CONCEPT

Workplace Ergonomics and Musculoskeletal Injury Prevention: RULA, REBA and NIOSH Lifting

24 – 28 May 2027
Amsterdam - Zuidas business district hotel

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Introduction:

Workplace ergonomics and musculoskeletal injury prevention fail when awkward postures, heavy lifts and repetitive tasks are judged by eye, complaints of back, shoulder and wrist pain arrive late, and fixes stop at a new chair. The result is lost days, restricted duties and staff turnover in warehouses, plants, laboratories and offices alike. This Core Concept course trains practitioners to score tasks with RULA, REBA and the revised NIOSH lifting equation, redesign workstations, tools and work patterns, and run an ergonomics programme. Participants produce an Ergonomic Risk Assessment and Improvement Plan.

Course Objectives:

- Recognise work-related musculoskeletal disorders and the posture, force, repetition, vibration and duration risk factors that drive them
- Score upper-limb, whole-body and lifting tasks with RULA, REBA, the revised NIOSH lifting equation and manual handling assessment charts
- Redesign office, computer and industrial workstations, reach zones and hand tools using anthropometric data
- Plan job rotation, work-rest patterns and manual handling controls that reduce cumulative strain
- Run an ergonomics programme with discomfort surveys, injury data, KPIs and return-to-work arrangements
- Produce an Ergonomic Risk Assessment and Improvement Plan for tasks in the participant's own workplace

Target Audience:

- HSE staff responsible for ergonomic risk assessments and manual handling controls
- Occupational health staff who manage musculoskeletal cases, discomfort reports and return-to-work
- Production, maintenance and facilities engineers who lay out workstations, lines and equipment
- Supervisors accountable for repetitive, lifting and computer-based work in their teams
- Ergonomics champions and safety representatives who run discomfort surveys and task observations

Course Outline:

Day 1: Workplace Ergonomics Foundations and Musculoskeletal Disorder Risk

- Physical, Cognitive and Organisational Ergonomics Domains in the IEA Definition
- Work-Related Musculoskeletal Disorders: Carpal Tunnel Syndrome, Tendinitis, Epicondylitis and Back Strain
- Risk Factor Profile: Awkward Posture, Force, Repetition, Vibration and Exposure Duration
- Body Part Discomfort Mapping Survey and Early Symptom Reporting Channels
- Ergonomics Baseline Walkthrough Using a Risk Factor Screening Checklist

Day 2: Ergonomic Risk Assessment Tools: RULA, REBA and the NIOSH Lifting Equation

- RULA Scoring Sheet for Neck, Trunk, Upper Arm, Forearm and Wrist Postures
- REBA Whole-Body Scoring With Load, Coupling and Activity Adjustments
- Revised NIOSH Lifting Equation: Recommended Weight Limit and Lifting Index Calculation
- Manual Handling Assessment Charts for Lifting, Carrying and Team Handling
- Tool Selection Matrix Matching Task Type to Scoring Method

Day 3: Manual Handling, Office Workstations and Industrial Workstation Design

- Push-Pull Task Assessment With Initial and Sustained Force Gauge Readings
- Manual Handling Control Options: Mechanical Aids, Load Redesign and Team Lifts
- Computer Workstation Set-Up: Chair, Desk Height, Monitor Position and Input Devices
- Anthropometric Data Tables and Percentile Selection for Reach Envelopes and Work Heights
- Hand Tool Evaluation: Grip Diameter, Handle Shape and Tool Weight

Day 4: Work Organisation, Ergonomics Programme Management and Return-to-Work

- Job Rotation, Work-Rest Scheduling and Micro-Pause Design for Repetitive Work
- Ergonomics Programme Elements: Management Commitment, Worker Participation and Training
- MSD Injury Data Analysis: Incidence Rates, Lost Days and Body Part Trend Charts
- Ergonomics KPI Dashboard With Leading and Lagging Indicators and Intervention Tracking
- Return-to-Work Plans With Modified Duties and Job Demands Analysis

Day 5: Task Scoring Walkthroughs and the Ergonomic Risk Assessment and Improvement Plan

- Warehouse Order Picking Walkthrough Scored With REBA and the NIOSH Lifting Equation
- Assembly Line Workstation Walkthrough Scored With RULA
- Contact Centre Computer Workstation Audit and Adjustment Log
- Ergonomic Risk Assessment and Improvement Plan Drafting With Cost-Benefit Priority Ranking
- Improvement Plan Presentation and Peer Challenge

Skills You Will Gain:

- Musculoskeletal Risk Factor Recognition
- Posture Scoring
- Lifting Task Analysis
- Workstation Layout Design
- Anthropometric Data Application
- Hand Tool Selection
- Ergonomics Programme Metrics
- Return-to-Work Case Planning

Why Attend This Course:

- Return with an Ergonomic Risk Assessment and Improvement Plan built on tasks from your own workplace
- Put a defensible score on a lift, a reach or a repetitive task and show managers which change lowers it
- Fix a computer workstation or a production bench on the spot instead of ordering new furniture
- Compare task redesign choices with peers from logistics, manufacturing, healthcare, utilities and office settings

Conclusion:

Musculoskeletal injuries fall when tasks are measured, redesigned and tracked rather than left to individual effort. The course moves from ergonomics domains, disorder types and risk factors, through RULA, REBA, the revised NIOSH lifting equation and manual handling charts, to push-pull, office, industrial workstation and hand tool design, then work organisation, programme metrics and return-to-work. The final day scores real tasks in walkthroughs and produces an Ergonomic Risk Assessment and Improvement Plan ready to take back to site.