as well as sociodemographic information from work injury case files; secondly, principle component / independent component analysis to identify features of significant relationships with RTW outcomes or combine raw features into new features, and thirdly, a machine learning model that combines Variational Autoencoder, Long and Short Term Memory, and Neural Turning Machines. Stage Two will also include the development of an interactive dashboard and website to query the trained machine learning model. Stage Three: to field test the SWIM system.

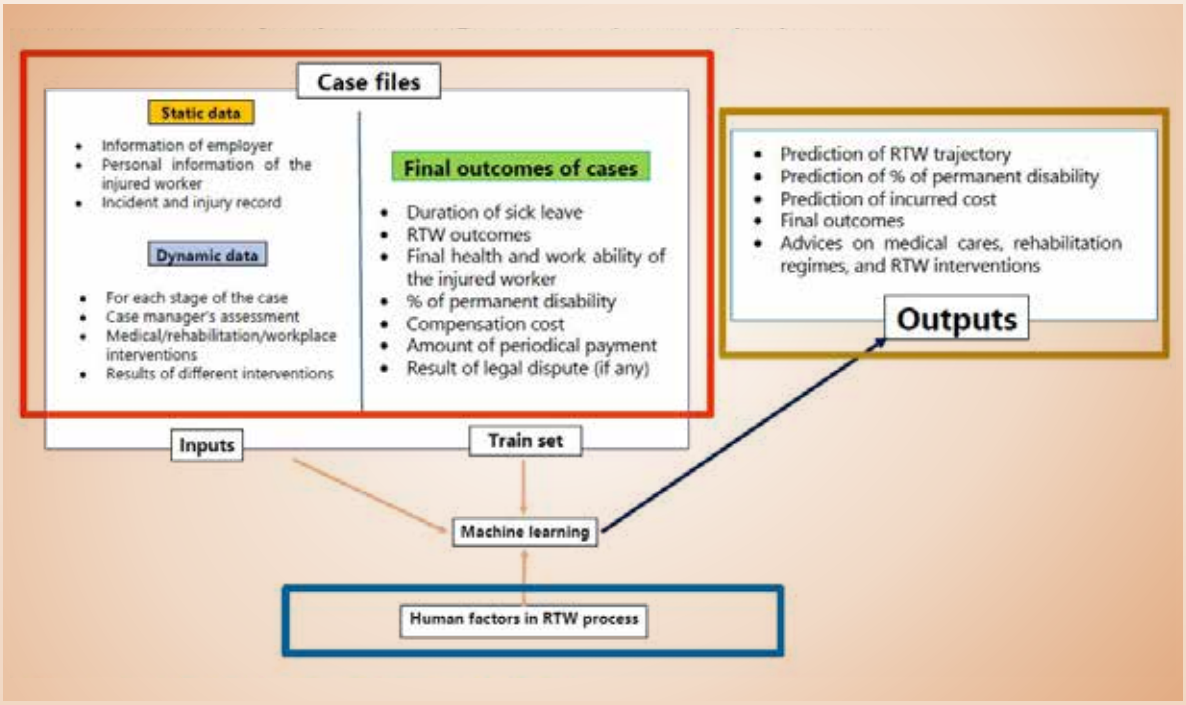


Figure 1. Conceptual Framework of SWIM

Conclusion

SWIM is a secure and centralized cloud platform containing a set of management tools for data storage, data analytics, and machine learning. When it is fully developed, SWIM can provide a more accurate prediction model for the cost of work injuries and advice on medical care and RTW interventions to all RTW stakeholders.

Ethics

The project has been approved by the Ethics Committee for Human Subjects at the Hong Kong Polytechnic University and is funded by the Innovation and Technology Commission (Grant # ITS/249/18FX).

預防肺塵埃沉着病
要有好格局

肺塵埃沉着病補償基金委員會

建造業工友免費胸肺檢查服務

報名 / 查詢：2581 0617

以人為本的安全管理（上）

By ***Dr Daron LEUNG,***
Immediate Past President of HKOSHA

引言

安全管理的核心原意就是引用一些工作系統去管理人的工作安全與健康狀況，從而盡量避免或減少意外、不安全、不健康情況發生。但隨著時間的過去，人們往往會忘記它的初衷，令至它變得因循和僵硬化，最終成為一些無理、無意義、沒效用、過時的規條。很多企業的安全管理過多採用行政命令方式，不用加以解釋原由，容易使員工產生逆反心理，從而產生副作用。安全管理不僅需要以人為中心，而且還必須要人性化以使其更加有效，高效和可持續地實施。以「人」為本的管理方法以「人」為出發點，注重激發員工的思想共鳴，使企業全體不論是領導管理人員還是員工，不再認為安全工作單只是安全管理人員的事，與我無關，達到一種人人參與的局面；著重突出一個「人」字，符合人們普遍的心理願望，尊重員工的主人翁地位，全體員工能積極主動做好安全管理工作。本文就是針對如何能夠將「以人為本的安全管理」制度有效地實施出來作出討論和分享。

定義

之所謂「以人為本」就是指經濟社會發展過程中，以實現人的全面發展為目標，把人民的利益作為一切工作的出發點和落腳點，不斷滿足人民群眾的多方面需求，切實保障其經濟、政治和文化權益，讓發展的成果惠及全體人民。是科學發展觀的本質和核心。

「以人為本的管理」旨在管理過程中以人為出發點和中心圍繞著激發和調動人的主動性、積極性、創造性的發展，以實現人與企業共同發展的一系列管理活動。

人本管理重視人在組織中的作用，充分尊重員工獨立完整的個性與人格特質，協助員工充分發揮自我，同時實現個人潛能與自我成長等目標。亦即藉由滿足員工的各種需求，以激發員工表現理性的行為，減少非理性的行為，充分發揮人的工作價值，並提高工作效率，增進組織內的團結合作，以達成「極大化組織效益」的最終目標。

「以人為本的安全管理」就是在管理過程中，考慮到人的限制和能力，注入人性化的元素，採用讓員工容易接受、願意接受、主動接受的管理方式，以激發和調動人的主動性、積極性、創造性的發展，引導員工提高安全意識，增強安全防範能力，讓員工真正體會到搞好安全工作是對員工生命健康的愛護，是維護員工根本利益的體現，以實現員工與企業共同安全目標。

「以人為本」的歷史發展

在中國古代早在春秋時期（BC 640），幫助齊桓公成就霸業的管仲就提出，「夫霸王之所始也，以人為本，本固則國固，本亂則國危。」意為霸王的事業之所以有良好的開端，也是以人民為根本的；這個「本」理順了國家才能鞏固，這個「本」搞亂了國家勢必危亡。

在西方國家人性化管理這種概念的確定，是經過近150多年社會變遷、企業更迭的歷史演進的結果。起源於早期工業革命的企業管理，在上個世紀初形成了經典的「泰羅模式」（Taylor's Model）（AD1860）：其科學性在於精確的計算，從每道工序、每個動作所需的時間，到工人上廁所的時間，都有嚴格的測算和規定，實現了管理的精細化和標準化，其特徵是把人變成了機器。"泰羅模式"的內涵是以老闆為中心的生產導向管理，但隨著歷史的進步，人們的價值觀念也發生變化，"泰羅模式"就逐漸顯出弊端，員工與公司領導之間的不信任根深蒂固。員工在生產經營中的主觀能動性的發揮受到很大限制，工作效率下降，企業發展受阻。

美國著名行為學家馬斯洛(A.H. Maslow)於1943年在《激勵和人》論著中指出，人類最基本的需求是維持人自身生存和延續的生理需求、安全(含健康)保障需求，其次才是社交活動、尊嚴地位、自我實現的需求。人人都知道愛惜生命，個個都願意安全生產，誰都需要設法消災避難。從而帶出「以人為本」的管理根基。

「以人為本安全管理」的現代發展

現代企業安全管理的理念，首先是要把員工的生命安全放在第一位，當人身安全與經濟利益或其他的安全發生衝突時要無條件地服從人的生命。所謂「以人為本」文化的基礎也是保障員工的生存權。企業的安全文化的實質是「以人為本」的安全管理意識和方法。而安全管理中「以人為本」的管理，正是把重視人的生命視作企業安全管理的第一需要。

中華人民共和國《安全生產法》規定，安全生產工作應當「以人為本」，堅持安全發展，堅持安全第一、預防為主、綜合治理的方針，強化和落實生產經營單位的主體責任，建立生產經營單位負責、職工參與、政府監管、行業自律和社會監督的機制。

「以人為本」管理有哪些好處?

首先，「以人為本」管理能充分調動員工的主觀能動性。管理的「以人為本」思想即是給予員工一種家的感覺，讓每位員工都能夠把企業的事自覺地當成自己家的事來處理，提倡安全工作人人關顧，人人都是安全人員的工作態度。人性化管理要求的是工作面前，人人平等，大家朝著一個目標努力，發揚「不在其位，也謀其職」的精神，只有這樣，才能集思廣益，群策群力，更好地保障安全。

其次，「以人為本」管理有利於促進集體的團結。「以人為本」使得員工的權利得到尊重，價值得以體現，於是，員工上班時的心情自然愉悅，相互間的配合也會更加和諧順暢。就根本來說，員工情緒的好壞，在很大程度上影響著其選用的工作方法以及考慮事情的周密程度。

「以人為本」管理還有利於建立健全合理的規章制度，促使員工更加自覺地遵守規章制度。要實現管理的人性化，很重要的一條是企業所制定的規章制度應該是以法律為基礎，以符合理性和顧及人的感受的方法去執行。如要實現，就需要就規章制度廣泛徵集員工的意見，剔除不合情理的規定，補充、完善合理的規定。這樣產生的規章制度既有理論基礎又符合實際，並且，對於自己認可的規定，員工們更願意遵守，同時也能有效消除牴觸情緒。

除了達到上述目的以外，「以人為本」管理並且帶來了一些商業利益，其中包括：

- 提高運營效率，增加業務成功的可能性及目標；
- 更易於理解和學習使用方法的產品和服務，從而增加了使用率並減少支援費用；
- 增加工作人員和客戶的可及性；
- 降低產品設計不佳的風險以及相關的財務後果；
- 對客戶和市場的反應更快；
- 加強健康和安全以及環境保護；
- 增強員工的信心和信任，這有助於提高動力和忠誠度，並減少人才流失。

被世界七大工業國組織（七國集團G7）認可的一些高國際標準包括有：

- ISO 26000：2010 社會責任指南
- ISO 31000：2009 風險管理-原則和指南
- ISO / IEC 38500：2015 信息技術-組織的IT治理
- ISO 27500：2016 以人為本的組織，理由和一般原則

其中這ISO 27500：2016國際標準確定了使組織以人為中心的價值觀和信念，從而帶來的業務和運營重大利益，以及他們實現這些原則所需要製定的政策。這標準為每項原則確立了關鍵性的量化標準以釐定是否符合，對未達到相關標準的影響加以說明，以及建議可採取減輕此類失敗風險的措施。這國際標準借鑒了大量的人體工程學(Ergonomics)和人的因素(Human Factors)的知識，並以簡潔的形式介紹了以人為本的理論基礎和一般原則。

它解釋了以人為中心的組織的七個原則，這些原則如下：

1. 利用個體差異作為組織力量;
2. 使可用性和可及性成為業務戰略目標;
3. 採用全系統方法;
4. 確保健康，安全和福祉是業務的重點;
5. 重視員工，營造有意義的工作環境;
6. 開放和值得信賴;
7. 以對社會負責的方式行事。

「以人為本」這一術語用於反映組織不僅對其客戶（其產品和服務的用戶）產生影響，而且還對其員工，家庭和更廣泛的社區產生影響。

上集 - 完

下集 - 如何引用「人性化」法則來促進「以人為本」管理? 將於下期刊登。

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Innovation Corner

吊船雙保護安全鎖轉入夾點防護裝置

在2000年初，為了符合新實施的法規和《安全使用和操作吊船工作守則》的要求，吊船行業引入**雙重保護安全鎖**（傾斜和斷繩保護），並廣泛使用，以防止吊船由於懸掛鋼絲繩折斷，或其他機械故障而引致的過度傾斜或倒塌。

儘管雙重安全鎖在保護吊船方面非常有效和可靠，但是雙重保護安全鎖本身的設計卻一直存在著原設計者可能忽略的職業危害，就是安裝在擺臂上的鋼絲繩滾輪有一個危險的轉入夾點。

吊船工人的手指可能會被移動中的鋼絲繩意外地拉入滾輪的轉入夾點，從而造成嚴重傷害。不幸的是，多年來，這種情況不斷地發生。在最近的一次事件中，就有吊船安裝工人手指被嚴重夾傷，受傷工人最後要截肢。此外，其他異物（例如衣服、供電電線等）都會被轉動中的鋼絲繩帶入滾輪的轉入夾點，在類似的情況下被夾住，從而危及工人和吊船的安全。

鑑於先前的意外事件，我們與安全鎖製造商合作，設計了一種**安全鎖轉入夾點防護裝置**，以防止發生類似的事故。該裝置構造簡單有效，而且經濟；它只是一個簡單的防護罩，安裝於滾輪的頂部，帶有導向孔，吊船安裝過程中懸吊鋼絲繩可以進入該導向孔，並可以自由移動（見圖左）。

該設備已經過全面的現場測試，証實為工人提供有效和充分的保護的同時，安全鎖的功能不會受到影響。裝有安全鎖轉入夾點防護裝置的吊船，已經通過了註冊專業工程師（RPE）進行的法定測試和檢查。

我們希望此防護裝置可以被行業中的每一位工人使用，以防止悲劇事件再次發生。

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HKOSHA NEWS

New Members

As of end April 2021, there are 452 members in HKOSHA.

The following membership applicant was approved in April 2021

A. Approval of Membership

Name	Grade of Membership
TSANG Pak Wai	Professional Member (Safety)

職業安全健康局
OCCUPATIONAL SAFETY & HEALTH COUNCIL

香港安健認證計劃
Hong Kong Safety and Health Certification Scheme

Accredited Occupational Rehabilitation Specialist (AORS)

Hong Kong Safety and Health Certification Scheme

The Hong Kong Safety and Health Certification Scheme (HKSHCS) provides accreditation services to relevant OSH practitioners and competent persons to ensure that they possess the necessary qualifications and capability to perform the specified duties. The accreditation services would enhance their competency and safety performances, and at the same time provides a recognition to the industry.

Accredited Occupational Rehabilitation Specialist (AORS)

Occupational Safety and Health Council (OSHC) and insurance sector jointly launch the "Pilot Scheme on Return-to-Work of Injured Employees in Construction and Specified Industries" in 2017. This Pilot Scheme aims to provide timely treatment and rehabilitation services to employees who suffered from occupational injuries, so that they can recover as soon as possible and return-to-work (RTW) under safe circumstance. Hong Kong Safety and Health Certification Scheme now provides Accredited Occupational Rehabilitation Specialist accreditation services to the people who provides rehabilitation services to the employees. If you are interested to apply Accredited Occupational Rehabilitation Specialist, you can contact the Hong Kong Safety and Health Certification Scheme for details.

Accredited Occupational Rehabilitation Specialist Application Form (in Chinese Only)

Contact Us :

The Hong Kong Safety and Health Certification Scheme

Hotline: 2116 5050 Fax: 2151 7433 Email: certification@oshc.org.hk

OSHC HK

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