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GUIDELINES of "Psychical Working Conditions” for use in Quality Management of European Hospitals

The PWC Guidelines are based on the PWC Checklist and the results of the survey. The PWC Guidelines are intended to become a part of the quality management system employed by European hospitals, and to contribute to optimising the Psychical Working Conditions for staff and patients. They are to be a contribution towards preventing illness and the costs associated with these. In this connection, the PWC Guidelines support the efforts of hospitals to achieve greater productivity while at the same time giving patients the best possible care.

Please note that this work about “Psychical Working Conditions” in hospitals and the resulting Guidelines concentrate on neuro-psychological health effects not comprehensively dealt with in regulations concerning hospital buildings, work places or treshold limit values already legally established in every country. Instead we have shown that even while fulfilling all regulations legally required, suboptimal Psychical Working Conditions in hospitals can lead to adverse economic effects for the hospital and adverse health effects in patients and staff. For example many countries prescribe regular medical examinations for skin or airway diseases in staff handling aldehydes or other chemicals but monitoring for neuropsychological symptoms are as a rule not part of this examinations.

GUIDELINES for Psychical Working Conditions for Use in the Quality Management of European Hospitals

The PWC Guidelines are to demonstrate to the Quality Management departments of European hospitals, which aspects need to be considered in improving PWCs, and how these can be implemented in practical terms. Hence they are to contribute to optimising the psychical working conditions for staff and patients. They are to be a contribution towards preventing preventable illnesses and the costs associated with these. In this connection, the PWC Guidelines support the efforts of hospitals to achieve greater productivity while at the same time giving patients the best possible care.

1. Assess PWC status quo

All hospital buildings are potential “sick buildings”; therefore assess the status quo and examine the buildings to determine whether or not the air quality in them is good and healthy.

Find out if there are any members of your hospital staff or patients, who complain of irritative or neuropsychological symptoms, a mouldy odour or other sensoric symptoms in relation to staying in selected rooms or in relation to selected situations of work-related exposure.

Find out if there are any persons among the staff and patients who react especially susceptibly to bad PWCs, where they are and how many there are (i.e. infants, asthmatics, atopics, people with a latex allergy, allergy to aldehydes, hyperreactive bronchial system, chemical sensitivity and others).

2. Improve indoor air quality

2.1 Lower emissions

Make sure the causes of emissions found in 1. that may be harmful to health are removed, replaced or cleaned up.

Select building materials and materials used for renovation work and furnishings according to the criteria of low emissions (also in the case of fire!).

Carry out a test for odour prior to the purchase of any building materials used on large areas, of materials to be used in renovation work, and of furnishings.

Make sure that no fibres can be released into indoor areas when building materials containing fibres are/have been used (dust barriers).

Make sure that materials emitting odours, dust or volatile chemicals are stored separately and are ventilated independently *(paper, office materials, detergents, disinfectants, paints etc.).*

Make sure that all rooms with special emission potential (e.g. laboratories, darkrooms, pharmacies, disinfection units, operating theatre, workshops, garages) are ventilated independently.

Plan for cleaning, servicing and renovation work to be carried out outside normal working hours, where possible, and accompany this work by extensive ventilation measures.

2.2 Improve ventilation

Use natural ventilation in parts of the hospital, wherever possible.

Make sure that all heating, ventilation and air-conditioning (HVAC) systems are regularly checked for current fungal/microbial soiling, cleaned and serviced by experts.

The air drawn in by the HVAC system should consist only of fresh air. There must be no sources of emissions in the vicinity of the fresh air inlet (e.g. shafts carrying spent air or exhaust from garages, engine rooms, laboratories etc.).

In new buildings or following renovation measures, ventilation rates should be markedly increased.

The HVAC system should begin operating several hours before the start of work, not just when work begins, in order to remove contaminants that have accumulated over time. The HVAC system should remain active until the last member of staff has left the rooms in question.

Staff should be trained in the use of HVAC systems.

Complaints concerning the air quality must be taken seriously and investigated.

CAVEAT: Improving ventilation rates increases energy costs!
SOLUTION: Training staff and installing intelligent systems can save much more energy than improving ventilation rates will cost you.

3. Prevent dampness and fungal or other microbial growth and metabolite production

Examine buildings regularly for overt and hidden fungal/microbial damage of the building materials and damage due to damp, since these are associated with a special health risk.

Remove all causes of dampness as well as damp materials at once before fungal growth begins.

All materials affected by fungal or microbial growth must be removed completely. Neither measures for drying these materials nor fungicides can remove the harmful microbial metabolites and cell components (toxins, allergens) from materials that have been contaminated.

Have all HVAC systems checked regularly and frequently by experts for current fungal/microbial soiling.

CAVEAT: Costs money!
SOLUTION: Sick leave, decreased productivity, sensitised staff, staff with asthma and patients claiming compensation could cost you much more!

4. Improve thermal comfort

Examine all rooms used by staff and patients in terms of their “thermal comfort” in regard to fresh air supply, temperature, draughts, shading from sun and so on.

Remove causes of thermal discomfort.

Where possible, the temperature in individual rooms or working places should be individually adjustable. The same is also true of the lighting conditions

Train staff in the use of HVAC systems, shadings and other devices.

CAVEAT!: Costs money!
SOLUTION: Training staff alone can save more money than it will cost to install / repair / improve equipment. Lower incidences of sick leave and improved productivity will be your reward!

5. Optimise amount of daylight

Daylight is preferable to artificial lighting. Take measures to ensure that a large amount of daylight may be used to light the rooms regularly used by staff and patients.

6. Reduce noise exposure

Make sure that the locations for day rooms and visitors' rooms as well as noise-generating facilities (technical equipment, vehicle facilities) are chosen such that the noise they generate does not encroach upon working places and patients' rooms.

Make sure that there are day rooms for your staff. And make sure that rooms used as day rooms do not contain regular work places.

Use sound-proofing materials in dividing walls and in floors (falling items, footsteps).

Analyse the causes of frequent false alarms triggered by medical equipment (e.g. ICU) and remove these.

When buying equipment and PCs ensure their operating noise level is low.

Make staff aware of the detrimental health and economic effects of noise (also caused by loud conversations) through training programmes.

Put up suitable signs to point out the negative effects of noise on health to visitors and patients too.

CAVEAT!: Sound-proofing materials usually contain plasticisers, PVC and other critical substances and may therefore contaminate the indoor air.
SOLUTION: Alternative sound-proofing materials with a low emission potential are also available.

7. Prevent Allergies

Do not use powdered latex gloves.

Use powder-free low-allergen latex gloves, or latex-free products depending on requirements (sterile/non-sterile, contact with highly infectious materials or not, etc.)

After removing all powdered latex gloves, make sure that special cleaning measures, including air-conditioning units, have been carried out to remove all allergenic dust.

Limit the use of aldehydes (formaldehyde, glutaraldeyhde) and ethylene oxide (ETO). The advantages of using closed systems are only theoretical in view of frequent malfunction, interrupted operations and leaks.

Determine whether staff members are sensitised to latex, aldehydes, ETO or other allergenic working materials.

Staff members with manifest allergies towards working materials must be given low-allergy working places. Staff without symptoms which is sensitised to working materials and staff with a clear disposition towards allergies, should only work with low-allergy products.

Train all staff that works with sensitising substances concerning the risks, protective measures and use of low-allergy alternatives.

Ensure that protective measures are adhered to during everyday clinical operations.

Patients who are exposed particularly frequently or who are particularly sensitive, should also make contact only with low-allergy materials.

8. Avoid other occupational exposure causing neuropsychological symptoms and loss of productivity.

Implement a special health monitoring system -including neuropsychological symptoms - for all members of staff necessarily working with potentially harmful substances (e.g. staff in laboratories, darkrooms, pharmacies, disinfection units, operating theatres, pathology, workshops as well as cleaning staff).

Train your staff in these areas in terms of the risks of handling, for example, solvents, disinfectants or paints, and in the use of protective clothing and so on.

Check all chemicals used as to their potential health hazard, and ensure that the alternative that involves the lowest risk is used.

Make safety data sheets openly available for all such substances.

Make sure that ventilation systems in the corresponding working places are serviced and checked regularly and frequently and that the ventilation exchange rates are high.

9. Ban smoking

Ban smoking inside the hospital. If this cannot be achieved, enclosed areas should be made available to smokers which are separate from the other areas.

Smoking rooms should be individually ventilated. Where a HVAC system is used, the spent air must not be fed into the general ventilation system and the spent air from smoking rooms must be released as far as possible from the point at which fresh air is drawn into the HVAC system.

Where rooms are aired naturally by opening windows, or when smoking takes place outdoors, make sure that the cigarette smoke cannot re-enter the building again through other nearby windows.

10. Raise awareness of the adverse effects of fragrances

First make staff aware of the harmful effects of fragrances (“raise awareness”) since many do not even realise this to be the case.

Discourage staff and patients generally from using perfume, aftershave or other strongly fragranced products, since all this may considerably add to the burden on indoor air.

Make sure that no fragranced or strong smelling products are used in your hospital. This also applies to cleaning agents, detergents, personal hygiene products etc.

Additional measures must be taken when patients with MCS, asthma or allergies against fragrances are being treated. Make sure such patients get rooms that are free of fragrances.

CAVEAT! This cannot be accomplished in normal hospital situations with many visitors!

SOLUTION: Yes it can! At least in certain limited areas this can be done. Examples include wards for new-born infants all over Europe, where this is already standard procedure. A distinct reduction in the level of fragrances can already be achieved by using fragrance-free products (e.g. soaps, disinfectants etc.) in general hospital operations.

11. Lower stress levels

Note: The negative health and economic effects of poor Psychical Working Conditions are aggravated by psychosocial stress.

And: Poor Psychical Working Conditions lead to stress symptoms in staff and patients.

Rigorously reduce stressors which are caused by members of staff, such as poor working climate of sexual harassment in the workplace.

Try to influence stressors caused by other factors (e.g. by improving work organisation, transparency of decisions, improving conflict management through supervision offers and so on).

Provide opportunities for relaxing (e.g. in the form of day rooms, green plants, daylight, landscaped courtyards).

And: Improve the Psychical Working Conditions!