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## Safety regulations and management strategy in SportsBody Science Laboratory

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### Abstract

According to the SportsBody Science Laboratory safety situation, The current problems are analyzed. The implementation of multi-level safety knowledge training system, Selection of experimental operators and subjects in strict accordance with experimental requirement. Refining the safety regulations. Establish a SportsBody experimental medical supervision and medical insurance organization. Implement a unified management system for large-scale equipment. Strengthen management at all levels the ways of Safety regulations and management strategy under laboratory of Sports Body Science Laboratory in Colleges and Universities.

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### Keywords:

SportsBody science;  
laboratory safe;  
management strategy

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### 1. Introduction

SportsBody science experiment is an important part of the experimental teaching of sports majors. It is a basic laboratory established on the basis of the development of sports colleges. It covers a large group of disciplines and uses medicine, physics, and chemistry. Experiments on the principles of biology, psychology, measurement, statistics, etc. to study and clarify the composition, function, and change law of human life matter. Its function is not only to cultivate the experimental hands-on ability of students in physical education colleges, but also to extend to sports research and physical fitness monitoring etc.

With the continuous expansion of colleges and universities, and the rapid development of SportsBody science laboratories, various safety issues have emerged. In particular, the safety of human bodies in experiments has been obtained through SportsBody experiments to obtain valuable sports or physiological data, and to obtain scientific and technological achievements. It is necessary to ensure the safety of human life in the experiment and not to suffer from health damage. In current experiments that use human movement as the research object, the subject's state during the experiment is often subjective. The adverse reactions of the subjects in the exercise experiment are vaguely stated in the experimental precautions and lack of operational emergency solutions, Leaving hidden dangers in the SportsBody laboratory.

### 2. Research and Analysis

By analyzing the existing problems, the three types of accident causes are summarized. First, accidents caused by so-called "hardware" defects, such as irrational materials and structures, dysfunction of experimental equipment, etc., and second, due to "software" defects. Accidents caused, such as unreasonable

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experimental procedures, improper control, poorly planned management or poor training of personnel, etc .; Third, accidents caused by human error, operational errors during the experiment, and the negligence of the laboratory personnel caused the accident. , That is, a liability accident.

In recent years, SportsBody laboratories have exposed some problems, which are due to various aspects such as safety systems, safety inspections, safety facilities, safety education, and emergency plans (Table 1).

Table 1. Common safety management problems in laboratories

Serial number	Link	Problem
1	Safety regulations	(1) The laboratory safety management system lags behind and is not updated in a timely manner; (2) The system lacks scientific evidence, and has low operability and reproducibility; (3) Unclear reward and punishment measures in the security system, emphasizing responsibility and diluting rights and interests
2	Security check	(1) The student assistant cannot accurately judge the potential safety hazards in the daily inspection, leading to missed or non-reported reports; (2) Most security inspections are records that are not processed; (3) Schools have a single form of safety inspection, mostly visiting and inquiring about laboratories in a concentrated time.
3	Safety Facilities	(1) single type and limited number of fire extinguishers; (2) There is no difference between security doors and ordinary security doors; (3) Irregular or missing installation of safety devices;
4	safe education	(1) The investment in safety projects is small, and there is no research value, which belongs to the management category; (2) The definition of the nature of laboratory safety courses, the allocation of lessons, and the low investment in teachers (3) Managers and teachers lack special training, and they have a lot of randomness and experience in the teaching process; (4) Single teaching methods, often persuasion, duck-feeding or even intimidation; (5) The teaching content is not systematic and the safety practice is lacking.
5	emergency plan	(1) The lack of discipline and professionalism in safety drills; (2) The process is not rigorous, and the linkage between related departments is insufficient; (3) The theory is rich and the operability is not strong.

### 3. Suggestions

3.1. Establish multi-level safety knowledge training, carry out step-by-step, layered safety publicity and education, correctly understand and treat SportsBody experiments, and establish the concept of safety first, such as pre-job training, laboratory safety training, professional related knowledge training, Tutor training and demonstration training for experienced laboratory personnel.

Table 2 Multi-level safety training

Level of the training)	Content and requirement of the training)
Pre-job training	Learning standard training documents, such as laboratory safety manuals
Laboratory safety training	Learning alarm systems, laboratory emergency handling, methods of using firefighting equipment, emergency escape methods and channels, laboratory hydropower safety, hazardous materials disposal
Professional related knowledge training	Learn about the professional use of instruments and reagents related to professional experiments and precautions
Instructor training	Familiar with laboratory rules and regulations, safety emergency facilities, and personal protection measures; learn about human medical safety knowledge and operating practices related to the subject
Lab Demonstration Training	Experienced lab instructors teach students to truly master safety knowledge, understand laboratory risk factors and correct safety precautions

3.2. Selection of experimental operators and subjects in strict accordance with experimental requirements.

The selection of qualified candidates is generally divided into two aspects. One is to centrally select experimental operators according to standard conditions within a certain period of time, manage training and conduct physical training and work environment familiarity according to different experimental requirements; Before carrying out the experiment, make relevant inspections on the subjects according to the requirements of the experiment; for experiments with larger loads or special requirements, the selected subjects should be pre-experimented and "drilled" before they can officially participate in the experiment. Selecting qualified test subjects is a prerequisite for safety management in SportsBody experiments.

### 3.3. Implement a unified management system for large-scale equipment.

Centralized training of equipment operators and maintenance personnel, implement a regular maintenance and pre-experiment inspection maintenance system, and make various preparations before the experiment, including the matching of measurement and test instruments, calibration of instruments And familiar with its testing process and operator training.

### 3.4. Establish a SportsBody experimental medical supervision and medical insurance organization.

And implement the medical supervision and medical insurance work at various stages before, during, and after the experiment. The medical supervision and medical security research group consisting of doctors, health personnel, physical training personnel and scientific and technical personnel. The duties of the medical supervision and medical insurance organization mainly include: ①compiling daily health files of laboratory personnel and participating in SportsBody experiment research; ②experiment with SportsBody The person in charge of the project will jointly formulate the relevant experimental rules including the experiment termination index; ③implement the medical supervision and medical insurance work on the SportsBody experiment site;

### 3.5. Strict implementation of SportsBody experiment program management.

Multi-level review of experimental plans, and clear safety and experiment termination indicators. The SportsBody experiment plan is a key part of safety management, and its procedures are: the project leader puts forward the requirements for the experiment and formulates the purpose, methods and steps of the experiment, as well as the preliminary plan to ensure safety, implements joint signature verification, and is managed by science and technology if necessary The personnel presided over a coordination or demonstration meeting, and finally determined that the plan including the experiment termination index was submitted to the scientific and technological management department and the business office for approval. This process of multi-level approval of experimental schemes is an important system in experimental safety management, and its scientific research management idea is to ensure the safety of laboratory personnel.

### 3.6. Strengthen management at all levels.

All safety management measures are institutions. Not only the perfect responsibility system, the laboratory also needs to establish correspondingThe accountability system can really reduce the potential safety hazards caused by SportsBody negligence and management errors to the greatest extent.

## 4. Conclusion

SportsBody experiments are both risky and of great scientific value and practical significance. They are indispensable for modern scientific research. Components, and the safety of the human body in experiments is the foundation and key to achieving ideal scientific and technological results.

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