

SMART ERGONOMICS

ERGONOMICS & COVID-19 LESSONS LEARNT

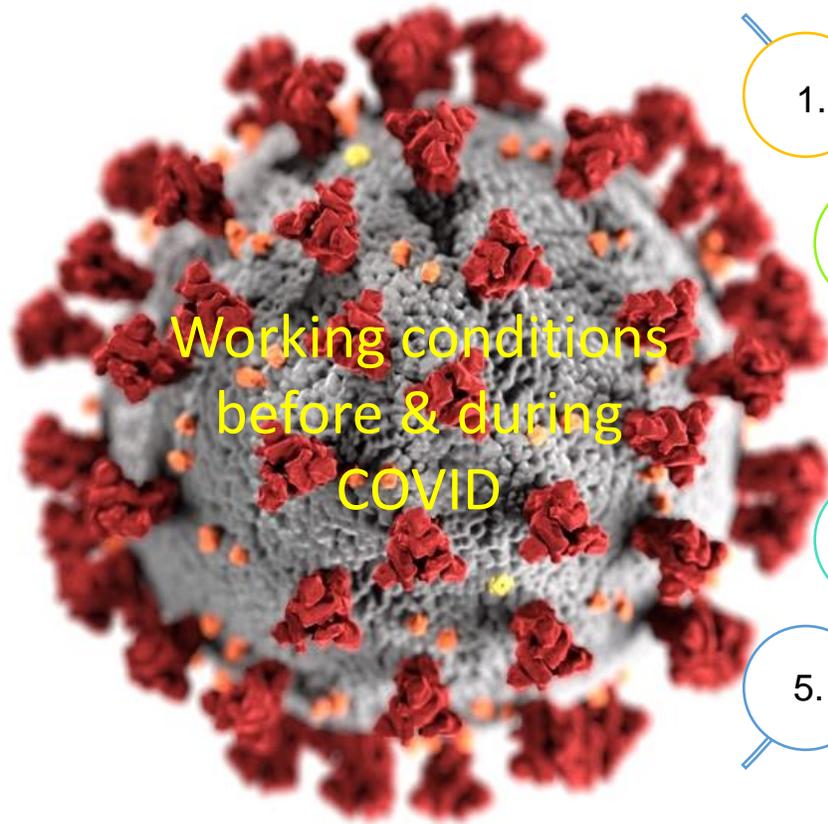
Working conditions before & during COVID from an ergonomics perspective

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OVERVIEW



1. Have working conditions changed following COVID-19?

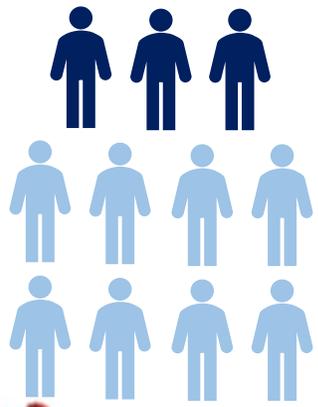
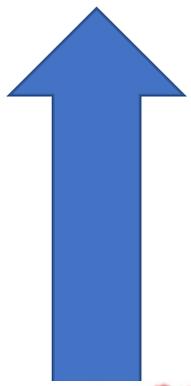
2. Legislative requirements for managing ergonomic risks in workplaces

3. Management of risks related to changes in work scheduling

4. Sub-optimal working conditions and MSDs

5. Conclusions

Have working conditions changed?

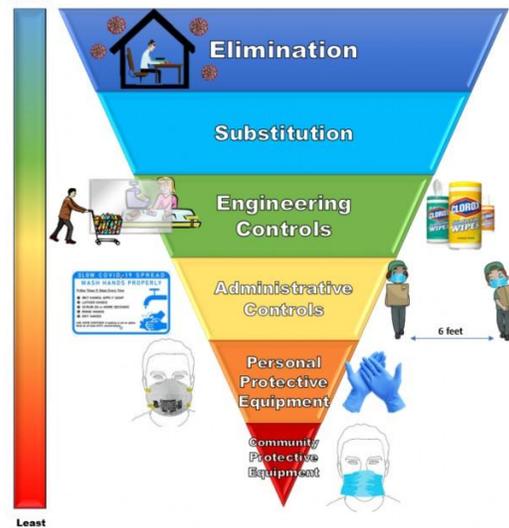
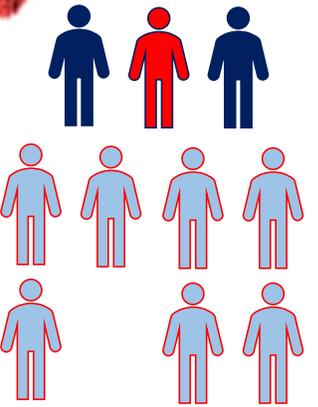
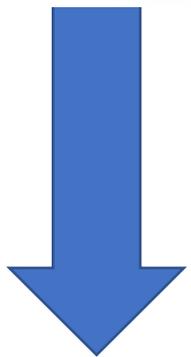
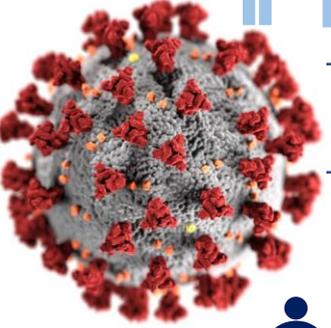


<https://mohamedhassanfreelancing.com/>

RISK MANAGEMENT



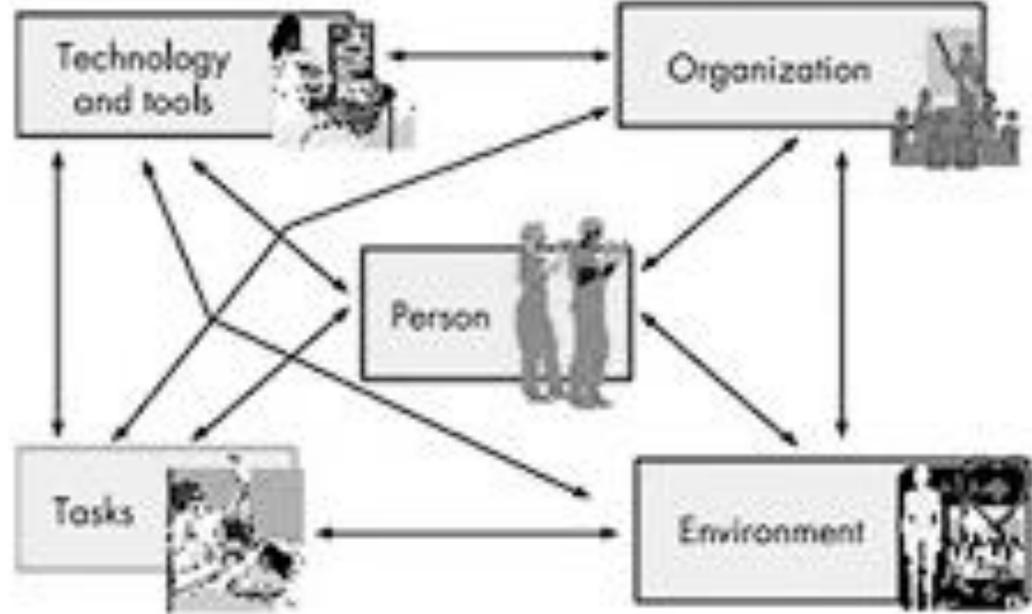
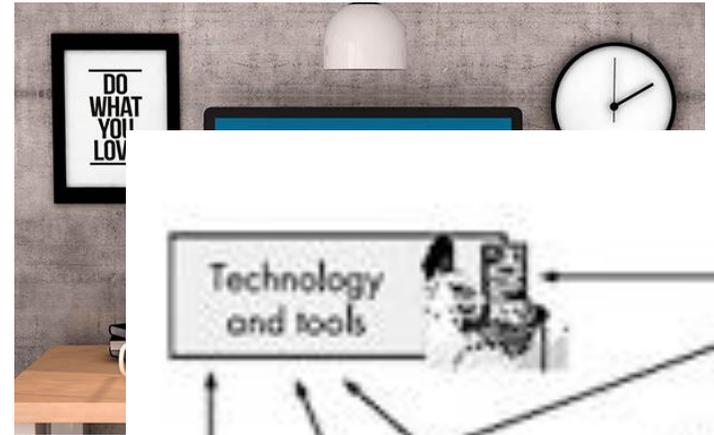
- ↓ staff availability
- ↑ working time
- ↑ workload
- ↑ fatigue, burnout
- ↑ job insecurity, retrenchments
- ↑ worker stress
- ↑ accidents & incidents
- ↑ IODs



RISK MANAGEMENT



Have working conditions changed?



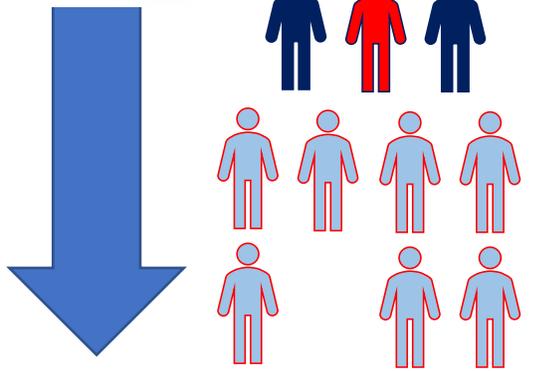
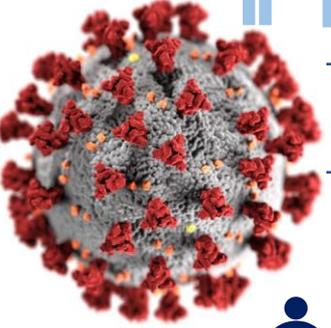
RISK MANAGEMENT



Ergonomic risks

↓ staff availability

↑ accidents & incidents ↑ IODs



RISK MANAGEMENT

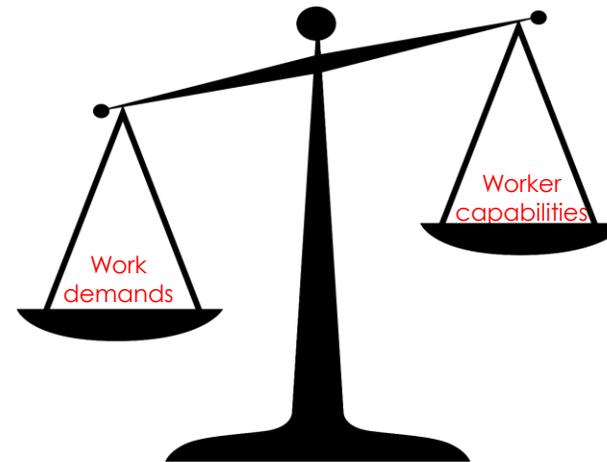
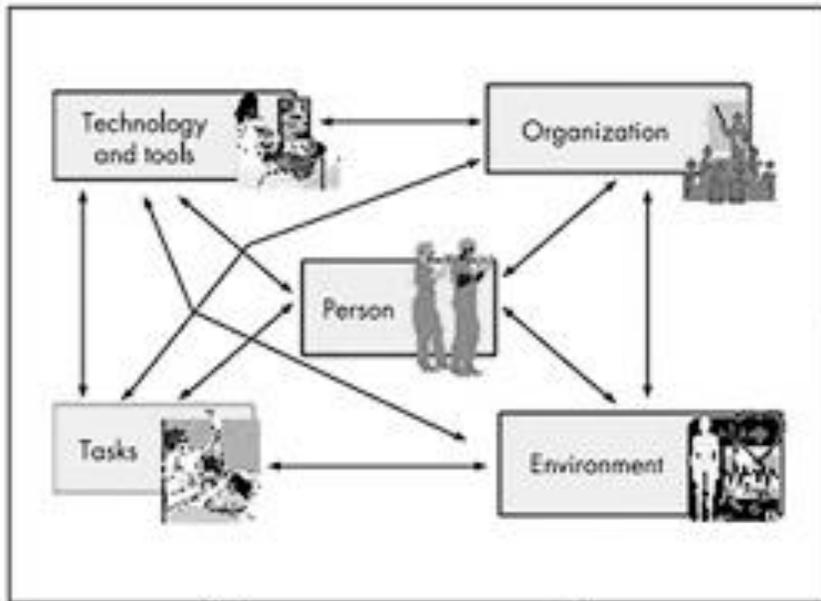
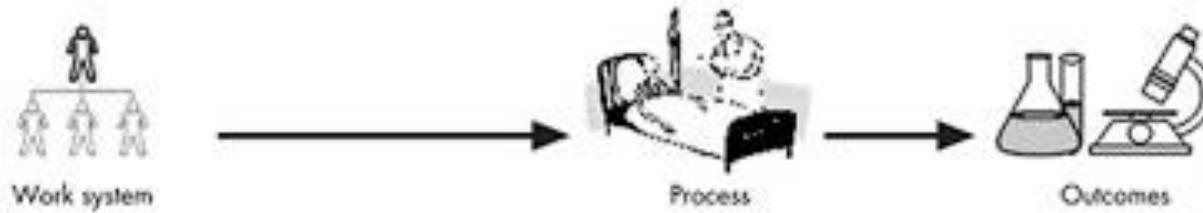


Ergonomic risks

Human Factors/ Ergonomics

Definition: Systems & Interactions

Complex socio-technical work systems



SUBOPTIMAL SYSTEM INTERACTIONS

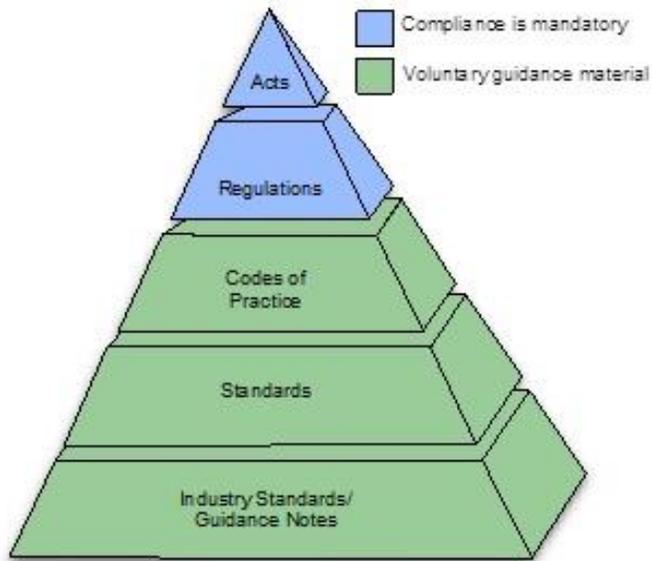
- Inefficient production
- Suboptimal quality
- High workload, fatigue, stress
- Absenteeism, presenteeism, high turnover
- Occurrences (near misses, incidents, injuries, health disorders, accidents)
- Non-compliance to legislative requirements

Remote office working environments: legislative requirements

- Home = workplace = premises or place where a person performs work in the course of his (or her) employment (OSH Act)
- Management of remote work(ers) still governed by OSHA, Ergonomics Regulations, BCEA, COIDA, Skills Development Act etc.
- Office technology/ equipment/ tools used for work = machinery provided by employer = needs to comply with health and safety requirements (OSHA, General machinery regulations, Ergonomics regulations etc.)



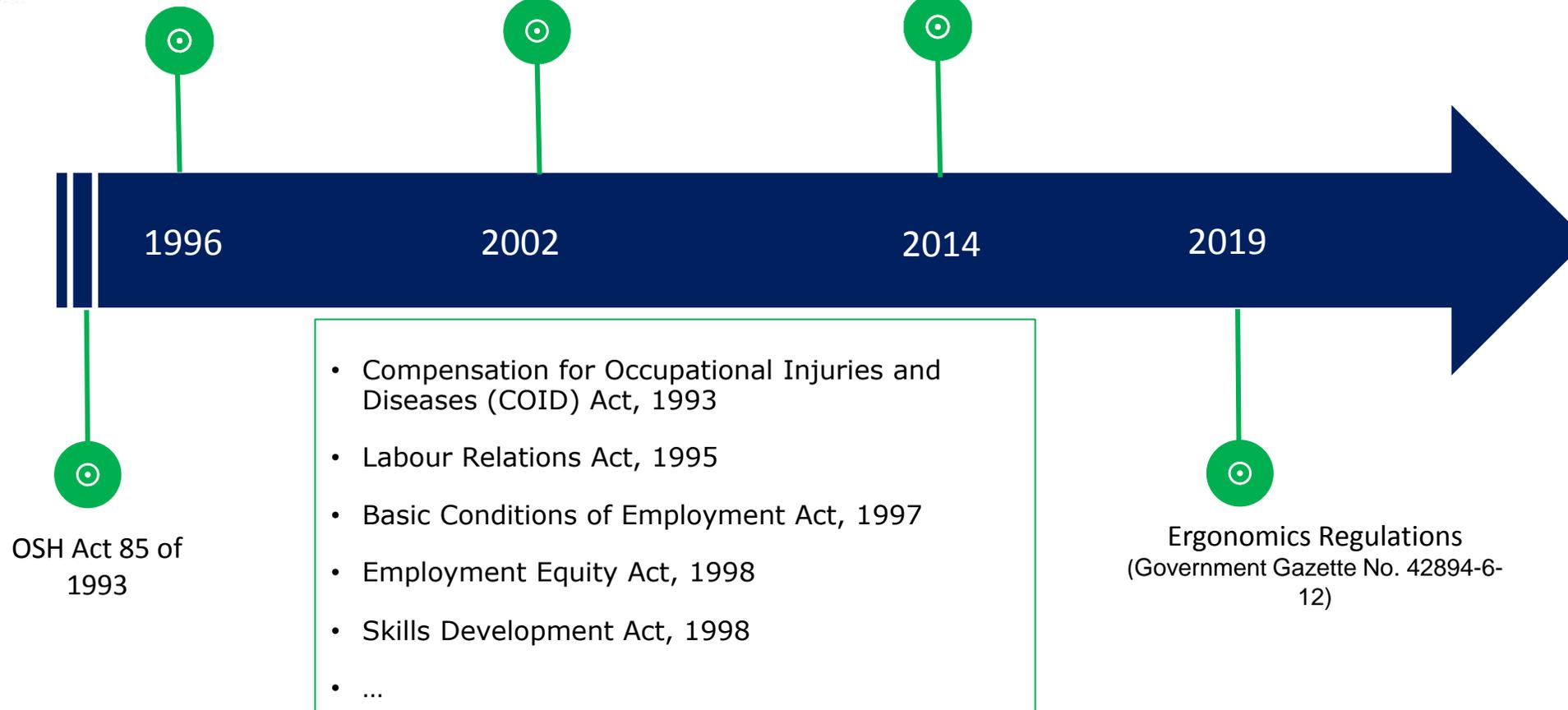
Legal and Regulatory Framework for managing HF/E in South Africa



Mine Health and Safety Act 29 of 1996

National Railway Safety Regulator Act 16 of 2002

Construction Regulations of 2014
(Government Gazette No 40883)

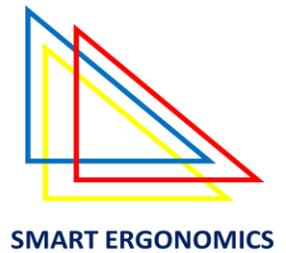


KEY:



Timeline of legislative & regulatory human factors requirements in South Africa (Acts)

Remote office working environments: legislative requirements



DEPARTMENT OF LABOUR

NO. R. 1589

06 DECEMBER 2019

DEPARTMENT OF EMPLOYMENT AND LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

ERGONOMICS REGULATIONS, 2019

Ergonomic risk assessment

6. (1) (a) An employer must, before the commencement of any work that may expose employees to ergonomic risks, have an ergonomic risk assessment performed by a competent person.

Risk control

7. (1) An employer or self-employed person must ensure that the exposure of a person to ergonomic risks is prevented or, where this is not reasonably practicable, adequately controlled.

(2) In order to comply with subregulation (1) an employer or self-employed person must, as far as is reasonably practicable, remove or reduce exposure to ergonomic risks by implementing control measures in accordance with the hierarchy of controls.

Remote office working environments: legislative requirements



NOTICE 498 OF 2004

Circular Instruction No. 180

CIRCULAR INSTRUCTION 180 REGARDING THE COMPENSATION OF WORK-RELATED UPPER LIMB DISORDERS (WRULDs)

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CIRCULAR INSTRUCTION 180 REGARDING THE COMPENSATION OF WORK-RELATED UPPER LIMB DISORDERS (WRULDs)

1. DEFINITION

WRULDs is a collective term for a group of *occupational diseases* that consist of musculo-skeletal disorders caused by exposure in the workplace affecting the muscles, tendons, nerves, blood vessels, joints and bursae of the hand, wrist, arm and shoulder. These are syndromes associated with characteristic symptoms and physical signs (e.g. rotator cuff syndrome, epicondylitis at the elbow, tenosynovitis and nerve entrapments such as carpal tunnel syndrome).

WRULDs are caused, aggravated or precipitated by one or more of the following risk factors, singly or in combination:

- Highly repetitive movements
- Movements requiring force
- Movements at the extremes of reach
- Static muscle loading
- Awkward sustained postures
- Contact stress (e.g. uncomfortable gripping and twisting, sharp edges to hand tools, desk edges, etc.)
- Vibration

In terms of this instruction, upper limb musculo-skeletal disorders will be presumed to be work-related if the nature of the work performed includes exposure to the relevant risk factors.

Lessons learnt: Remote office working environments & legislative requirements



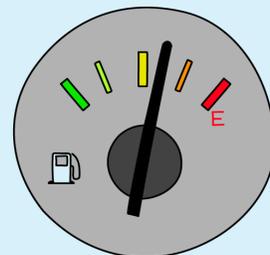
- Legislation for the management of ergonomic risks applies to teleworking. Home = workplace if employees are required to work at home.
- Labour & compensation legislation cant be implemented in a way that transgresses OSH Act and Ergonomics Regulations
- Risk assessments that comprehensively identify ergonomic risks must be done in offices and at home to understand ergonomic risk exposures and to develop appropriate controls
- Medical surveillance must be arranged to enable organisations to measure the prevalence of MSDs to understand the extent and severity of health and performance effects on workers. Workers are reporting that they are experiencing musculoskeletal disorder symptoms while in the offices and this was exacerbated with working from home
- Procurement and issuing of technologies and tools and the set-up of workstations should consider ergonomic risks at micro (e.g. workstation level) and macro levels (e.g. organisational policies and procedures, work design and scheduling etc.)
- Empowering employees, support staff (e.g. OHS, risk, and HR professionals) is critical for ensuring that they can effectively contribute to the management of systemic ergonomic risks

COVID-19 impact on work scheduling

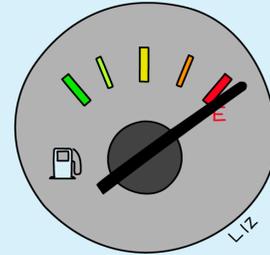
- Employees reportedly working longer with remote office working conditions, less rest and blurred lines between home and work
- Employees working on site working longer shifts, working on rest days, having fewer rest periods during shifts because of shortages linked to COVID-19 illnesses at work and retrenchments
- BCEA requirements transgressed without adequate controls to manage the emergent risks such as fatigue, workload, negative safety culture, accidents etc.



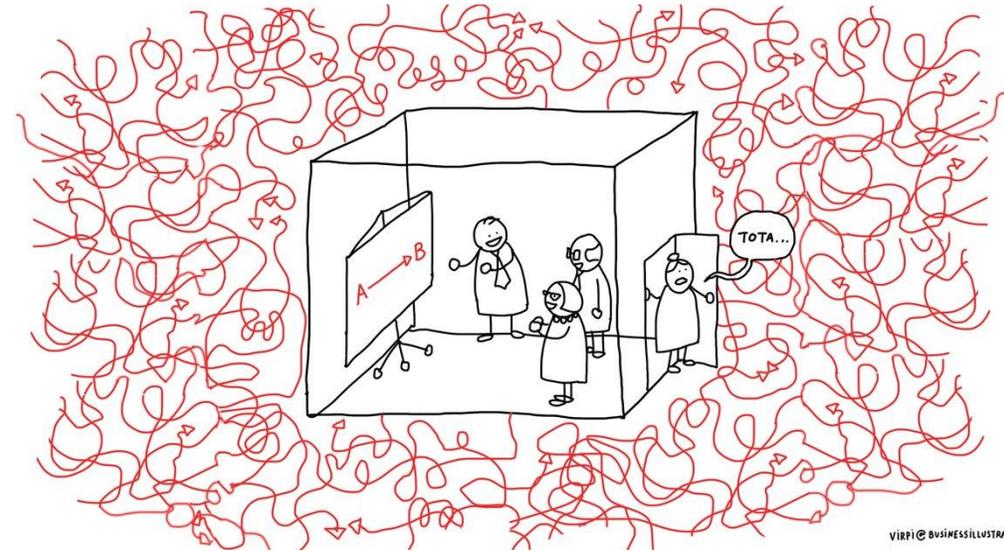
WHEN WE SHOULD TAKE A BREAK



WHEN WE ACTUALLY TAKE A BREAK



@LIZ AND MOLLIE



Lessons learnt: Management of ergonomic risks linked to work scheduling



- Changing work scheduling (rosters, work-rest ratios, working during rest days, not providing rest) introduces ergonomic risks → negative health, safety and performance consequences
- Work schedule changes often linked to increased exposure to different hazards and risks at work
- Some changes in work scheduling effectively render working conditions “unfit” → contribute to systemic failures in operations and create the breeding grounds for accidents, incidents, injuries etc.
- Before changes to work schedules are made, ergonomic assessments must be done to understand the risks and the impact on workers and operations and to devise appropriate controls
- Decisions made higher up in the organisation regarding retrenchments, re-organising work, performance targets etc. usually introduce changes to work schedules → increased workload, fatigue, increased likelihood of errors, accidents and performance decrements.
- Workers usually inherit risks linked to poor work schedules and usually get blamed for being affected by sub-optimal work schedules that they have limited control over

Sub-optimal working conditions & musculoskeletal disorders (MSDs)



MSD PREVALENCE (WHO, 2021)

- Approximately 1.71 billion people have musculoskeletal conditions worldwide.
- Musculoskeletal conditions are the leading contributor to disability worldwide, with low back pain being the single leading cause of disability in 160 countries.
- Musculoskeletal conditions significantly limit mobility and dexterity, leading to early retirement from work, lower levels of well-being and reduced ability to participate in society
- Because of population increases and ageing, the number of people with musculoskeletal conditions is rapidly increasing.
- The disability associated with musculoskeletal conditions has been increasing and is projected to continue to increase in the next decades, and even more rapidly in low-income and middle-income countries
- Among musculoskeletal disorders, low back pain is the main contributor to the overall burden of musculoskeletal conditions with a prevalence of 568 million people.
- **Impact of COVID-19 → increased exposure to MSD risk factors = likely increase prevalence of MSDs**

Sub-optimal working conditions & musculoskeletal disorders (MSDs)



Lifetime prevalence

- 47% lower back pain prevalence in Africa
- 38.9% global estimate (developed and developing nations)

Annual prevalence

- 57% lower back pain prevalence in Africa
- 38.5% global estimate (developed and developing nations)

Point prevalence

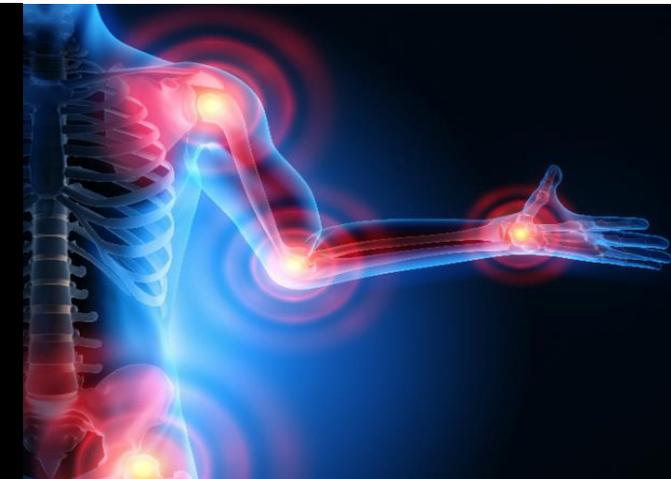
- 39% lower back pain prevalence in Africa
- 18.3% global estimate (developed and developing nations)
- 28.7% Canada
- 12-13.7% Denmark
- 23.7% Sweden
- 39.2% Germany



<http://rocheinjuryclinic.com/back-pain/>



<https://www.go-law.co.uk/a-ticking-workplace-time-bomb-musculoskeletal-disorders/>



<https://www.bics.org.uk/the-hse-are-shining-a-light-on-musculoskeletal-disorders-msds/>

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Prevalence rates of MSDs in South Africa (pre-COVID-19)

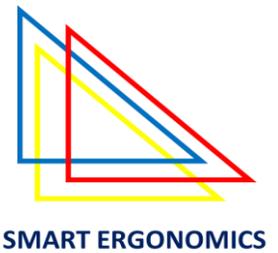
- Strain and sprain injuries accounted for 24.0% and 25.2% of all the reported injuries for underground coal mining. (Kim, 2018)
- 22 % of long distance drivers (n = 89) self-reported WRMSDs as a result of driving.
- 76.1% MSD prevalence in computer users/ workers (n=85, Zungu and Ndaba, 2009)
- 47.4% SA office based employees (n=15 663) reported neck, shoulder and/or upper back discomfort (Schultz et al., 2012)
- 12-month prevalence of musculoskeletal disorders reported by South African public hospital nurses 84.1% (n=252), and bank workers 76.7% (n=236) (Nyantumbu-Mkhize, 2017)
- 78% for upper back pain and 66% for lower back pain South African construction workers (Smallwood et al., 2018).

Lessons learnt: Sub-optimal working conditions & musculoskeletal disorders



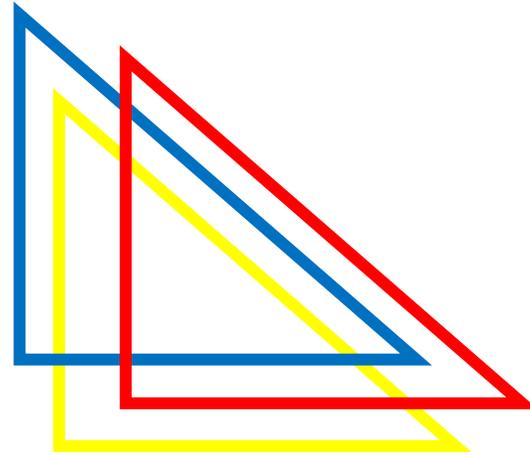
- Working conditions in a lot of organisations deteriorated during COVID-19 and workers were exposed to risks that contribute to the development of MSDs.
- Workers (are reporting that they are experiencing MSD symptoms that affect their ability to work. Some are on medication to manage the pain, others have reported being absent due to MSD related issues.
- Organisations are not measuring prevalence rates or going back to working environment to identify and measure contributory factors
- Risk assessments and medical surveillance programs in a lot of organisations do not comprehensively capture all physical, cognitive and organisational ergonomics factors that contribute to MSDs → organisations therefore don't have a comprehensive understanding of the extent of the problem → effective controls are not implemented → continued exposure to MSD risks for workers
- Case studies showing improvements in MSD prevalence and severity after ergonomics programs are introduced are available but very few organisations have ergonomics programs in place

Conclusions & Proposed solutions



- COVID-19 introduced changes and risks to workplaces. It also served to highlight deficiencies in organisations' ability/ deficiencies in managing occupational risks, particularly ergonomics risks in a dynamic manner. Compliance based risk management approaches proved inadequate under COVID-19
- Organisations that were not managing HF/E were found to be more vulnerable to ergonomic risks s evidenced through compromised worker and organisational health, safety, and productivity
- The management of HF/E is mandatory in almost all industries in South Africa
- Evidence suggests that integrating HF/E into organisation's SMSs assists with managing HF/E risks in a comprehensive, proactive, and sustainable manner. This is much needed now with the effect of COVID and to assist organisations to become more resilient against future disruptions
- Managing ergonomic risks in workplaces (including working from home) requires better collaboration between workers and the organisation and for the following to be implemented
 - Ergonomics hazard identification and risk assessment
 - Ergonomics assessments
 - Education and awareness on ergonomic risks for personnel at all level of the organisation
 - Medical surveillance that incorporates assessments for ergonomic risk exposures
 - Implementation and monitoring of controls to ensure effectiveness
 - Policies and procedures that guide organisations on how to manage ergonomic risks across the entire system
 - Systems-based approach to managing ergonomic risks through ergonomics programs

THANK YOU FOR YOUR ATTENTION



SMART ERGONOMICS

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