

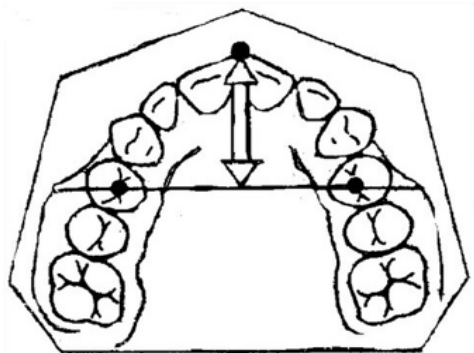
**Algorithm of actions of a student with a practical skill:  
"Anthropometric methods of jaw models"**

**korkhouse method of measuring the anterior segment of the dental arch**

1. Prepare the required tools:
  - meter
  - ruler
  - pencil
  - paper
  - patient diagnostic models
2. Using the meter, determine the mesio-distal dimensions of the four incisors of the upper jaw (the most convex part of the tooth crown - the equator)
3. Sum values
4. Write down the obtained values on a sheet of paper
5. In the table of values according to Korkhouse, in the first column, we find the resulting sum of the mesio-distal size of the maxillary incisors and write out from the second column the corresponding norm of the length of the anterior segment of the maxillary dentition.

Total of the 4 <sup>th</sup> upper incisors width , mm	Length of the anterior part of the upper dental arch ,mm
27,5	16,3
28,0	16,5
28,5	16,8
29,0	17,0
29,5	17,3
30,0	17,5
30,5	17,8
31,00	18,0
31,5	18,3
32,0	18,5
32,5	18,8
33,0	19,0
33,5	19,3
34,0	19,5
34,5	19,8
35,0	20,0
35,5	20,5
36,0	21,0

6. Using a pencil, determine the position of the Pont points on the premolars upper jaw
7. On the diagnostic model of the patient's upper jaw , along the Pont points on the upper premolars, we apply a ruler (the Pont points on the first premolars of the upper jaw - the middle of the inter-cusp fissure)



8. Draw a perpendicular from the contact point between the upper central incisors to Pont's line using a meter
9. We measure the length of the dentition (from the contact point between the upper central incisors to Pont's line using a meter)
10. We compare the length of the anterior segment of the dental arch on the model with the normal values.
11. On the diagnostic model of the upper jaw of the patient, along the Pont points on the lower premolars, we apply a ruler (Pont points on the first premolars lower jaw are the distal contact points)
12. Draw a perpendicular from the contact point between the lower central incisors to Pont's line using a meter
13. We measure the length of the dentition (from the contact point between the lower central incisors to Pont's line using a meter)
14. We compare the length of the anterior segment of the dental arch on the model with the indicators in the norm (on the lower jaw, the norm of the length of the anterior segment is 2-3 mm less)
15. We conclude (about the degree of shortening of the anterior segment of the dental arch):
  - 1a degree shortening up to 3 mm
  - 2a degree shortening from 3 to 5 mm
  - 3rd degree shortening more than 5 mm

**Algorithm of a student's actions with a practical skill:**  
**"Anthropometric methods of jaw models"**  
**Measurement of the width of the dentition by the Pont method**

1. Prepare the required tools
  - meter
  - ruler
  - pencil
  - paper
  - patient diagnostic models
2. To determine the Pont method, it is necessary to determine the mesio-distal dimensions of the four incisors of the upper jaw (the widest part of the tooth crown) using a meter.
3. Sum values
4. Write down the obtained values on a sheet of paper
5. Using Pont's formula, determine the norm for a given clinical situation

$(\text{Sum of m/d sizes of 4 incisors upper jaw}) \times 100\% / 80$  (premolar index)

$(\text{Sum of m/d sizes of 4 incisors upper jaw}) \times 100\% / 64$  (molar index)

6. Record the received results
7. Using a pencil, determine the position of Pont's points on the premolars and molars of the upper and lower dentition.
8. Using the meter, determine the distance between the premolars using Pont's points on diagnostic models of the upper jaw  
(Pont's points on the first premolars of the upper jaw - the middle of the inter-tubercular fissure)
9. Record the received results
10. Using a meter, determine the distance between molars using Pont's points on diagnostic models of the upper jaw

(Pont's points on the first molars in the upper jaw - the anterior pit of the inter-tubercular fissure)

11. Record the received results

12. Using the meter, determine the distance between the premolars according to Pont's points on diagnostic models of the lower jaw (Pont's points on the first premolars lower jaw - the distal point of the slope of the buccal tubercle)

13. Record the received results

14. Using a meter, determine the distance between molars using Pont's points on diagnostic models of the lower jaw  
(Pont's points on the first molars lower jaw - tip of the posterior buccal tubercle)

15. Record the received results

16. Compare the distance between the premolars and molars that is available with the calculated norm according to the Pont formula (point 5)

17. Draw conclusions (about the narrowing or expansion of the dentition in the area of premolars and molars upper jaw and lower jaw )

Algorithm of a student's actions with a practical skill:  
**"Determination of vertical clearance"**

1. Say hello to the patient
2. Wear a mask
3. Sterilize your hands
4. Wear gloves
5. Prepare the necessary tool (caliper)
6. Ask the patient to close their teeth in their usual position
7. Set the caliper in a vertical plane and measure the distance from the incisal edge of the upper central incisors to the incisal edge of the lower central incisors
8. We record the results in the patient's outpatient card

**Algorithm of a student's actions with a practical skill:**  
**"Determination of signs of orthognathic bite"**

1. Say hello, introduce yourself, ask the patient's full name
2. Take a history of the disease (or were treated earlier by an orthodontist)
3. Conduct an external examination (announce the results)
  - Determine the symmetry of the face (draw an imaginary line along the midline of the face and determine the symmetry of the right and left halves)
  - Determine the proportionality of the face (conditionally we divide the face into three parts. The first is from the hairline to the eyebrow line. The second is from the eyebrow line to the base of the nose. The third is from the base of the nose to the chin. Normally, they are relatively the same.)
  - Determine the condition of the nasolabial folds (normal, smoothed, pronounced)
  - Determine the condition of the chin fold (normal, smoothed, pronounced)
  - Assess the condition of the circular muscle (normal, tense)
4. Determine the profile of the patient (we look at the relationship between two imaginary lines, one of which runs from the Glabella point to the base of the upper lip, and the second from this point down to the chin)
5. Wear rubber gloves
6. make a palpation of the TMJ: (announce the results)  
Place the pads of the fingers in the area of the temporomandibular joint, ask to open and close the mouth wide, while assessing the presence of clicks.
7. Examine the oral cavity (announce the results)
  - Determine the condition of the frenulum
    - upper lip: pull back the upper lip and assess attachment;
    - lower lip: pull the lower lip and assess the place of attachment of the frenulum;
    - tongue: ask the patient to first raise the tongue to the palate, then stick the tongue forward and assess the attachment and length of the frenulum.

- Examine the patient for anomalies in the position of individual teeth
  - Determine the signs of orthognathic bite:
    - the relation of the first permanent molars (pulling the cheek to ask patient close their teeth and rate the Engle class on the left and right)
    - the relation of the central line of the incisors of the upper, lower jaw and center line of the face
    - determine the fissure-tubercular overlap in the lateral areas in transversal plane left and right
    - depth of incisal overlap
8. Establish a preliminary diagnosis

**Algorithm of a student's actions with a practical skill:**  
**"Determination of signs of pathological types of bite"**

1. Say hello, introduce yourself, ask the patient's full name
2. Take a history of the disease (or were treated earlier by an orthodontist)
3. Conduct an external examination (announce the results)
  - Determine the symmetry of the face (draw an imaginary line along the midline of the face and determine the symmetry of the right and left halves of the face)
  - Determine the proportionality of the face (conditionally we divide the face into three parts. The first is from the hairline to the eyebrow line. The second is from the eyebrow line to the base of the nose. The third is from the base of the nose to the chin. Normally they are relatively the same)
  - Determine the condition of the nasolabial folds (normal, smoothed, pronounced)
  - Determine the condition of the chin fold (normal, smoothed, pronounced)
  - Assess the condition of the circular muscle (normal, tense)
4. Determine the patient's profile (look at the relationship between two imaginary lines, one of which runs from the Glabella point to the base of the upper lip, and the second from this point down to the chin)
5. Wear rubber gloves
6. Palpate the TMJ: (Place the pads of the fingers in the TMJ, ask to open and close the mouth wide, while assessing the presence of a click)
7. Examine the oral cavity (announce the results)
  - Determine the condition of the frenulum
    - upper lip: pull back the upper lip and assess attachment;
    - lower lip: pull the lower lip and assess the place of attachment of the frenulum
    - tongue: ask the patient to first raise the tongue to the palate, then stick the tongue forward and assess the attachment and length of the frenulum
  - Examine the patient for anomalies in the position of individual teeth
  - Determine the signs of a pathological bite:



- the relation of the first permanent molars (pulling the cheek to ask patient close their teeth and rate the Engle class on the left and right)
  - the relation of the central line of the incisors of the upper, lower jaw and center line of the face
  - determine the fissure-tubercular overlap in the lateral areas in transversal plane left and right
  - depth of incisal overlap
8. Establish a preliminary diagnosis

**Algorithm of a student's actions with a practical skill:**

**"Determination of the sagittal gap"**

1. Say hello to the patient
2. Wear a mask
3. Sterilize your hands
4. Wear gloves
5. Prepare the necessary tool (caliper)
6. Ask the patient to close their teeth in their usual position
7. Place the calipers in the sagittal plane and measure the distance from the incisal edge of the upper central incisors to the incisal edge of the lower central incisors
8. We record the results in the patient's outpatient card

**Algorithm of a student's action from a practical skill:  
"Carrying out physiological separation"**

1. Say hello to the patient
2. Explain the steps and purpose of the procedure (to create three between the proximal sides of the tooth, it is necessary to install separation elastics)
3. wear a mask
4. Sterilize your hands
5. wear gloves
6. Take a sterile instrument
  - tray
  - forceps
7. Prepare separation elastics
8. Take the separation elastics with forceps and install from the proximal sides of the required tooth
9. After the removal of the separation elastics, physiological dieresis are formed between the proximal sides of the required tooth.

**Algorithm of a student's actions with a practical skill:**  
**"Fixation of the orthodontic ring"**

1. Say hello to the patient
2. Explain the steps and purpose of the procedure (to fix the orthodontic ring it is necessary to prepare the required tooth and fit the factory ring)
3. wear a mask
4. Sterilize your hands
5. wear gloves
6. Take a sterile tray from Panmed and select the required instrument:
  - tray
  - tweezers
  - spatule
  - mixing surface for glass-ionomer cement
  - probe
7. Choose an orthodontic ring from the set for the required tooth
8. Fit it in the oral cavity (the ring should fit tightly to the crown of the tooth and not overestimate the bite)
9. Take the tool for cleaning and polishing the tooth from the Petri dish:
  - Low speed handpiece brush
  - elastic for the low speed handpiece
10. Clean the surface of the tooth
11. Isolating the tooth from saliva with a cotton roll
12. Using tweezers, take a cotton ball soaked in ethyl alcohol and treat the surface of the tooth and the orthodontic ring
13. Blow off the remaining ethyl alcohol from the orthodontic ring and tooth with a jet of air.
14. Add the required amount of fixing material to the mixing glass according to the instructions
15. Mix the fixing material
16. Using a spatula, apply a layer of cement of sufficient thickness to the inner surface of the orthodontic ring
17. Fix the ring to the tooth
18. Remove cement residues using a probe (start removing excess cement when the material becomes rubber-like in consistency)

**Algorithm of a student's actions with a practical skill:**  
**"Fixation of the orthodontic crown"**

1. Say hello to the patient
2. Explain the course and purpose of the procedure (to fix the orthodontic crown, it is necessary to prepare the required tooth and fit the factory crown)
3. wear a mask
4. sterile your hands
5. wear gloves
6. Take a sterile tray from Panmed and select the required instrument:
  - tray
  - round tapered pliers
  - tweezers
  - spatula
  - mixing surface for glass-ionomer cement
  - probe
7. Pick up an orthodontic crown from the factory set
8. Using tweezers and a cotton ball pre-moistened with ethyl alcohol, treat the orthodontic crown
9. Blow off the remaining ethyl alcohol with a jet of air
10. Use pliers with round tapered to fit the crown in the oral cavity (the crown should reach the gingival margin, but not enter the gingival sulcus)
11. Take the tool for cleaning and polishing the tooth from the Petri dish
  - Low speed handpiece brush
  - elastic for the low speed handpiece
12. Clean the surface of the tooth
13. Isolating the tooth from saliva with a cotton roll
14. Using tweezers, take a cotton ball soaked in ethyl alcohol and treat the surface of the tooth and the orthodontic crown
15. Blow off the remaining ethyl alcohol from the orthodontic crown and tooth with a jet of air.

16. Add the required amount of fixing material to the mixing glass according to the instructions
17. Mix the fixing material
18. Using a spatula, apply a layer of cement of sufficient thickness to the inner surface of the orthodontic crown
19. Fix the crown on the tooth (during the entire curing time, the pressure should be moderate)
20. Remove cement residues using a probe (start removing excess cement when the material becomes rubber-like in consistency)