

TASKS WITH ACTION ALGORITHM

«Medical Prevention Stantion»

Hygiene

TASK №1

In the primary medical serving centre, during medical examinations, in more then half doctors have got decrease of visual acuity. Need to recognize, what can be cause of appear pathology? What sanitary-hygienic research should be do in this case?

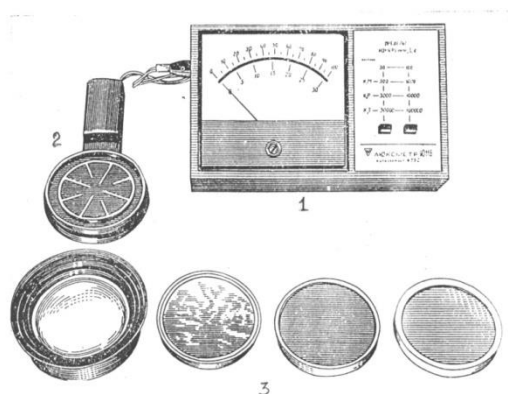
short info:

The cause of vision problems, especially in people who work in conditions of high visual load, most often, is the deficiency of adequate workplace illumination

Actions algorithm:

In order to prepare the idea of deficiency of lighting, it is necessary to conduct appropriate laboratory research, namely, studying the lighting of the workplace. To do this you need to use the device

«Luxmeter(Photometer)»



It is necessary to place a photocell on the working surface (It is not allowed to install the device near current conducting conductors, creating a powerful magnetic field); Check whether the instrument's arrow is on a zero-scale effective scale. (For this photocell, it is necessary to track differently from the meters and, if necessary, sign the position of the arrow to be used with the correction device located on the frontal side of the body); connect the photocell to the meter, observing the polarity indicated on the clamp; indoor measurements should be started when the correct buttons are pressed, which corresponds to the largest value of the measurement ranges, and at the same time follow a scale of 0-100; measuring natural education inside the premises, conducting with a sink. After the work the photocell must be disconnected from the galvanometer and close its nozzle.

TASK №2

In hospital, cases of attachment of intestinal infection to patients undergoing in-patient treatment have become more frequent. It is known that sanitation of the hospital water supply was not carried out during the last three years.

What could be the cause of the development of intestinal infections?

What sanitary-hygienic research should be conducted in this case?

Short info:

Water supply systems - a complex set of engineering structures, which are defined for protection from water supply sources, its cleaning, storage and supply to the consumer. In case of any violations of the water supply system (water supply failure, sealing breakdown, etc.) and with insufficient admission of these situations, there is a high risk of the emergence and distribution of bacterial diseases and age etiology among users.

Actions algorithm:

The cause for the outbreak of intestinal infections in this case, it is water which used in the hospital for cooking and drinking purposes.

In this case, it is necessary to check the tap water on the bacteriological parameters. To do first of all, it is necessary to assess the sanitary condition of the sampling site. Wash your hands with soap or treat with disinfectant. Burn the outlet of the faucet with an alcohol torch. Open the tap and run water for 10-15 minutes. Take the test sample in a sterile bottle of 0.5 liter volume, with a cotton-gauze crust, facing from above with a paper cap; To fill a bottle, for example, three quarters, so that under the crust there is 5-6 cm of air space. Importantly! - the opening and closing of a sterile bottle should take place over an alcohol torch.

TASK №3

A patient who was worried about her health, she came to the hospital. Day before she bought cow milk at the railway station outdoor . At home she drank 300ml milk and felt the nonspecific taste and consistency. She brought to home leftovers milk. In a thorough study, unlabeled clots of white color, powder consistency were found in milk, which, when compressed, gave a characteristic crackle .

What is fake milk?

What kind of laboratory tests should be do to confirm the falsification in this case?

Short info:

Falsification of milk occurs very often, as it does not require significant financial costs, the addition of complex chemical compounds or the use of special equipment. Often milk is falsified with water, added to it starch, flour, soda or some pharmacological preparations. Of course, taking fake milk can be dangerous to health.

Actions algorithm:

In this case, the presence in the milk of undiluted clusters of white color of the powder consistency, which, when compressed, gives a crackle, indicates falsification of milk by starch.

To confirm the presence of starch in milk it is necessary to conduct a laboratory study.

In a clean test tube placed in the holder, fill 10-20 ml. milk that is being studied. Add 2-3 drops of iodine (or Lugol's solution) to the milk and monitor the reaction. In the presence of starch in milk, the color changes to dark blue, in the absence of starch - to yellow.

TASK №4

A patient who was worried about her health came to the hospital. The day before she bought cow milk at the railway station outdoor. At home she drank close 300ml milk and felt a nonspecific salty-soap flavor. *She brought to home leftovers milk* . At a careful study of milk, a precipitate was found on the bottom of the container in the form of a white powder. Characteristically, being more than 24 hours in room temperature, the milk is not acidified.

What substance can be cause of fake milk?

What laboratory tests should be conducted to confirm the falsification in this case?

Sort info:

Soda (NaHCO_3) can be added to milk in order to vice versa to capture its acidity. By neutralizing lactic acid, soda does not delay the development of purulent microorganisms and contributes to the destruction of vitamin C

Actions algorithm:

In this case, the salt-soap flavor, the presence of a precipitate in the form of a white powder and the fact that the milk was not acidified, although it was at room temperature for more than 24 hours, suggests that the milk was falsified with soda(NaHCO_3).

Laboratory testing is necessary to confirm the presence of soda(NaHCO_3) in milk.

In a clean test tube placed in the holder, fill up test tube 10-20 ml. milk that is being studied. Add 2-3 drops of Rosin Acid solution to milk and monitor the reaction. In the presence of soda, milk produces crimson-red dyeing, in the absence of soda - yellow-brown.

TASK №5

In the patient room of the hospital, patients inpatient care began to complain about the uncomfortable conditions in the ward, namely the feeling of dryness of the mucous membrane of the nose and respiratory tract, dryness of the skin (hands and face), dry mouth.

What can be caused discomfort? What sanitary-hygienic research should be conducted in this situation?

Short info:

The human organism so much sensitive to microclimatic parameters. Uncomfortable parameters of temperature, humidity and air movement speed in the room where a person can be, except for uncomfortable feeling can lead to the development of diseases. Special control over the parameters of the microclimate requires the wards of hospitals where people with reduced immunity are located, as microclimatic factors directly influence the course of the disease and the processes of rehabilitation of patients.

Actions algorithm

In this case, all symptoms (feeling of dryness of the mucous membrane of the nose, respiratory tract, dry skin, lips) indicates an insufficient level of humidity in the room in the ward.

To study the humidity of the air, it is necessary to conduct instrumental studies with Axman's psychrometer: using a pipette, moisten the bathstist of a wet thermometer, to take the spring of the aspiration device, suspend the psychrometer on the tripod. After the aspiration (after about 5 minutes), remove the dry and wet thermometers. Use the table to determine the relative humidity of the air.

According to the norms, air humidity should be 40-60%