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JY

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JY/T 0165-2011

Replacing JY 165-1984

**Ear model
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 "Guidelines for Standardization Work Part 1. Standard Structure and Preparation" this standard replaces JY 165-1984 "Technical Specifications for Ear Anatomical Enlargement Model". In addition to editorial changes, the main technical changes are as follows.

-Appearance size has increased allowable tolerances;

-Added the requirement that the main parts of the model should be affixed with name or

number tags;

-Specifies the materials that should and should not be used for the model;

-Specify the limit of heavy metal content in the paint of the model.

Please note that some elements of this standard may involve patents. The issuer of this standard is not responsible for identifying these patents.

This standard was proposed by the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

This standard is under the jurisdiction of the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

1 Scope

This standard specifies the nomenclature, requirements, test methods, inspection rules and signs, packaging, transportation, and storage of ear anatomy models.

This standard applies to the human anatomy ear model.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB 21746-2008 General requirements for safety requirements of teaching instruments and equipment
JY 0001-2003 General quality requirements for teaching instruments and equipment
products JY 0002 Inspection rules for teaching instruments and equipment
products JY 0026-1991 teaching instrument and teaching equipment product model naming
method JY 0213-1994 Teaching mechanical, thermal instrument transportation, storage
environmental conditions and test methods

3.1 Naming rules

The model name of the product is JY 0026-1991.

3.2 Nomenclature

Ear anatomical model named.

SM - EJP-CR - 300

Product outline length 300mm Product Feature Code, Adult Product name Pinyin prefix, "ear anatomy" Product model classification code, biological model Model example.

SM-EJP-CR-300 represents a biological model, an anatomical model of an ear, an adult,

and the overall length is 300mm.

4.1 Use environmental conditions

Temperature. -10 °C ~ 40 °C, relative humidity. not more than 90%.

4.2.1 General requirements

4.2.1.1

The product shall be an enlarged adult ear anatomical model with a length (the long axis of the pyramid of the temporal bone rock part) of 300 mm $\pm$ 20 mm, fixed on the base.

4.2.1.2

The model as a whole shall be the external ear and the connected temporal bone rock parts. The anterior half of the external ear canal is excised to show the external ear canal.

4.2.1.3

Cut part of the temporal bone rock horizontally, retain the tympanic cap, and show the middle ear and inner ear.

4.2.1.4

The long axis of the pyramid of the temporal bone and the squamous surface of the temporal bone constitute anterior 50° $\pm$ 5 ° and posterior 130°.

4.2.1.5

shows the internal carotid artery and internal jugular vein stump.

4.2.1.6

The shape, position, proportion and color of each part shall be correct and natural.

4.2.2 Specific requirements

4.2.2.1

External ear. The auricle, external ear canal, and eardrum shall be shown.

4.2.2.1.1

Auricle. its form shall be shown.

4.2.2.1.2

External auditory canal. The external auditory canal should be S-shaped, long (rear wall) 90mm $\pm$ 10mm, outer 1/3 is cartilage, and inner 1/3 is bone unit.

4.2.2.1.3

Drum membrane. it shall be a translucent off-white membrane with a long diameter of 40mm $\pm$ 2mm, a short diameter of 35mm $\pm$ 2mm, a thickness of 1mm $\pm$ 0.5mm, the

membrane should be inclined forward and outward, and the outer side of the membrane should be 45° to 50° from the base of the external auditory meatus; the tympanic membrane should be able to distinguish slack, tension, hammer marks and light Cone and so on. The morphology and structure of tympanic muscles should be correct.

4.2.2.2

Middle ear. The tympanic cavity, eustachian tube, mastoid sinus, and mastoid atrium shall be shown.

4.2.2.2.1

Tympanic chamber. It should be located between the tympanic membrane and the outer wall of the inner ear. It is an irregular cavity with six walls, namely the upper wall, the lower wall, the front wall, the posterior wall, medial wall and lateral wall show the three auditory bones in the tympanum. the malleus, anvil and sacrum. The three auditory bones should have a clear outline and accurate structure.

The malleus is attached to the inner surface of the tympanic membrane and ends at the umbilical cord. The base of the sacrum should coincide with the edge of the vestibular window, and the seam should not exceed 1mm (three ossicles can be removed with the eardrum). The inner wall of the tympanic chamber should show the headland, vestibular window, worm window, and facial nerve canal. The posterior wall should show the mastoid sinus ostium.

4.2.2.2.2

Eustachian tube. It should be shown that it opens in the anterior wall of the tympanic cavity and shows the tympanic muscles above the tube wall.

4.2.2.2.3

Mastoid sinus and mastoid atrium. The mastoid sinus should be located behind the crypt in the upper tympanum and open at the upper part of the posterior wall of the tympanum (the mastoid sinus).

Mastoid atria are small cavities of varying size and shape within the temporal bone, and their structural features should be displayed correctly.

4.2.2.3

Inner ear (removable). The vestibule, the semicircular canal, and the cochlea should be shown.

4.2.2.3.1

Vestibular. It should be located in the middle of the inner ear, and its outer wall (ie, the inner wall of the tympanic cavity) vestibular window (oval hole) and worm window (round hole).