

Customer Service Hotline
400-003-1077



SERVING PRECISION MEDICINE TO BENEFIT HUMAN HEALTH

3D PRINTING



Add: No. 1188 Tianchen Road, Jinnan, Shandong, China
Tel: 0086-531-88870910
Email: digihuman2017@163.com
Web: www.digihuman.net



SHANDONG DIGIHUMAN TECHNOLOGY CO., INC.

3D PRINTING



1/ PRODUCT OVERVIEW

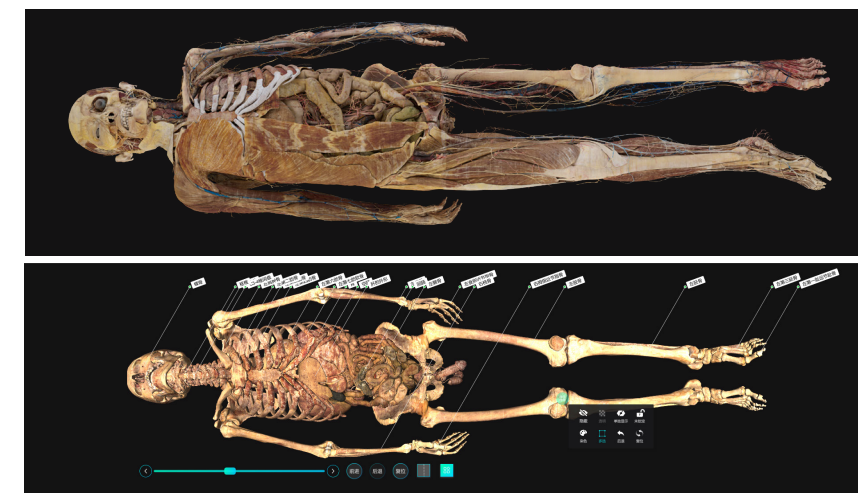
With the development of 3D printing technology and digital modeling technology, 3D printing model is widely used in anatomy teaching, medical simulation, surgical planning and doctor-patient communication. The new 3D printing model plays a positive role in improving the understanding and knowledge cognition of various anatomical structures. "Digital human technology" constructs a three-dimensional digital anatomical model with multiple structures through high-precision digital human data, extracts the voxels of the corresponding parts in the digital human data as the texture map of the digital model, and prints the anatomical specimen model with high simulation degree with a full-color and multi-material 3D printer, In order to provide a 1:1 high simulation physical anatomical model for the seriously lack of cadaveric specimens.



2/ HIGH PRECISION DATA

Data Source: select data from high-precision digital human data set, including original sectional data, refined segmentation data and three-dimensional geometric model of organ structure, including anatomical structures such as bone, muscle, blood vessel, nerve and ligament. The voxel size of this data set is 0.0384mm * 0.0384mm * 0.1mm. At the same time, the cadaveric specimens fixed with formalin are selected as the reference and comparison basis of 3D printing model.

Model Making: the voxels in the volume data on the surface of each anatomical structure are extracted from the original section data set, and the texture map of the geometric model is generated to ensure that the appearance of the geometric model of each anatomical structure has a visual perception consistent with the real anatomical specimen.





3 3D PRINTING

The full-color and multi material 3D printer is selected to print the models. The printer adopts 3D inkjet printing technology and light curing technology. It has 12 material channels and can realize multi material combined printing. The selected 3D printer can realize 3D printing according to a variety of modes, such as single hardness material, soft and hard combination material, transparent package material and so on.



Full color printing

Full color printing: multi-channel digital full-color 3D printing technology can provide you with unique color configuration scheme, so as to create dazzling and colorful excellent works.

Multi material printing

Multi material printing (using environmentally friendly materials): from rubber like materials to rigid materials, from transparent materials to opaque materials, from colorless materials to color materials, from standard grade materials to biocompatible materials. It provides diversified composite 3D printing solutions for the printing of complex surgical medical models such as anatomy teaching, neurosurgery, cardiovascular, tumor and so on.

High efficiency printing

High efficiency printing: up to 3840 piezoelectric spray holes and characteristic algorithms. Through high-frequency spray curing, the spray amount can reach 4L per hour. Supplemented by efficient post-processing equipment, it can realize faster and accurate printing without secondary curing.

4 PRINT EFFECT

According to different model requirements, full-color hard printing, soft hard composite printing, full-color soft printing and other printing effects are selected. The materials of the model are transparent molding materials and opaque molding materials respectively, and the automatic mode is selected for printing support.

The 3D printing models have the feeling of weight and soft hardness similar to the real anatomical specimen, and have the feeling of touch and operation experience with the real anatomical specimen. The authenticity, accuracy and expressiveness of anatomical details of anatomical structures have been unanimously recognized by anatomists, hand surgeons and brain surgeons.

The printed 3D model is slightly different from the corresponding digital model in hue, but there is no significant difference in geometric morphology, anatomical details, texture features and so on.

Anatomical specimen	Digital model	Printed specimen
Anatomical specimen	Digital model	Printed specimen
Anatomical specimen	Digital model	Printed specimen

