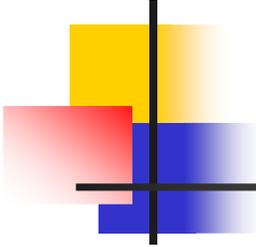


# WORKING AND HEALTH

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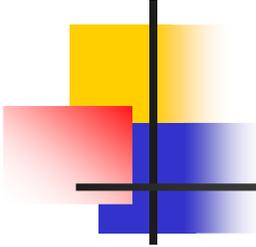
LECTURE FOR MEDICAL  
STUDENTS



# WORK IS ENNOBLIG

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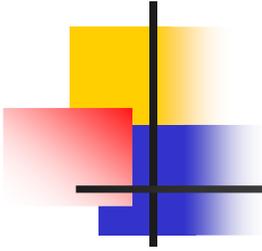
- TO BE EMPLOYED HELPS TO FIND THE CREDIT WITHIN THE SOCIETY
- UNEMPLOYMENT IS ASSOCIATED WITH:
  - POVERTY,
  - DEPRIVATION
  - BARRENNESS



# HEALTH CONSEQUENCES

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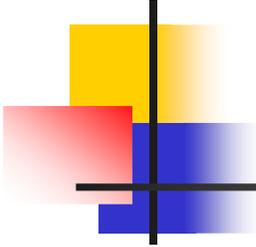
- WORSE LIFESTYLE (MALNUTRITION, ALCOHOLISM, SMOKING, DRUGS ABUSE, POOR HYGIENE)
- PSYCHOSOMATIC DISEASES
- PSYCHIATRIC MORBIDITY



# WORK AS A HEALTH RISK

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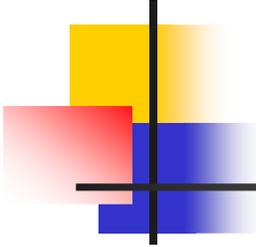
- OCCUPATIONAL D.:
  - MAINLY AMONG WORKERS
  - CAUSE SPECIFIC
  - OCCUPATIONAL EXPOSURE IS ESSENTIAL
- WORK-RELATED D.:
  - LARGELY IN THE POPULATION
  - MULTIFACTORIAL
  - OCCUPATIONAL EXPOSURE MAY BE A FACTOR



# THE SOCIAL APPROACH

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- OCCUPATIONAL D.:
  - NOTIFABLE
  - COMPENSABLE
- WORK-RELATED D.:
  - MAY BE NOTIFABLE
  - MAY BE COMPENSABLE



# OCCUPATIONAL HAZARDS

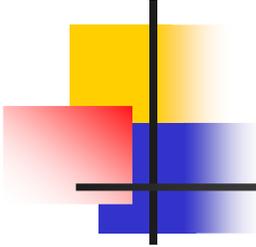
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- FACTORS:

- MECHANICAL
- HEAVY PHYSICAL LOAD

- OUTCOMES:

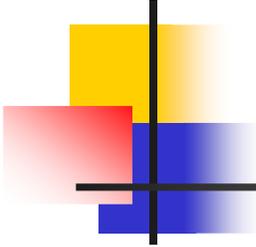
- ACCIDENTS, INJURIES
- MUSCULOSCELETAL DISORDERS, INJURIES, LOW BACK PAIN



# OCCUPATIONAL HAZARDS

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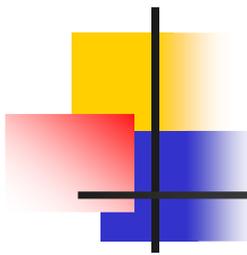
- ERGONOMIC
- MONOTONY
- MUCSULOSCELETAL DISORDERS (D. FROM REPEATED OVERLOAD)
- MENTAL STRESS, LOWERED QUALITY AND PRODUCTIVITY
- D.FROM REPEATED OVERLOAD



# PHYSICAL HAZARDS

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- NOISE
- VIBRATION
- RADIATION
- EXTREME MICROCLIMATE
- HEARING LOSS
- PSYCHOSOMATIC D.
- TR.VASONEUROSI
- CANCER, RADIAT.D.
- CATARACT
- CVD,HYPERTHERM.
- CHILBLAINS



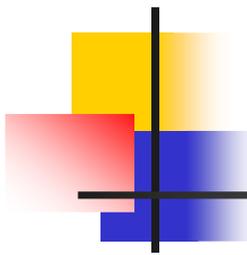
# CHEMICAL HAZARDS

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- DUSTS

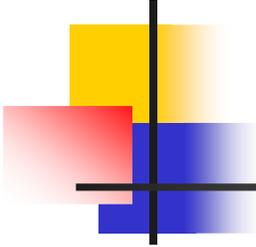
- PNEUMOCONIOSIS
- SILICOSIS
- ASBESTOSIS
- BERYLLIOSIS
- SIDEROSIS

# CHEMICAL HAZARDS



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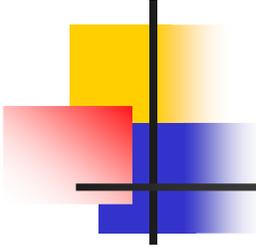
- WIDE SPECTRUM OF HUNDREDS COMPOUNDS
- INJURIES, IRRITATION
- TOXICANTS
- CARCINOGENS
- ALERGENS
- TERRATOGENS



# BIOLOGIC HAZARDS

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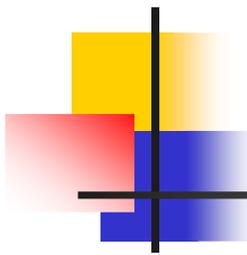
- ANIMALS
- MICROBIAL AND VIRAL FACTORS
- PLANT ALLERGENS
- INJURIES,
- ANTROPOZONOS.
- INFECTIONS
- ALLERGIES
- ALLERGIES



# PSYCHOLOGICAL STRAIN

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- DIFFERENT STRESS FACTORS
- NEUROSIS
- DEPRESSION
- DISSATISFACTION
- CONFLICTS
- PSYCHOSOMATIC D.

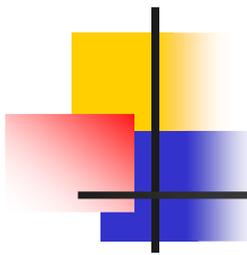


# WORK FACTORS AND WORK-RELATED D.

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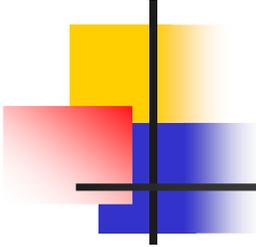
- BEHAVIORAL AND PSYCHOSOMATIC D.
- HYPERTENSION
- WORK OVERLOAD
- WORK UNDERLOAD
- SHIFT WORK
- CAREER DEVELOP.
- MIGRATION
- INTERPERSONAL CONFLICTS
- RESPONSIBILITY

# OCCUPATIONAL HAZARDS IN HEALTH PROFESSIONALS PRACTICE



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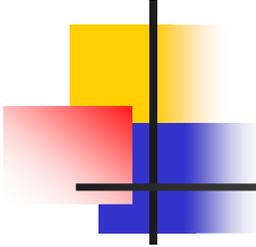
- WHICH OF THEM CAN YOU FIND?



# OCCUPATIONAL HAZARDS

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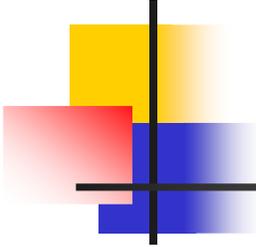
- INFECTIOUS AGENTS
- X-RAY
- INJURY
- POSTURAL STRESS
- NOISE, VIBRATION



# OCCUPATIONAL HAZARDS

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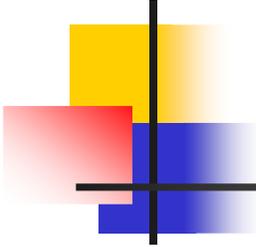
- CHEMICALS:
- ORGANIC SOLVENTS
- CHEMICAL CARCINOGENS AND  
TERRATOGENS (CHEMOTHERAPY,  
ANESTESIOLOGY)
- ANORGANIC MERCURY



# OCCUPATIONAL HAZARDS

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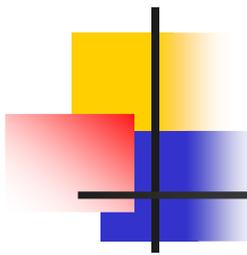
- ALLERGENS:
- PROCAIN, MESOCAIN
- IODINE, FAMOSEPT, FORMALDEHADE
- SULFONAMIDES
- ANTIBIOTICS
- ACRYLATES, LATEX/RUBBER



# OCCUPATIONAL STRESS

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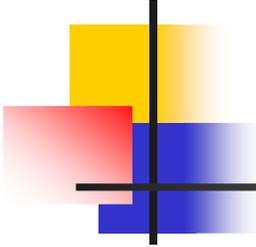
- sy. OF OVERFILL WAITING-ROOM
- LACK OF DRUGS
- LACK OF DIAGNOSTIC METHODS
- ADMINISTRATIVE OVERLOAD
- PATIENT 'S MOOD
- PATIENT 'S RELATIVES
- INTERPERSONAL RELATIONSHIPS
- SHIFT-WORK



# OUTCOMES OF STRESS

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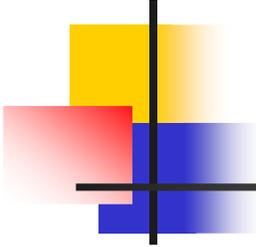
- „BURN OUT“ *sy.*
- PSYCHOSOMATIC DISEASES
- ALCOHOLISM, SMOKING, DRUGS
- PSYCHIATRIC DISORDERS – SUICIDES  
RR 2,0 (Finland, UK) – 4,0 (USA)



# PROFESSIOGRAM 1

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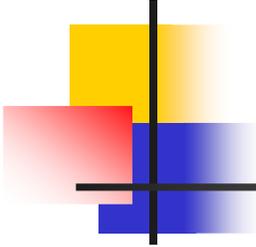
- TRY TO DEVELOPE THE WORKPLACE CHECKLIST FOR THE PATIENT WITH ICHS – MAN, 50 YEARS OLD
  
- WHICH RISK FACTORS WILL BE IMPORTANT FOR HIM?



# PROFESSIOGRAM 1

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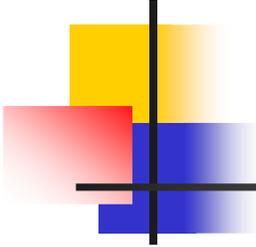
- INCREASED HEART RATE, BLOOD PRESSURE, NEEDS OF OXYGEN:
  - STRESS (working time/shift, timing monotony work, noise, mental stress – responsibility)
  - ERGONOMY (outdoor/indoor workplace microclima, postural stress, physical overload)



# PROFESSIOGRAM 1

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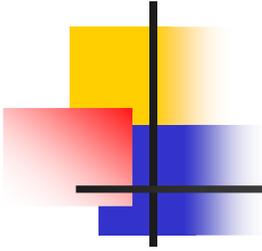
- DECREASED SOURCE OF OXYGEN:
  - ENVIRONMENTAL TOBACCO SMOKE (nicotine, carbon monoxide, hydrocyanide)
  - CARBON MONOXIDE
  - CARBON DISULPHIDE
  - NITRATES ( Monday morning death)



# PROFESSIONGRAM 1

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- COBALT (Quebec Beer-drinker's Cardiomyopathy)- Co + alcohol (?)
- HALOGENATED HYDROCARBONS (trichlorethylene, fluorocarbons) – ventricular fibrillation
- SILICOSIS, INFECTIONS, INJURY - pericarditis

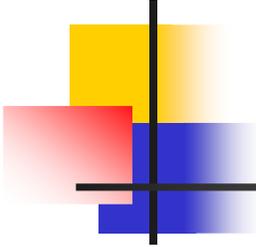


# PROFESSIONGRAM 1

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- LEAD
- CADMIUM
- NOISE

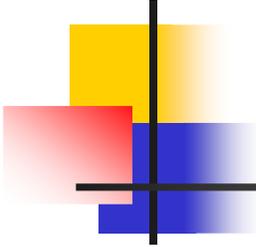
=> HYPERTENSION



# PROFESIOGRAM 2

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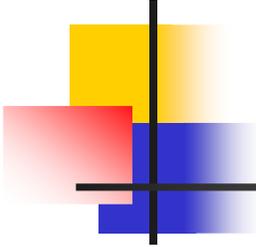
- TRY TO DEVELOPE THE WORKPLACE CHECKLIST FOR PREGNANT WOMAN
- WHICH RISK FACTORS WILL BE IMPORTANT FOR HER AND FOR FETUS?



# PROFESSIOGRAM 2

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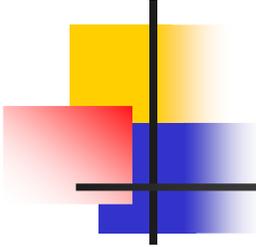
- INCREASED NEEDS FOR OXYGEN FROM THE 2nd TRIMESTER
  - STRESS
  - ERGONOMY



# PROFESSIOGRAM 2

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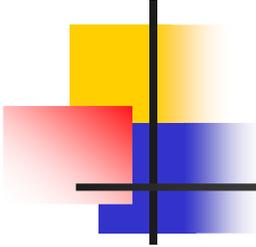
- DECREASED SOURCE OF OXYGEN:
  - POSTURAL STRESS
  - ENVIRONMENTAL TOBACCO SMOKE
  - CARBON MONOXIDE
  - CARBON DISULPHIDE



# PROFESSIONGRAM 2

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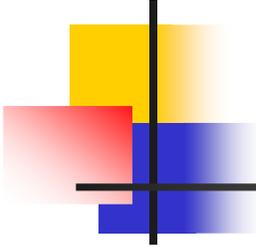
- EXPOSURE TO TERRATOGENS:
  - SMOKING + ENVIRONMENTAL TOBACCO SMOKE
  - ALCOHOL
  - THALIDOMID
  - ORGANIC MERCURY



# PROFESSIONGRAM 2

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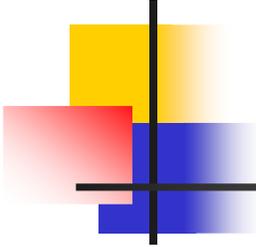
- TERRATOGENS:
  - VIRAL/MICROBIAL INFECTIONS
  - X-RAYS
  - CADMIUM, LEAD
  - ORGANIC SOLVENTS
  - COCAINE, HEROIN, MARIJUANA



# PROFESSIONGRAM 2

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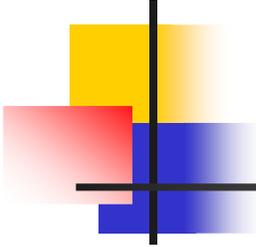
- NOISE, VIBRATION
- LIPOSOLUBLE VITAMINES
- SOME DRUGS
- EL.MAG. WAVES
- POLYCYCLIC CHLORINATED HYDROCARBONS (PCBs, PCDDs, PCDFs)



# PRIMARY PREVENTION

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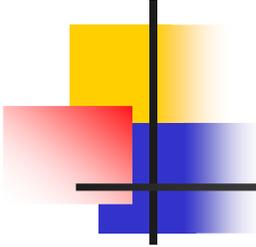
- CONTROL OF NEW HAZARDS
- CONTROL OF KNOWN HAZARDS
- SUBSTITUTION OF RISK FACTORS
- TECHNICAL CONTROLS TO MINIMASE EXPOSURE
- ADMINISTRATIVE CONTROLS



# PRIMARY PREVENTION

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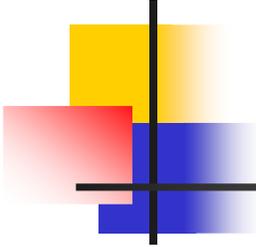
- ENVIRONMENTAL MONITORING
- BIOLOGICAL MONITORING OF EXPOSURE
- IDENTIFICATION OF VULNERABLE PERSONS (pre-employed examination)
- PERSONAL PROTECTIVE DEVICES



# PRIMARY PREVENTION

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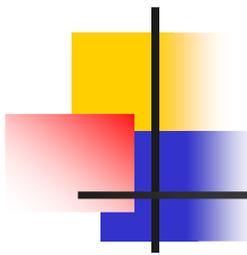
- SMOKING REDUCTION/CESSATION
- ALCOHOL – APPROPRIATE AMOUNT,  
ONLY IN THE PRIVACY
- EXERCISE AND FITNESS
- NUTRITION IN WORKPLACE  
CANTEENS, IN VENDING MACHINES



# SECONDARY PREVENTION

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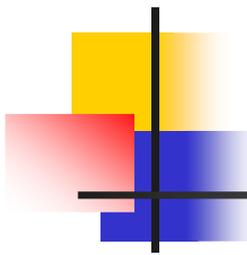
- SCREENING = EARLY DETECTION OF DELETERIOUS EFFECTS
- PERIODIC MEDICAL EXAMINATIONS
- TESTs OF CHEMICAL EXPOSURE:
  - measurement of chemical/metabolite
  - measurement of conjugates
  - measurement of body reactions



# RESPONSIBILITY IN PREVENTION

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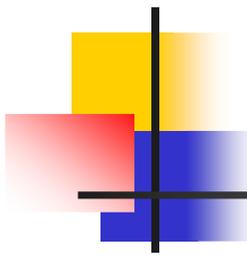
- EMPLOYERS:
  - INFORMATION ABOUT RISKS
  - CONTROL FOR REDUCTION OF EXPOSURE
  - CONTRACT WITH PHYSICIANS
  - PROTECTIVE DEVICES



# RESPONSIBILITY IN PREVENTION

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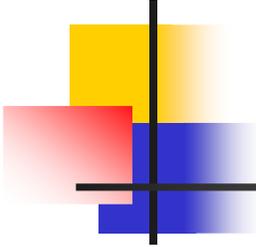
- PHYSICIANS:
  - INFORMATION ABOUT HEALTH RISKS OF OCCUPATIONAL HAZARDS
  - EXCLUDING THE VULNERABLE PERSONS
  - PERIODIC MEDICAL EXAMINATIONS + COLLABORATION WITH SPECIALISTS
  - PROPOSALS FOR WORKERS PROTECTION



# RESPONSIBILITY IN PREVENTION

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- WORKERS:
  - ACCEPT THE INFORMATION AND ADVICES FOR SAFETY WORK
  - USE THE PROTECTIVE DEVICES
  - ABSOLVE PREVENTIVE MEDICAL EXAMINATIONS



# RULES IN CZECH REPUBLIC

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- HAZARDOUS WORKPLACES ARE STATUTED BY REGIONAL HYGIENIST
- LIMITS/NORMS ARE STATUTED BY GENERAL HYGIENIST
- OCCUPATIONAL DISEASES ARE DIAGNOSED BY SPECIALISTS IN REGIONAL OFFICES

