

**CLAIMS**

1. Computer-implemented method for providing a standardized position for anatomic structural data (ASD) of a patient scan (10), in particular as a basis for individually fitting an orthosis or prosthesis to a first patient, comprising the following steps:
  - a) receiving of anatomic structural data (ASD) of a body part of the first patient,  
whereby the anatomic structural data (ASD) comprise surface data of the body part from the patient scan (10);
  - b) receiving of and/or selecting template structural data (TSD) corresponding to the body part,  
whereby the template structural data (TSD) comprise surface data and an armature to define, in particular to limit, mechanical deformation, in particular of the surface data;
  - c) adapting the orientation and/or the pose (20) of the anatomic structural data (ASD) using the armature of the template structural data (TSD), comprising the following steps:
    - providing a mechanical deformation to the template structural data (TSD) to achieve a (maximum) similarity with the pose of the anatomic structural data (ASD);
    - coupling the anatomic structural data (ASD), in particular the surface data of the the anatomic structural data (ASD), with the mechanically deformed template structural data (TSD), in particular the armature of the mechanically deformed template structural data (TSD), such that the pose of the anatomic structural data (ASD) can be adapted using the armature.
2. Method according to claim 1,  
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step a) and/or step b) further comprise:
  - defining corresponding landmark points along the anatomic structural data (ASD) and/or the template structural data (TSD).

3. Method according to claim 2,  
characterized in that  
adapting the orientation according to step c) further comprises:
- applying a first rigid point cloud registration algorithm, in particular an iterative-closest-point algorithm, to the landmark points of the anatomic structural data (ASD), and/or
  - applying a second non-rigid point cloud registration algorithm, in particular a scaling-iterative-closest-point algorithm, to the template structural data (TSD),
- such that the distance between corresponding landmark points of the anatomic structural data (ASD) and of the template structural data (TSD) is minimized respectively.
4. Method according to one of the preceding claims,  
characterized in that  
step c) further comprises:
- identifying a first characteristic part (CP1-ASD; CP1-TSD) of the anatomic structural data (ASD) and the template structural data (TSD),
  - aligning the first characteristic part (CP1-ASD) of the anatomic structural data (ASD) with the first characteristic part (CP1-TSD) of the template structural data (TSD) by applying the first rigid point cloud registration algorithm,
- whereby the first characteristic part (CP1-ASD) of the anatomic structural data (ASD) is aligned with the first characteristic part (CP1-TSD) of the template structural data (TSD) in advance to an adaption of the pose of the anatomic structural data (ASD) of the first patient, in particular in advance to a mechanical deformation of the template structural data (TSD) and/or the anatomic structural data (ASD).
5. Method according to one of the preceding claims,  
characterized in that  
the method, in particular step c), further comprises the steps:
- determining a transfer element between a second characteristic part (CP2-ASD), in particular a tibial part, of the anatomic structural data (ASD) and a second characteristic part (CP2-TSD) of the template structural data (TSD);
  - coupling the anatomic structural data (ASD) to the armature of the template structural data (TSD),

- applying the transfer element, in particular as an inverse transfer element, to the anatomic structural data (ASD), in particular to the armature being coupled with the anatomic structural data (ASD), whereby the anatomic structural data (ASD) is rotated in combination with the armature, in particular only the second characteristic part (CP2-ASD) of the anatomic structural data (ASD) is rotated by the armature, such that the anatomic structural data (ASD) of the first patient is provided in a standardized posture.
6. Method according to one of the preceding claims, characterized in that the standardized pose of the anatomic structural data (ASD) comprises an angle of 90° between the first and second characteristic part (CP1-ASD; CP2-ASD) of the anatomic structural data (ASD) of the first patient.
7. Method according to one of the preceding claims, characterized in that the transfer element is a vector for pose adaption of at least a part of the anatomic structural data (ASD) of the first patient.
8. Method according to one of the preceding claims, characterized in that the method further comprises the following steps:
- illustrating at least a visualization of a first three-dimensional structure of the anatomic structural data (ASD) of the first patient, and/or
  - illustrating at least a visualization of a second three-dimensional structure of the template structural data (TSD).
9. Computer-implemented method for performing standardized measurement on anatomic structural data (ASD) of a patient scan (10), in particular as a basis for individually fitting an orthosis or prosthesis to a first patient, comprising the following steps:
- a) receiving of anatomic structural data (ASD) of the body part of the first patient;
  - b) receiving of and/or selecting template structural data (TSD) corresponding to the body part;

- c) adapting the orientation and/or the pose (20) of the anatomic structural data (ASD) to a standardized position, preferably by the method according to one of the preceding claims;
  - d) identifying at least one intersection between the anatomic structural data (ASD) and at least one pre-determined section plane (SP1; SP2; SP3; SP4; SP5, SP6) of the template structural data (TSD);
  - e) processing at least one standardized measurement (30) along the at least one intersection to receive at least one measurement value of the anatomic structural data (ASD) of the first patient, in particular a circumference, a length or the like.
10. Method according to claim 9,  
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the method further comprises:
- providing a measurement form (MF), in particular a measurement sheet, which identifies at least one measurement parameter, whereby the at least one received measurement value of the first patient corresponds to the at least one measurement parameter.
11. Method according to claim 9 or 10,  
c h a r a c t e r i z e d i n t h a t  
the at least one section plane (SP1; SP2; SP3; SP4; SP5, SP6) of the template structural data (TSD) is pre-determined on basis of the measurement form (MF), in particular on basis of the at least one measurement parameter as provided by the measurement form (MF).
12. A data processing system comprising means for carrying out the steps of the method of one of the preceding claims.
13. A data processing system according to claim 12,  
c h a r a c t e r i z e d i n t h a t  
at least one client and at least one server is provided,  
whereby the client is capable of sending the anatomic structural data (ASD) of the first patient to the server and receiving the measurement values of the first patient from the server, and  
whereby at least one server is capable of:
- receiving the anatomic structural data (ASD) of the first patient from the client,

- adapting the orientation and/or the pose (20) of the anatomic structural data (ASD) in relation to the template structural data (TSD),
  - processing at least one standardized measurement (30) along the anatomic structural data (ASD) of the first patient,
  - providing at least one measurement value of the anatomic structural data (ASD) of the first patient to the client (40), preferably in form of a completed measurement form (CMF) comprising the at least one measurement value.
14. A computer-readable medium comprising instructions which, when executed by a computer, cause the computer to carry out the steps of at least one of the methods of one of the claims 1 to 11.