

ORAL STATUS SURVEY TOOL

OSST(v1)

TRAINING MANUAL

2019

Trinity College Dublin

Training overview

The training may consist of:

- **Self-learning material**

- Activity 1: What are the OSST Aims?
- Activity 2: What are the items, codes and categories?
- Activity 3: What is involved in practical application of OSST?

- **Face-to-face training (Discussion & Practical)**

- Activity 4: Review Self-directed learning tool outcomes (45 mins)
- Activity 5: Discussion (15 mins)
- Activity 6: Practice and feedback (60 mins)

Introduction

- The OSST is a data collection tool that produces important data regarding oral health, covering content that relates to oral status that may indicate disease, treatment need and function. The OSST comes in two formats;
 1. A self-report version called a Health Information Survey (HIS).
 2. A form that is based on oral health assessment (Health Evaluation Survey HES).

Activity 1: What is the aim of OSST?

- The aim of the OSST is to generate sample level data based on the following items: Tooth count, denture wear, occluding pairs of teeth, functional dentition, oral cleanliness, gum condition, carious cavitation and oral pain.
- The OSST has been developed so as content coverage is balanced with feasibility by ensuring that the tool produces a range of useful data while being small enough to be considered a bolt-on to larger data collection and not too onerous on participants or data collectors.

Activity 2: What are the items, codes and categories?

OSST has two part:

1. OSST-Health Information Survey (HIS)
2. OSST-Health Evaluation Survey (HES)

OSST Part 1: Health Information Survey (HIS)

- The OSST-HIS is a Self-administered questionnaire completed by the participant +/- proxy support as needed.
- Participants should complete each item as indicated.
- Participants should answer one option for each question only, by ticking the box.
- Participant should return the completed sheet to the data collector.

- If recording both HIS and HES formats:
- The OSST-HIS should be completed at the same week as OSST-HES.
- You should not read the HIS before completing HES.

Activity 2: OSST coverage, codes and criteria

- Before we look at items, codes and their criteria, let's look at an overview of the OSST.
- OSST-HIS includes **8 Items**
- **They cover:**
 1. Tooth count
 2. Denture wear
 3. Occluding pairs
 4. Functional dentition
 5. Oral cleanliness
 6. Gum condition
 7. Decayed teeth (Teeth with holes)
 8. Oral pain



HIS Questions



How many teeth do you have? Tick one box

- None
- Between 1 and 19
- 20 or more
- I don't know



Are you wearing dentures now?

- Yes
- No



Do your teeth meet when you bite?

- Yes
- No



Can you see gaps from missing teeth when you smile?

- Yes – at the side only
- Yes – at the front and the side
- No

HIS Questions



Is your mouth clean?

- Yes
No
Don't know



Do you have swollen gums?

- Yes
No
Don't know



How many rotten teeth do you have?
(decayed teeth) Tick one box

- None
1 to 2
3 or more
Don't know



In the last week, did you have pain from
your mouth

- No
Yes (Verbal / Vocal signs)
Yes (Physical / Behavioural
signs only)



How did you complete this form?

- By myself
With the help of my
carer/support worker
Someone else did it for me

Activity 2: OSST coverage, codes and criteria

• The **OSST-HES** includes **8 items**:

1. Tooth count
2. Denture wear
3. Number of occluding pairs
4. Functional dentition
5. Oral cleanliness
6. Gum condition
7. Decayed teeth (holes)
8. Oral pain



Item 1: Tooth Count

- Simple **count of teeth** present in the mouth
- Upper teeth: **teeth on the upper jaw**
- Lower teeth: **teeth on the lower jaw**
- Include **'false teeth'** that **cannot be removed** (eg. Bridges, crowns, implants)



E1 TOOTH COUNT

Circle the number of teeth (0,1,2....)

No. of upper teeth

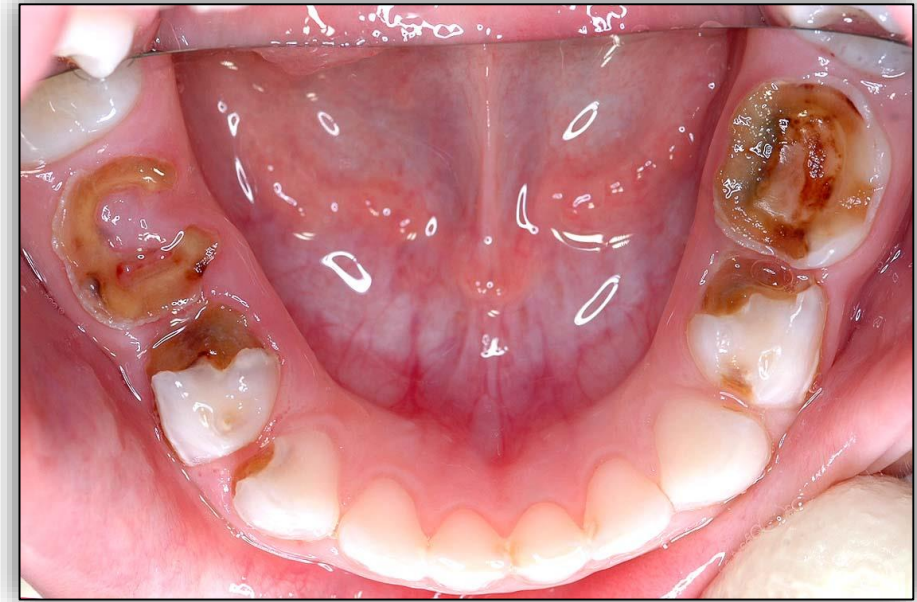
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Refused assessment (97)
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----------------------------

No. of lower teeth

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Refused assessment (97)
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Item 1: Tooth Count

- The tooth should be considered present when any part of it is **visible**.
- Broken teeth, partially erupted teeth, and remaining roots should be counted as present.



UPPER TEETH

- These are pictures of upper jaw & teeth



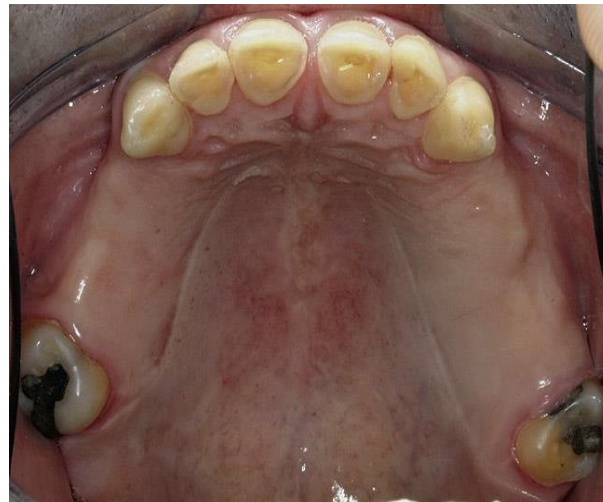
= 19



= 11



= 0



= 8

LOWER TEETH

- Lower jaw & teeth



= 14



= 0



= 12



= 12

Item 1: Tooth Count



How to carry out examination?

- Use lighting and dental mirror.
- Ask participant to **open their mouth**, & remove **denture**
- Look at the **upper jaw**, **retract cheek with dental mirror or use dental mirror to examine the back area**, count the number of teeth. Record on the form.
- Then, look at the **lower jaw**, count the number of teeth. Record on the form.

E1 TOOTH COUNT

Circle the number of teeth (0,1,2....)

No. of upper teeth

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Refused assessment (97)
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	-----------------------------------

No. of lower teeth

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Refused assessment (97)
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	-----------------------------------

Quiz 1: Tooth Count

- Please click one answer below

- **UPPER TEETH**

a) 0

b) 10

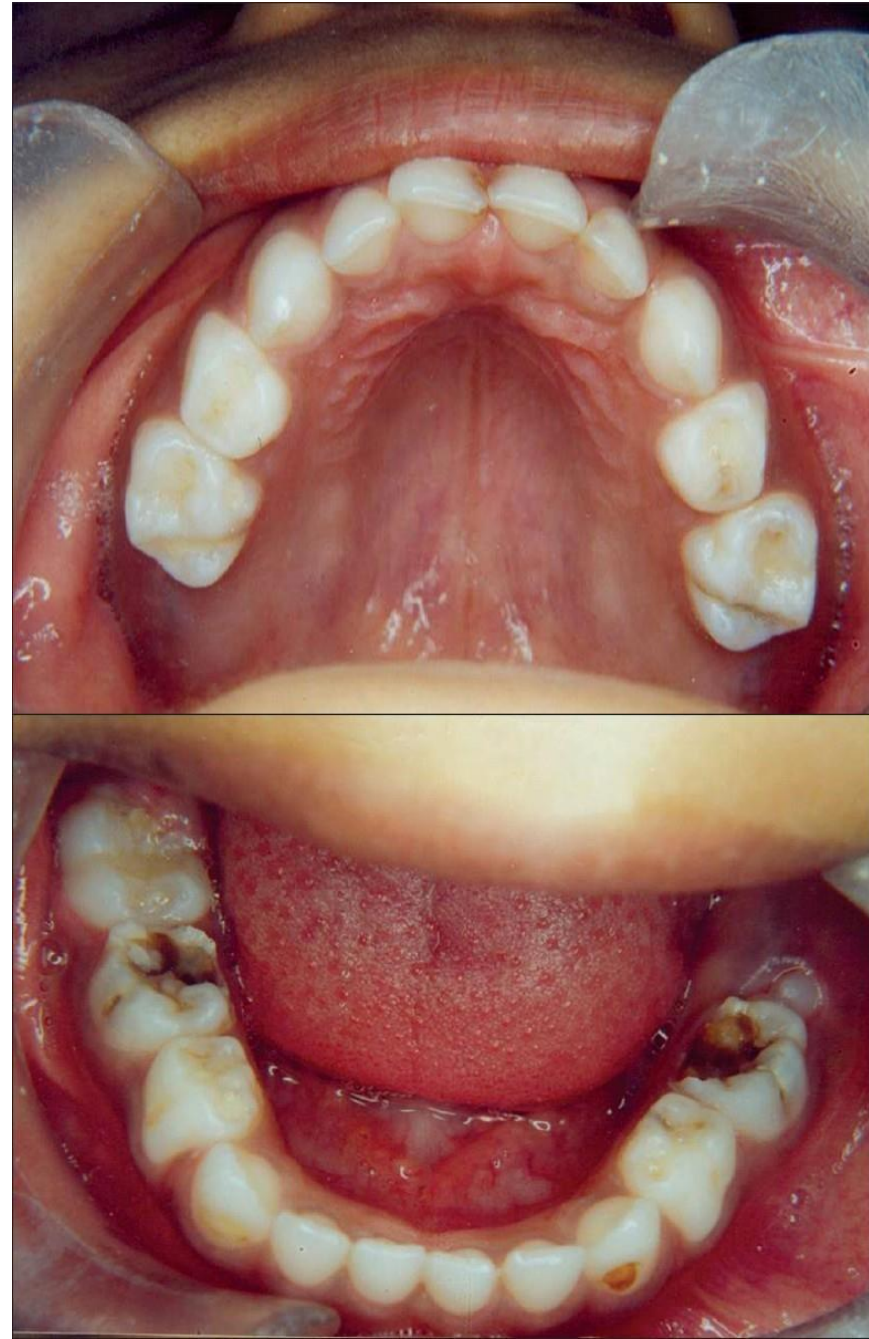
c) 17

- **LOWER TEETH**

a) 0

b) 12

c) 16



CORRECT

- [Back to Quiz](#), next arch
- [Next OSST-HESitem](#)



WRONG

- Try again here



Item 2: Denture Wear

- **A. Item:** Wearing denture (upper)

- **Definition:** Upper denture is present inside the mouth during data collection.

- **B. Item:** Wearing denture (lower)

- **Definition:** Lower denture is present inside the mouth during data collection.

E2 DENTURE WEAR

Is the participant wearing dentures now?

Upper dentures (tick the appropriate box)

No
(0)

Yes
(1)

Refused
assessment
(97)

Lower dentures (tick the appropriate box)

No
(0)

Yes
(1)

Refused
assessment
(97)

UPPER DENTURES

- These are different types of UPPER DENTURES



Acrylic (plastic) denture



Cobalt Chrome (metal) denture

LOWER DENTURES

- These are different types of LOWER DENTURES



Acrylic (**plastic**) denture



Cobalt Chrome (**metal**)
denture

Item 2: Denture Wear

- *How to carry out examination?*
 - Use lighting.
 - Ask participant to **open their mouth**
 - Look at the upper and lower jaw.
 - Check if the participant is **wearing dentures**.
 - Record on the form.

E2 DENTURE WEAR

Is the participant wearing dentures now?

Upper dentures (tick the appropriate box)

No
(0)

Yes
(1)

Refused
assessment
(97)

Lower dentures (tick the appropriate box)

No
(0)

Yes
(1)

Refused
assessment
(97)

QUIZ 2

- Please click your answer below

- **UPPER DENTURE**

Absent

Present

- **LOWER DENTURE**

Absent

Present



CORRECT

- [Back to Quiz](#), next arch
- [Next OSST item](#)



WRONG

- Try again here



Item 3: Occluding Pairs

- Counting the number of teeth are meeting each other (upper teeth **meeting/occluding** with lower teeth)

E3

OCCLUDING PAIRS

No. of **occluding pairs**.

**No occlusal
contacts**

(0)

**One or more
posterior contacts**

(1)

**Anterior
contacts only**

(2)

**Refused
assessment**

(97)

Occluding pairs

- Retract RIGHT CHEEK



- Identify canine (eyetooth)



- Identify Posterior teeth (back teeth)



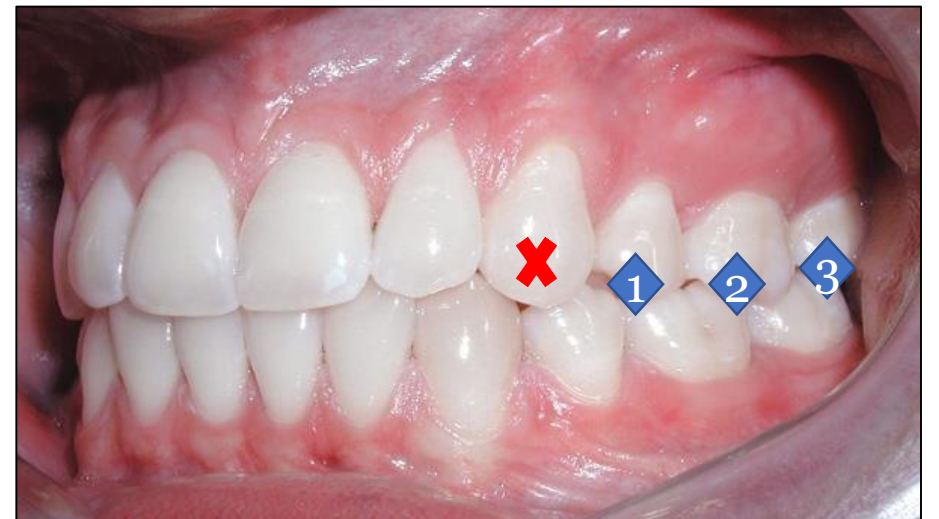
- Count posterior teeth in contact



No. of posterior
contacts (RIGHT)=4

Occluding pairs

- Retract LEFT CHEEK
- Identify canine (eyetooth)
- Identify Posterior teeth (back teeth)
- Count posterior teeth in contact



- No. of posterior contacts (RIGHT) = 4
- No. of posterior contacts (LEFT) = 3
- Total = 7



E3 OCCLUDING PAIRS
No. of **occluding pairs**.

No occlusal contacts
(0)

One or more posterior contacts
(1)

Anterior contacts only
(2)

Refused assessment
(97)

Item 3: Occluding Pairs



How to carry out examination?

- Use **pen light** and **dental mirror**.
- Ask participant to **bite down with their back teeth** together.
- Retract cheek using **dental mirror**, **identify canine** (eye tooth).
- Look at the teeth after canine (eye tooth); **count the number** of upper teeth **occluding/meeting** the lower teeth. Then, check on the other side.
- Add the number of teeth contacts from right and left sides.
- If there is **no posterior teeth** in contacts, count the number of front teeth (including canines) in contact.
- Record on the form

Retract RIGHT CHEEK.

Identify **canine**.

Identify **Posterior** teeth.

Count posterior teeth
in contact.



Retract LEFT CHEEK.

Identify **canine**.

Identify **Posterior** teeth.

Count posterior teeth
in contact.



Right= 0



Left= 0

No posterior contact

IF NO POSTERIOR
CONTACT

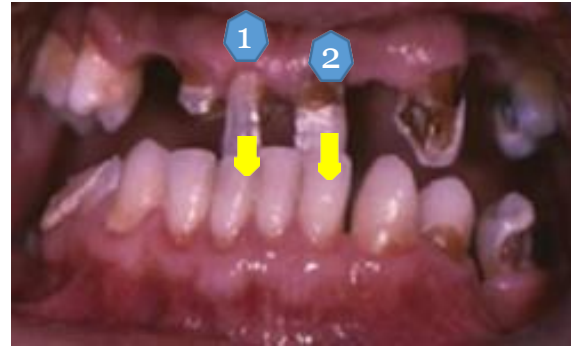
Count anterior teeth
in contact.



EX

IF NO POSTERIOR CONTACT

Count **anterior teeth in contact.**



Anterior contacts = 2

Occluding Pairs

- 0** No occlusal contacts at all
- 1** 1 or more posterior contacts
- 2** Anterior contacts only

Code 2 (anterior contacts only)

QUIZ 3

- Please click your answer below
- Occluding Pairs
- 0 No occlusal contacts at all
- 1 1 or more posterior contacts
- 2 Anterior contacts only



CORRECT

- [Back to Quiz](#)
- [Next OSST-HES item](#)



WRONG

- Try again here



Items 4 & 5: Functional Dentition

- **Definition:** Presence of all **12** anterior teeth AND 3 or 4 occluding pairs of premolars.

E4 FUNCTIONAL DENTITION

Does the participant have their **front 12 teeth present and intact?**

All 12 present
(0)

Less than 12
(1)

Refused
assessment
(97)

E5 FUNCTIONAL DENTITION

Does the participant have **three or more** occluding pairs of premolars (**POPs**)?

3 or 4 POPs (0)

2 or less POPs
(1)

Refused
assessment
(97)

Items 4 & 5: Functional Dentition

Definition: Presence of all **12** anterior teeth AND 3 or 4 occluding pairs of premolars.

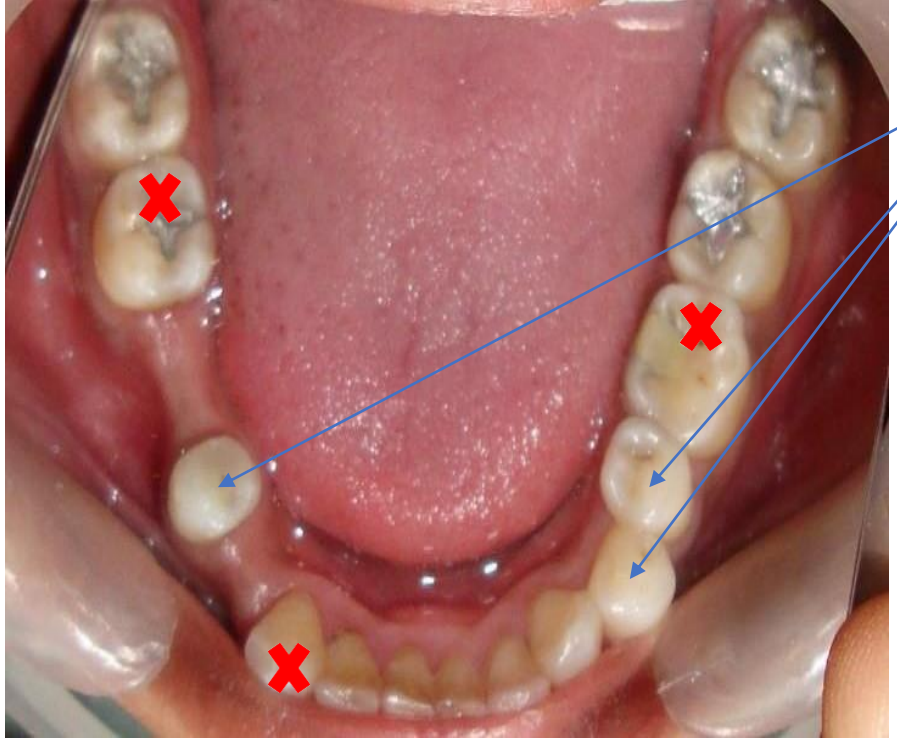
E4. Front 12 Teeth

Code	Category	Diagnostic criteria
0	Sufficient	3 or 4 Occluding pairs of premolars
1	Insufficient	2 Occluding pairs of premolars or less

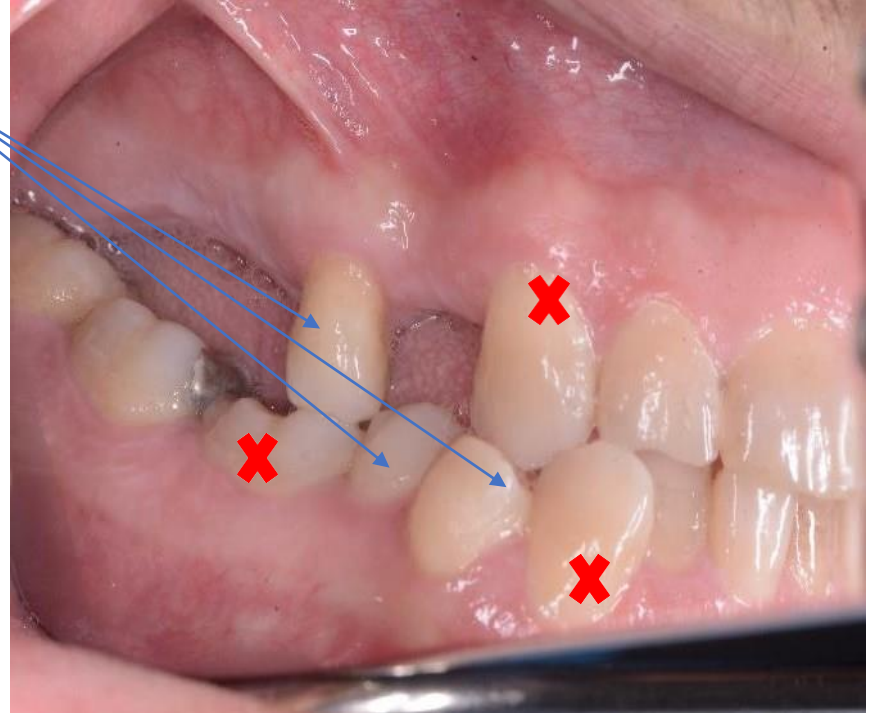
E5. Occluding Premolars.

Code	Category	Diagnostic criteria
0	Complete anterior 12 teeth	All 12 anterior teeth present
1	Incomplete anterior 12 teeth	< 12 anterior teeth

Items 4 & 5: Functional Dentition



Premolar



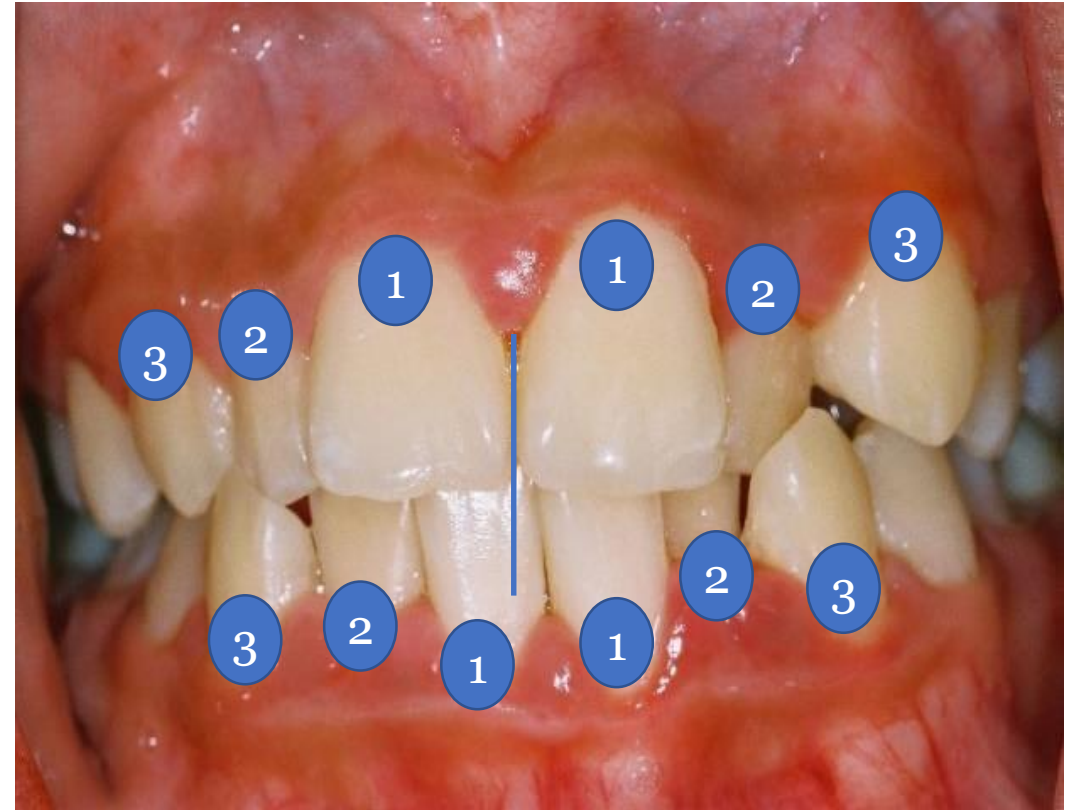
Items 4 &5: Functional Dentition

How to carry out examination?

- Use pen light and dental mirror.
- Ask participant to smile.

A: Front 12

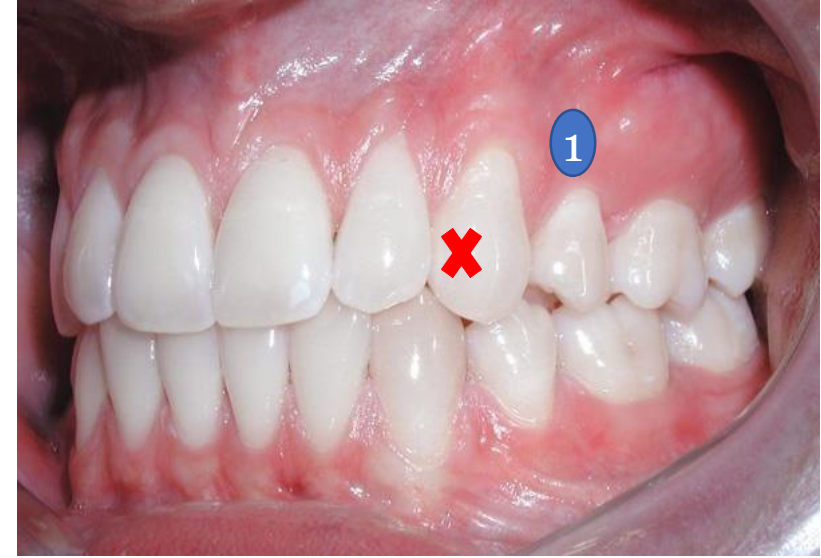
- Identify the **centre line**
- Count backwards three teeth each side, in each arch.
- The objective is to visualise if all 12 front teeth (canine to canine, top and bottom) are **present**.



Items 4 & 5: Functional Dentition

B: Occluding Premolars.

- Retract cheek using dental mirror, identify canine (eye tooth).
- Count the number of premolar pairs that meet on one side. Then, count the same on the other side.
- Add the number of premolar contacting pairs from the right and left sides.



Items 4 & 5: Functional Dentition

- Presence of all 12 anterior teeth
- **Code 0** - <12 front teeth



Quiz 4&5

- Please click your answer below
- **E4: Front 12**
 - 0 < 12 anterior teeth present
 - 1 all 12 anterior teeth present
- **E5: Occluding Premolars.**
 - 0 2 Occluding pairs of premolars or less
 - 1 3 or 4 Occluding pairs of premolars



CORRECT

- [Back to Quiz](#), next part
- [Next OSST item](#)



WRONG

- Try again here



ITEM 6: Oral Cleanliness

- **Definition:** Presence/Absence of food particles, tartar and plaque in the mouth or on dentures.

E6 ORAL CLEANLINESS

Clean

No obvious food particles,
plaque or tartar in mouth
or on dentures

(0)

Not Clean

Obvious food particles,
plaque or tartar in mouth
or on dentures

(1)

Refused
assessment

(97)

ITEM 6: Oral Cleanliness

How to carry out examination?

- Use pen light and dental mirror.
- Ask the person to take out dentures/false teeth.
- Ask the participant to open their mouth, use dental mirror to retract the buccal cheek.
- Check for presence of food particles, tartar and plaque on the teeth surface.
- Check on the dentures too.



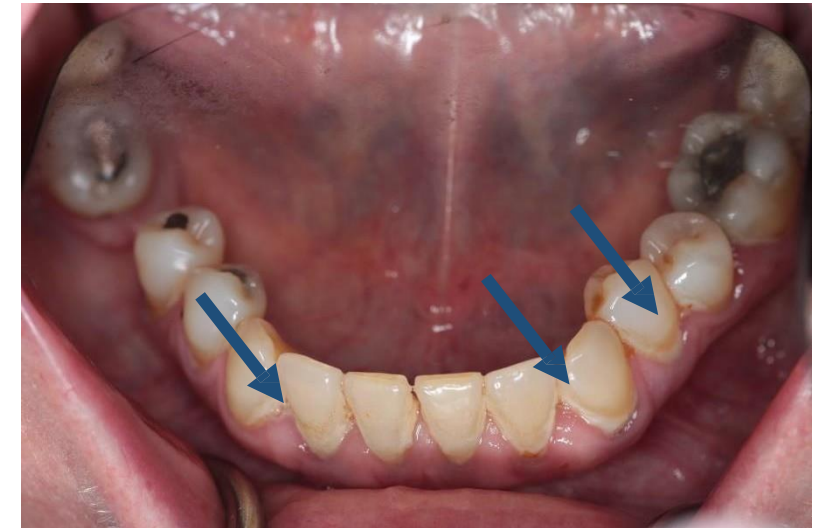
ITEM 6: Oral Cleanliness

- **Code 0 means...**
 - clean and no food particles or tartar in mouth or dentures



ITEM 6: Oral Cleanliness

- Code 1
 - **Food particles, plaque or tartar** in areas of the mouth or dentures



QUIZ 6

Please click your answer below

• **ORAL CLEANLINESS**

0 **Clean mouth**

1 **Mouth not clean**



CORRECT

- [Back to Quiz](#)
- [Next OSST-HES item](#)



WRONG

- Try again here



ITEM 7: Gum Condition

Definition:

- The presence of gingival redness, swelling, bleeding and ulcers.

E7

GUM CONDITION

Pink, moist, no bleeding

(0)

Redness, swelling,
bleeding or ulcers on
gums / under dentures **(1)**

Refused
assessment

(97)

ITEM 7: Gum Condition

- **Code 0** Pink, moist, no bleeding
- **Racial variations** of normal & health gums



ITEM 7: Gum Condition

- **Code 1** Redness, swelling, bleeding or ulcers of the attached / free gingiva in any area of the mouth.



QUIZ 7 A

- Please click your answer below
- **Gum condition**
 - 0 Pink, moist, no bleeding
 - 1 Redness, swelling, bleeding or ulcers on gums



QUIZ 7 B

• Please click your answer below

• **Gum condition**

0 Pink, moist, soft, no bleeding

1 Redness, swelling, bleeding or ulcers on gums / under dentures



ITEM 7: Gum Condition

How to carry out examination?

- Use pen light and dental mirror.
- Ask the participant to take out dentures/false teeth.
- Ask the participant to open their mouth, use dental mirror to retract the buccal cheek.
- Clean debris with gauze where necessary.
- Observe the appearance of gum above the teeth, in between the teeth, on the ridge where there is no teeth and on the area under dentures.



CORRECT

- [Back to Quiz](#)
- [Next Quiz\(B\)](#)



WRONG

- Try again here



CORRECT

- [Next OSST-HES item](#)



WRONG

- Try again here



Item 8: Decayed Teeth (Holes)

- **Definition:** The number of teeth with one or more cavities due to caries (decay), which can be detected by visual examination.

E8 CARIOUS TEETH (HOLES)

No. of visibly cavitated teeth (Count number of teeth with at least one hole)

0 cavitated teeth
(0)

1-2 cavitated teeth
(1)

3 or more cavitated
teeth (2)

Refused
assessment (97)

Item 8: Decayed Teeth (Holes)

Cavitated caries means:

- At least one hole on tooth.
- The **hole** is Different colour from tooth – usually shades of brown.
- Hole next to filling (caries)



Item 8: Decayed Teeth (Holes)

- **Code 0 No cavitated teeth**



This picture shows
Metal fillings (Amalgam)
With no caries



This picture shows
White fillings (Composite)
With no caries



Item 8: Decayed Teeth (Holes)

- **Code 1** 1 or 2 cavitated teeth.
- **Code 2** 3 or more cavitated teeth.



White fillings (Composite)

With caries



Metal fillings (Amalgam)

With caries

Item 8: Decayed Teeth (Holes)

- Changes in tooth colour with **no hole** should be considered as **sound**.



Item 8: Decayed Teeth (Holes)

How to carry out examination?

- Use pen light and dental mirror.
- Ask the participant to take out dentures/false teeth.
- Ask the participant to open their mouth, use dental mirror to retract the cheek.
- Use gauze to clean and dry teeth surfaces.
- Check the upper teeth from one side to another (systematic manner).
- Check all surfaces of teeth.
- Count the number of teeth with cavitated carious lesions (holes, different in colour, broken down).
- Do the same for the lower teeth.
- Record the box that corresponds to the total number of decayed teeth on the form.
- If **in doubt**, consider **NO** caries.



QUIZ 8

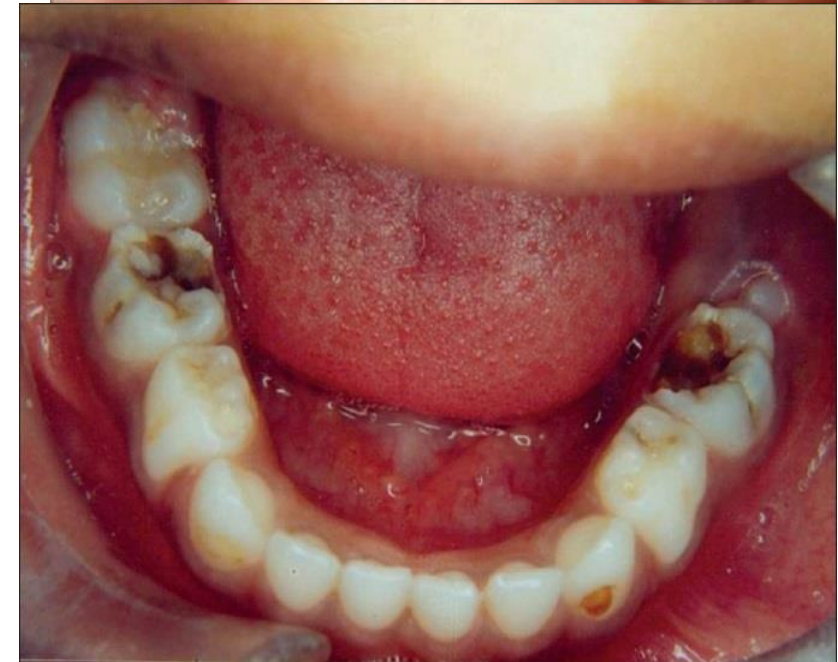
• Please click your answer below

• **VISIBLE CARIES**

0 0 cavitated teeth

1 1-2 cavitated teeth

2 3 or more cavitated teeth



CORRECT

- [Back to Quiz](#)
- [Next OSST item](#)



WRONG

- Try again here



Item 9: Oral Pain

- **Definition:** The presence of verbal, physical, or behavioural signs of oral pain within last week.

E9

ORAL PAIN

Do you / Have you had (signs of) oral pain in the last week?

**No pain
(0)**

**Yes, reported
verbally or vocally
(1)**

**Yes, suggested
behaviourally or
physically
(2)**

**Refused
assessment
(97)**

Item 9: Oral Pain

Code	Category	Diagnostic criteria
0	NO ORAL PAIN	No (signs of) oral pain in last week (verbal, behavioural or physical)
1	REPORTED ORAL PAIN	Oral pain reported verbally or vocally by participant in last week
2	SUGGESTED ORAL PAIN	Oral pain suggested by behavioural signs (such as refused eating or certain food, chewing lips, pulling at face, aggression and self-injurious behaviours related to oral manipulation or function) or physical signs (swelling of cheek or gum, broken teeth, ulcers) in the last week

Item 9: Oral Pain

- Behavioural signs of pain: Pulling at face, chewing lips, not eating, aggression, self-injurious behaviours.



Item 9: Oral Pain

- Physical pain signs (swelling of cheek or gum, ulcers)



Item 9: Oral Pain

How to carry out examination?

- Ask participant (or supporting person) if there is / has been pain inside the mouth (e.g. toothache or sore areas) reported verbally or vocally in the last week.
 - If they answer **yes**, this is a **verbal sign** of dental pain (**Score 1 REPORTED ORAL PAIN**) go to next question.
 - If they answer **no**, ask participant (or supporting person) if there has been behavioural signs (such as refused eating or certain food, chewing lips, pulling at face, aggression and self-injurious behaviours **related to oral manipulation or function**) or physical signs (swelling of cheek or gum, ulcers) suggestive of oral pain in the last week?
 - If they answer **yes**, this is a behavioural sign of dental pain (**Score 2: SUGGESTED ORAL PAIN**)
 - If there are **no** verbal, behavioural or physical signs of pain in last week, **score 0**.

QUIZ 9

- **This person does not report pain.**
- **No behaviours are reported.**
- **Please click your answer below**
- **DENTAL PAIN**

0 No oral pain

1 REPORTED ORAL PAIN

2 SUGGESTED ORAL PAIN



CORRECT

- [Back to Quiz](#)
- [Next](#)



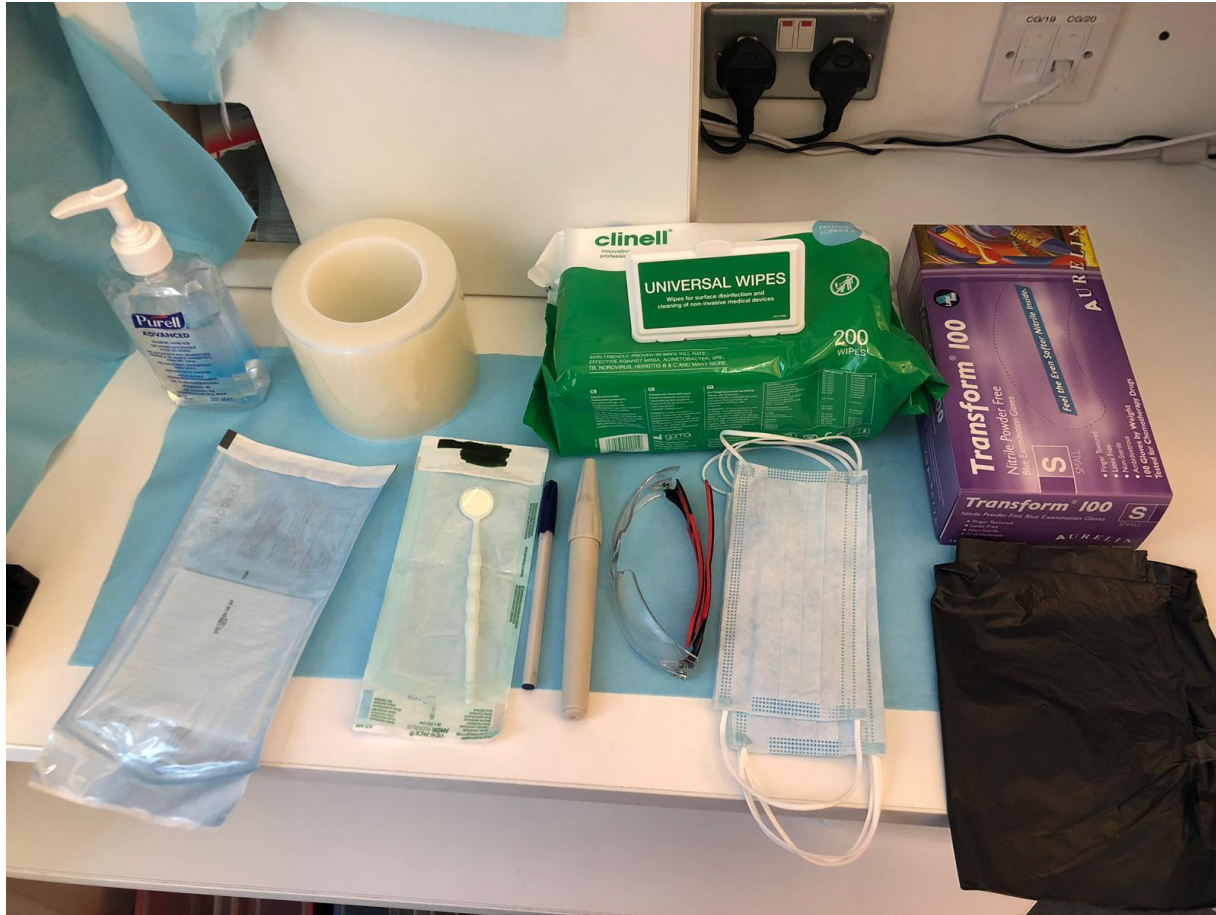
WRONG

- Try again here



Activity 3. What is involved in practical application of OSST?

Completing the OSST - HES



OSST – HES

Equipment

Quiet relaxing area with chair and table.

Paperwork as needed.

Light source

Nitrile gloves

Face mask

Protective eye wear

PDI Sani wipes (Tub of 200s)

Purell advanced Handrub 500ml

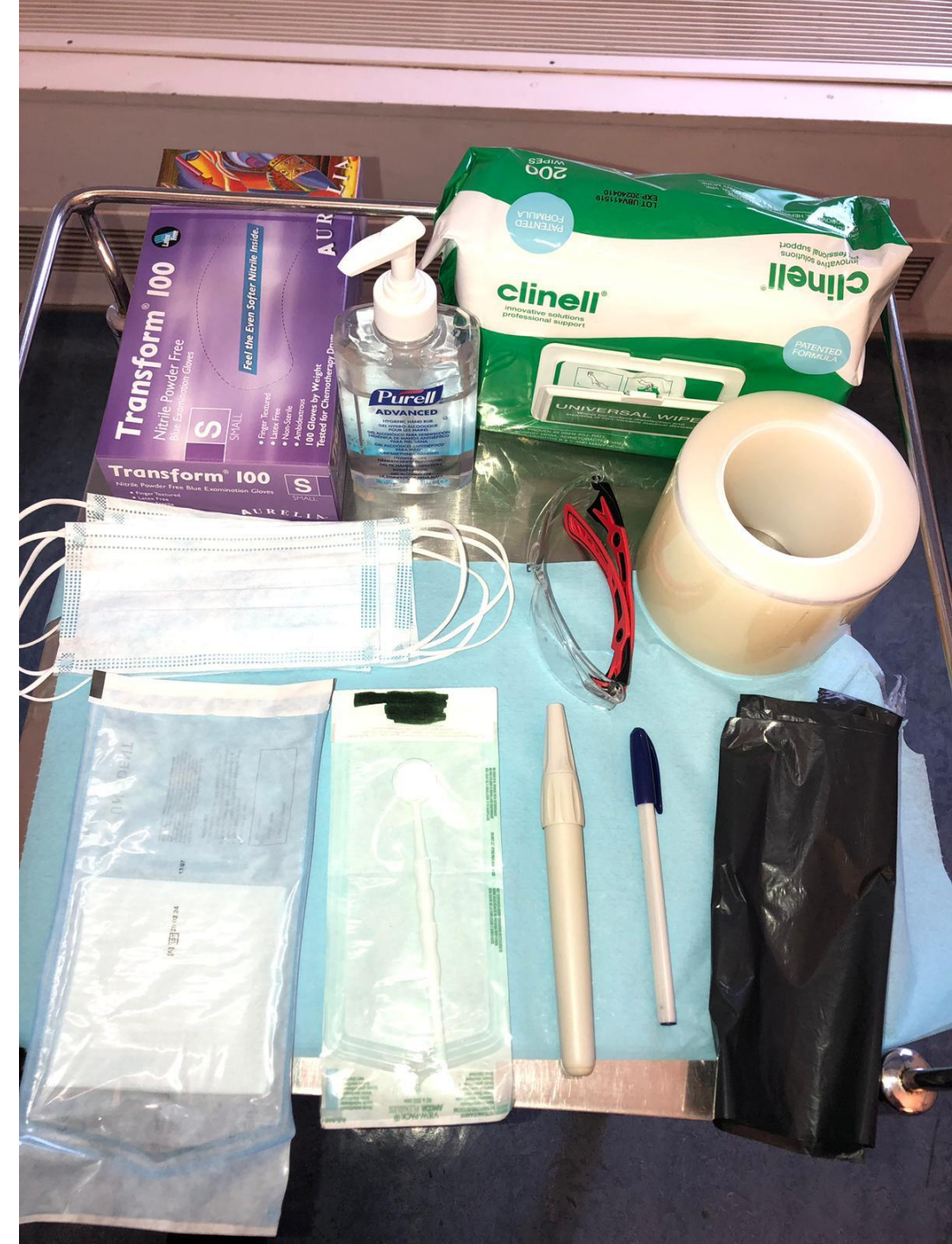
Protective barriers – Disposable shield No.1 10cm x 15cm

Disposable paper towel

Disposable home use dental mirror

Sterile gauze 10cm x 10cm

Black bin bag



Equipment



Safety eyewear



Penlight



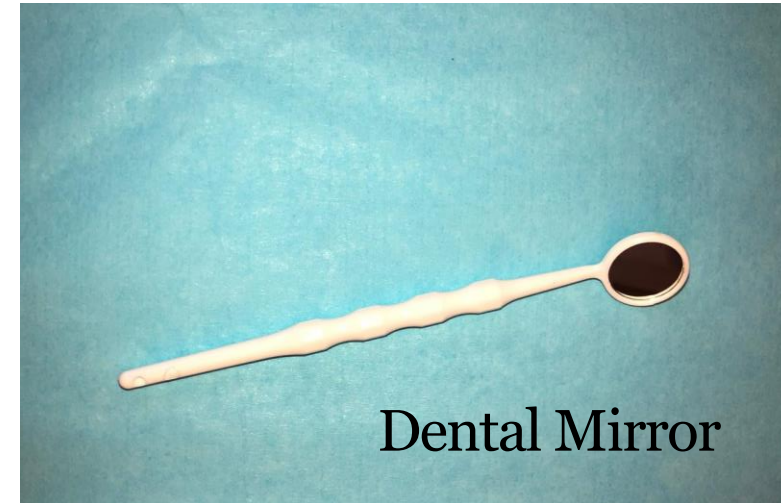
Gauze



Hand sanitizer



Protective barriers

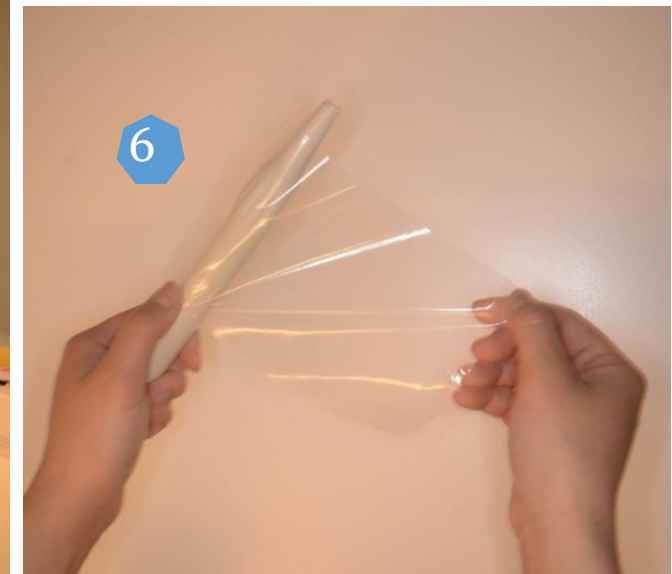
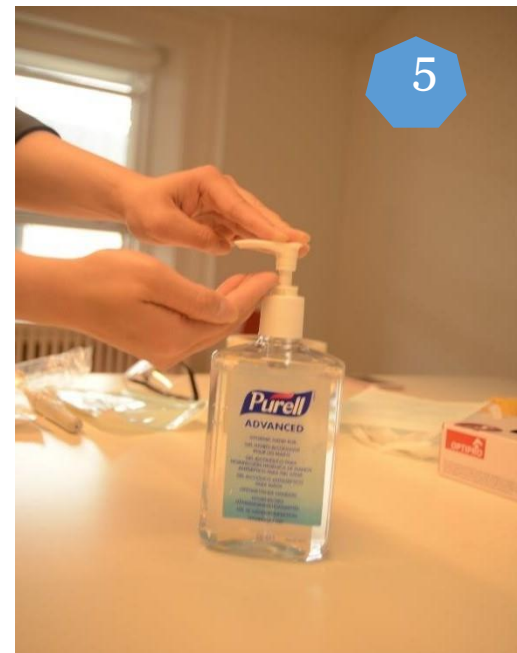


Dental Mirror

Assessment Area Set Up

- **Before examination:**

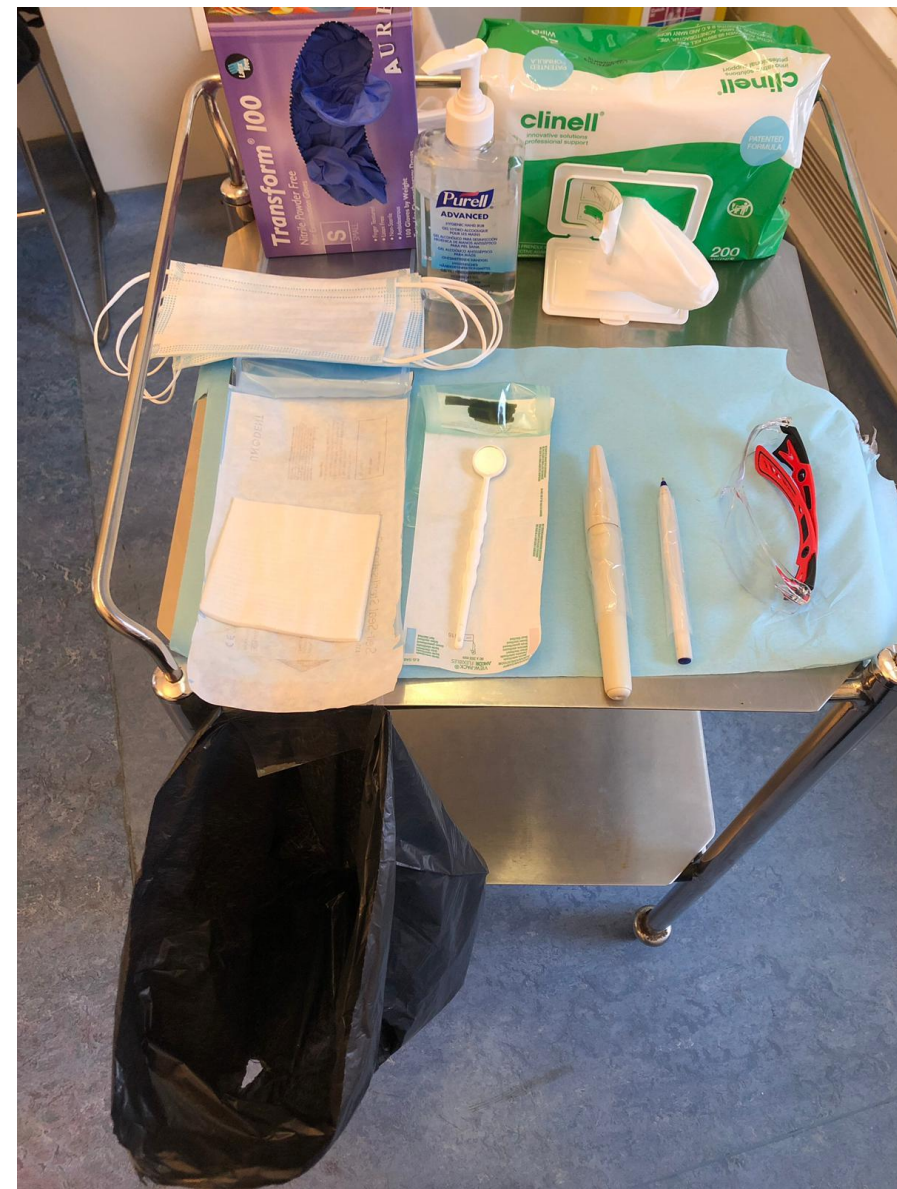
1. Set up **waste bags**
2. Wear **gloves**.
3. Wipe **Pen torch** surface with disinfectant **wipes**; Dispose wipes into **waste bags**.
4. Discard **gloves** into **waste bags**.
5. Carry out **hand hygiene**.
6. Place **protective barriers** on **penlight** and **pen**
7. Open **gauze** and **dental mirror pack**.



Assessment Area Set Up



Assessment Area Set Up:



Completing the OSST - HES

1. Follow principles of universal precaution (Infection control)
2. Set up the assessment area.
3. Prepare appropriate zones and placement of protective barriers on the pen and the light source if applicable.
4. Ensure hand hygiene, surface disinfection and wear of personal protective equipment including glasses, mask and gloves.
5. Welcome participant
6. Review process consent.
7. Ensure that the participant is seated with adequate light / light source as indicated.
8. Use a disposable plain mouth mirror.



Completing the OSST - HES

9. Use sterile gauze to clean surfaces that are covered in debris if necessary.
10. If placing fingers into the mouth, ensure that you **avoid** placing digits between the biting surfaces of the dentition to avoid accidental injury.
11. Complete OSST-HES according to coding criteria
12. Discard all protective barriers, gloves, mouth mirror, and wipes in the waste bag. Clean and disinfect surfaces, pen and light source if applicable.
13. Prepare assessment zone for next participant.



Completing the OSST - HES

14. **After data collection**, each participant should be given a copy of the *Participant Dental Form*. This should be completed immediately after dental data collection and discussed with the participant if necessary.
15. It is important that participants are aware that the findings of this data collection process **do not** amount to a dental examination.
16. Anyone who is found to answer YES regarding *Pain, Dental decay* or *Gum inflammation* should be advised to seek further advice. Participants are encouraged to attend a person who can support them or a dental professional where these findings indicate a need for assessment.
17. Return OSST-HES and OSST-HIS forms to the study center for data entry.

Tips for the OSST - HES

- Always use **a new protective barrier** for each assessment.
- **Dispose** of the barrier after single use, into waste bags.
- Make sure the light is switched off after use in order to preserve battery power.

Summery

- The Oral Health Survey Tool (OSST)
 1. OSST- Health Evaluation Survey **HES** – done by **data collectors**
 2. OSST- Health Information Survey **HIS** – done by **participants**
- This survey **does not** amount to a dental examination
- **Avoid** putting your finger between the biting surfaces of the dentition to avoid accidental injury
- If you have **doubt** about tooth decay, consider it with **NO** caries.

Activity 5: Discussion

- Discussion for 15 minutes

Activity 6: Practice and feedback

- Practice on:
 1. Setting up the assessment area
 2. Completing the OSST-HES form
- Fill out and submit the feedback forms

Feedback Form

Oral Status Survey Tool Health Evaluation Survey

Feedback form for data collectors (after training)

Thank you for taking part in the training. So that we improve the training process, will you please answer the question below?

1. I feel knowledgeable and prepare to use OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree
2. Using OSST-HES tool improves my ability to detect oral pain and problem in subjects' mouths
 Strongly agree Agree Disagree Strongly disagree
3. I will have enough time to learn about OSST-HES tool before I use it on subjects
 Strongly agree Agree Disagree Strongly disagree
4. I will be able to complete 'Tooth Count' category on OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree
5. I will be able to complete 'Denture Wear' category on OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree
6. I will be able to complete 'Occluding Pairs' category on OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree
7. I will be able to complete 'Functional Dentition' category on OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree
8. I will be able to complete 'Oral Cleanliness' category on OSST-HES assessment tool
 Strongly agree Agree Disagree Strongly disagree

9. I will be able to complete 'Gum Condition' category on OSST-HES assessment tool

Strongly agree Agree Disagree Strongly disagree

10. I will be able to complete 'Carious Teeth' category on OSST-HES assessment tool

Strongly agree Agree Disagree Strongly disagree

11. I will be able to complete 'Oral Pain' category on OSST-HES assessment tool

Strongly agree Agree Disagree Strongly disagree

12. How long did you take to complete self-learning quiz before the training day?

Strongly agree Agree Disagree Strongly disagree

13. Do you think the training material for this assessment was sufficient?

Yes No; Comments: _____

14. How many sessions (of approximately 2-3 hours) of training would be sufficient?

15. 1 session 2 sessions 3 sessions 4 sessions

16. Please list down any problems encountered during the training and suggestions on how it could be improved:

Problem: _____

Suggestions: _____

Thank you for your time

Any Question