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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 35428-2024

Requirements for environmental control of hospital negative pressure isolation wards

医院负压隔离病房环境控制要求

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1.Structure and drafting rules for standardization documents" Drafting is required. This document replaces GB/T 35428-2017 "Environmental Control Requirements for Negative Pressure Isolation Wards in Hospitals" and is consistent with GB/T 35428-2017. In addition to structural adjustments and editorial changes, the main technical changes are as follows: Changed the "Scope" (see Chapter 1, Chapter 1 of the.2017 edition); - Changed the definitions of "negative pressure isolation ward", "airborne transmission", "isolation" and "buffer room" (see 3.1, 3.2, 3.3, 3.4, 3.1, 3.2, 3.3,

3.7 of the.2017 edition); The definitions of "clean area", "contaminated area", "potentially contaminated area", "fresh air", "fresh air volume" and "air change frequency" have been deleted (see 2017 version 3.4, 3.5, 3.6, 3.8, 3.9, 3.10); Changed building layout and isolation requirements, including buffer room access requirements, interlock door closing and opening intervals, and transfer windows. The setting location, etc. (see 4.1,

4.1 of the.2017 edition); The requirements for indoor clear height, internal and external calls and video surveillance, and limiting the range of patient activities have been deleted (see 4.1.8,.2017 edition). 4.1.15, 4.1.16); Changed the requirements for airflow organization and pressure difference control, including the clean area air pressure, pressure difference diagram, etc. (see 4.2,.2017 edition 4.2); Changed the requirements for hygiene and environmental parameters, including average colony count in the air, average colony count on surfaces, ventilation rate, temperature, Temperature, relative humidity, illumination, etc. (see 4.3,

4.6 of the.2017 edition); The requirements for ventilation and air conditioning systems have been changed, including the requirements for standby exhaust fans and their automatic switching, and the distance requirements for exhaust vents (see 4.4,

4.3 of the.2017 edition); The requirements for water supply and drainage have been

changed, including the location requirements for vent openings (see 4.5,

4.4 of the.2017 edition); - Changed the requirements for electrical and intelligent systems (see 4.6,

4.5 of the.2017 edition); - Added requirements for medicinal gases (see 4.7); - Changed the test requirements and methods (see Chapter 5, Chapter 5 of the.2017 edition). - Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed and coordinated by the National Technical Committee for Standardization of Clean Rooms and Related Controlled Environments (SAC/TC 319). This document was drafted by: China Electronics System Engineering Second Construction Co., Ltd., Jiangsu Sujing Engineering Construction Co., Ltd., Zhongkai Agricultural Industry School of Engineering, China Electronics Engineering Design Institute Co., Ltd., Shenzhen Yaerdian Environmental Technology Co., Ltd., and the First Medical College of PLA General Hospital Center, Peking University Third Hospital, PLA Air Force Specialty Medical Center, Beijing Ditan Hospital Affiliated to Capital Medical University, China Standardization Association, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, Institute of Chemical Defense, Academy of Military Sciences, Peking University First Hospital, Henan Traditional Chinese Medicine The First Affiliated Hospital of the University of Science and Technology, the Institute of Medical Support Technology, Institute of Systems Engineering, Academy of Military Sciences, China Academy of Building Research Co., Ltd., Wuhan University People's Hospital, Peking University Stomatological Hospital, China Electronics Precision Electronic Engineering Co., Ltd., Shenzhen Tiansuo Metrology and Testing Co., Ltd. Beijing Dyna Experimental Technology Co., Ltd., Shanghai Indoor Environment Purification Industry Association, Beijing North Tianyu Medical Building Technology Co., Ltd. Suzhou Xingya Purification Engineering Co., Ltd., Beijing Songcheng Technology Co., Ltd., Suzhou Zhongwei Baojia Purification Technology Co., Ltd., Jiangsu Nuoyou Air Purification Equipment Co., Ltd., Respiratory Research Institute Biosafety Technology (Guangzhou) Co., Ltd., Zhengzhou Shengma Obstetrics and Gynecology Hospital Co., Ltd., Zhengyu Hengxin Group Co., Ltd. and HuiTe Science and Technology Co., Ltd. The main drafters of this document are. Cao Jingui, Sun Weijie, Yang Ziqiang, Qi Jiancheng, Ding Lixing, Liu Shuxing, Yang Xiaobing, Pan Hongxing, Shi Wenting, Yang Yang, Guo Li, He Li, Guo Bacui, Li Minghui, Mu Li, Wang Li, Cao Guoqing, Lu Yang, Hao Yinbo, Cao Hai, Wang Fang, Zhou Hengjin, Mapusong, Lin Huiqing, Shi Xia, Lei Jie, Xi Xiaopeng, Chen Siyuan, Zhang Zhaohong, Shi Jiancheng, Yuan Youhua, Zhang Hua, Chen Zhen, Bai Bing, Huang Xiaofei, Zhou Rong. The previous versions of this document and the documents it replaces are as follows: First published in.2017 as GB/T 35428-2017; - This is the first revision. - Environmental control requirements for negative pressure isolation wards in hospitals

1 Scope

China's national standard for the environmental control of hospital negative pressure isolation wards. It specifies the terms and definitions, the technical requirements and the detection methods. A negative pressure ward keeps its air pressure below that of the corridor outside, so that air always flows inward through the door and airborne pathogens cannot leave the room. It sounds simple and it is a demanding piece of building engineering: the pressure difference must be maintained continuously while the door opens and closes, the extracted air has to be filtered before discharge, the supply and extract fans must track each other through failures, and the room envelope must be tight enough that the pressure difference is achieved with a manageable airflow. The standard was revised in 2024, which places it after the period in which every hospital in the world discovered how many such rooms it actually had. The detection methods matter as much as the requirements, because a ward that is not verified periodically drifts out of specification without anyone noticing.

This document specifies the negative pressure isolation wards used by hospitals to isolate and treat patients or suspected patients with infectious diseases that may be transmitted through the air. Technical requirements for environmental control. This document applies to negative pressure isolation wards in hospitals.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document.

GB 15982 Hospital Disinfection and Hygiene Standard

GB/T 25915.3 Clean rooms and related controlled environments Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 negative pressure isolation ward It has places and facilities for medical treatment and nursing, meets the basic needs of patients, and uses technical means to reduce the static air pressure in the room. The static air pressure in the surrounding adjacent areas is used to prevent the air containing pathogenic microorganisms from spreading outwards.

Note. The area consisting of multiple negative pressure isolation wards and patient passages, medical staff passages and related buffer rooms is called a negative pressure

isolation ward.

3.2 airborne transmission The virus is transmitted by droplet nuclei (<=5 μm) suspended in the air, which can be transmitted over long distances (>1

m) and remain infectious for a long time. Caused by the spread. [Source: WS/T 311-2023, 3.5]

3.3 Isolation Measures that use various methods and technologies to prevent the spread of pathogens from patients, carriers and places to others. [Source: WS/T 311-2023, 3.9]

3.4 Buffer room There are doors on both sides between the clean area and the potential contaminated area, and between the potential contaminated area and the contaminated area, and the doors on both sides do not open at the same time Transition room.