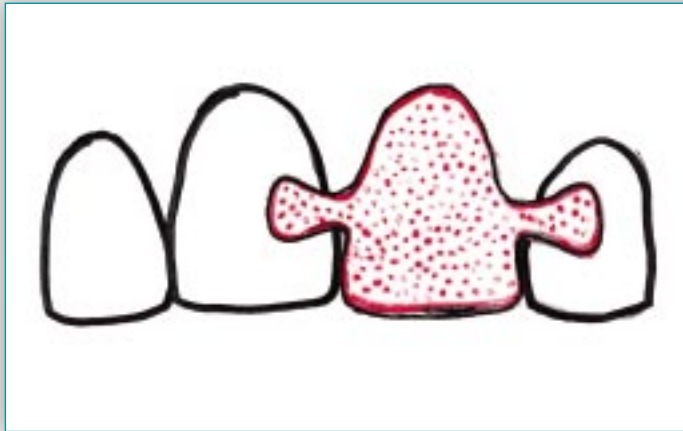


UNIT 5

Inlays, Crowns, Bridges



Warm-up activity



A friend of yours complains about the bad condition of his/her teeth, but he/she is afraid of dentists. He/she is particularly worried about losing one of his/her tooth with a 'big hole' in it. So he/she addresses you, a student at TEE, and asks for more information about a possible restoration.

A Inlays

Task 1

Before reading the text that follows about inlays, work with your partner and sort out the different tasks the dentist and the dental technician/dental technician assistant do in the inlay construction. There is a table for you to complete.

Who...	The dentist	The dental technician
prepares the cavity of a tooth?		
makes a wax inlay?		
takes the impression of the cavity?		
inserts a temporary filling?		
makes a model?		
casts the wax pattern in gold etc.?		
removes the temporary filling?		
cements the inlay?		
polishes the inlay?		

Task 2

Now read the text about inlays and check your answers.

Sometimes cavities in our teeth are too big to be filled with amalgam only. At other times teeth cavities may be too complicated. It may also be the case that our teeth have lost

their cusps or are too weak to be restored with amalgam. The solution that takes care of all these cases is an inlay. An inlay is a solid filling of gold, plastic etc. for a cavity in the tooth, so that the resulting surface is smooth and even. Inlays are different from ordinary fillings, both to the materials used and to the way they are constructed; they are made in the laboratory and fit with lining cement, whereas ordinary fillings are made directly on the mouth and are not cemented.

For such a restoration, the dental technician uses the impression of the cavity of the tooth taken by the dentist, to make a model of the prepared tooth. Then, he constructs a wax inlay on the model. He does this by softening a stick of blue inlay wax over a flame, and pressing it into the inlay cavity on the model.

The wax is trimmed to the original shape of the tooth with a Ward carver (Figure 5.1) to make a wax pattern of the restoration we need. The wax pattern is then cast in gold, amalgam or composites according to the condition of the cavities and polished. Finally, it is returned to the surgery for fitting and cementing.



Figure 5.1

Task 3

The following sentences in the text are used to describe a process. Complete them and say if we are more interested in what happens than the person who does it.

1. The wax to the original shape of the tooth with a Ward carver.
2. The wax pattern in gold etc. and
3. Finally, it to the surgery.

The verbs in these sentences are in forms which in grammar are called **passive voice**. These forms are common when we are thinking about what **is done** to the person or thing that we are interested in, and not when we think about **who does** the action. Passives can help us to continue talking about the **same thing**, without the need of a new subject.

- We make the passive voice with the verb “to be” and a past participle.
- We can use the passive voice in any tense. To make different tenses we change the verb to be.

Present:	It is made
Past:	It was made
Present perfect:	It has been made
Past perfect:	It had been made
Future:	It will be made

- To make the negative of the passive voice, we use the negative of the verb “to be”.
- To make questions we use the question form of the verb “to be”.

Task 4

The following sentences in the text have active verbs. Try to rewrite them using the passive form of the verbs (e.g. ... the impression of the cavity of the tooth **is used** by the dental technician to make a model of the prepared tooth).

1. A wax inlay on the model.
2. This by softening a stick of blue inlay wax over a flame and pressing it into the inlay cavity on the model.

Task 5

The following text gives us more information about the second appointment the patient is given at the dentist's surgery for fitting his/her inlay. Put the verbs in parenthesis into the right tense.

The temporary filling (remove) and the inlay (fit) Before cementing the inlay, the occlusion (check) and any high spots (remove) with a carborundum stone. The edges (burnish) to give a good fit and the inlay (cement) with GIC, zinc phosphate or polycarboxylate.

Task 6

You are a laboratory technician training one of your assistants. Give him/her instructions for constructing a wax inlay on a model starting like this:

Technician: Don't worry. Try again.

Soften a stick.....

.....

.....

.....

.....

We use **imperatives** to tell people what to do, give them advice, encourage them etc. Imperatives look the same as **infinitives without to** (that is the way we find verbs in a dictionary without any endings). **Negative imperatives** begin with do not/don't.

Task 7

Can you write instructions for doing something else?

.....

.....

.....

.....

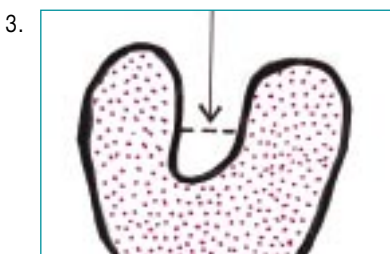
Task 8

Complete this table with derivatives, nouns or verbs:

verbs	nouns
Fit	
	filling
	impression
Construct	
Press	
	restoration
Trim	
	composite

Task 9

Name the following items:

**Task 10**

Turn to task 1 and put the different stages of making an inlay in the correct order.

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

Warm-up activity

What are these tools used for?



Figure 5.2

1.
2.
3.
4.
5.
6.

Task 1

Skim the following text and find out if your guesses were right.

B Crowns

A crown is an restoration which replaces at least three-quarters of the crown of the tooth.

The dentist prepares the tooth diamond disks, wheels and tapered fissure burs (Figure 5.2). Then he takes a wax or elastomer and occlusal records of the tooth. If the dentist has to restore front teeth, he the shade as well. A temporary crown is then put to help the appearance and prevent the patient's pain between visits.

A technician uses the impression to make a model of the prepared tooth and constructs a wax crown using the procedures of investing and burning, before it in gold etc. polishing it and returning it to the surgery for fitting. When the crown is prepared, the dentist removes the temporary one. At the same time he checks for appearance and occlusion cementing with GIC, zinc phosphate or polycarboxylate.

Task 2

As you have noticed some words are missing from the text. Can you work them out from the list that follows with your partner and fill them in?

natural , before , impression , permanent , using , artificial , casting , records.

Task 3

Match the following words with their definitions:

A	B	
restore	a)	contact point
occlusion	b)	shape something by pouring it into a mould
prevent	c)	join things together
cement	d)	bring back to a former condition
cast	e)	stop something happening

Task 4

The following clauses made with **-ing** in the text, are introduced by the conjunction **before**. Complete them and say if you have noticed more **-ing** forms in the text.

1. A technician uses the impression to make a model of the prepared tooth and constructs a wax crown, before it in gold etc. it and it to the surgery for fitting.
2. At the same time he checks for appearance and occlusion before _____ with GIC, zinc phosphate or polycarboxylate.

A gerund is the -ing form of a verb. We use it as a noun. We use gerunds as subjects or objects.

We use -ing forms after prepositions, verbs or nouns (followed by preposition + -ing).

Task 5

The following text gives us more information about crowns. Skim it to find out what is the best restoration for a patient with broken back teeth.

There are different kinds of artificial crowns to match with the needs of different tooth problems.

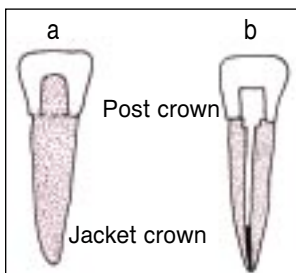


Figure 5.3

A **jacket crown** (Figure 5.3a) is used for front teeth which cannot be restored by ordinary fillings. This happens in cases of extensive caries, fracture of the crown, and severe pitting, discoloration or deformation of the crown. The material used to make jacket crowns is porcelain. However, porcelain may fracture under a heavy bite, so it is better to back it up with metal, preferably gold (or other precious metal alloy).

When a tooth has been root filled, a **post crown** is usually used. The natural crown is usually cut off and a post is fitted down the root canal. The artificial crown is made on this post (Figure 5.3b).

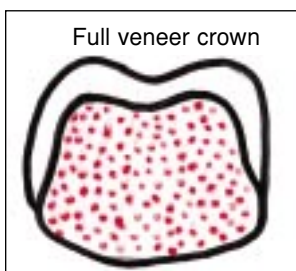
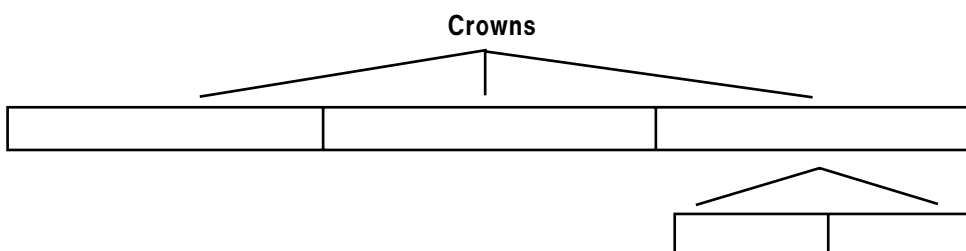


Figure 5.4

A **veneer crown** is a thin gold cell used in the construction of bridges (Figure 5.4). On back teeth it covers all the crown and is called a **full crown** (Figure 5.4). On front teeth it covers all the surface except the labial one and is called a **three-quarter crown**. Full gold veneer crowns are also used to restore teeth for which amalgam is not suitable, such as badly broken down teeth and split teeth.

Task 6

Now read the text more carefully to complete the following chart:



Task 7

The prefixes **dis-** and **de-**

Find words in the text with the above prefixes.

1.
2.

Now match the prefixes with their meaning.

Dis-	a)	(with verbs and related adjectives, adverbs and nouns) opposite or negative of, removal of
de-	b)	(with adjectives, adverbs, nouns, and verbs) the negative or opposite of

Put one of the above prefixes in each space in the phrases below to make the word which follows it, opposite in meaning.

1. a honest man
2. a forested countryside
3. a satisfied customer
4. to appear round the corner
5. to frost the food
6. to believe a story
7. a populated village
8. to agree with someone

Task 8

1. The following sentences in the text have **two-word verbs**, made by a **verb** and a **small word** like **at, in, on, off, up, down**. Complete them, and match the **two-word verbs** and the **more formal one-word verbs**.
2. The natural crown is usually and a post is fitted down the root canal.

3. Full gold veneer crowns are also used to restore teeth for which amalgam is not suitable, such as badly teeth and split teeth.

a) removed =

b) destroyed =

Task 9

Match the two-word expressions (phrasal verbs) with the one-word verbs, and use them to make your own sentences.

blow up	get up	give up	go away	go into
look for	put off	send back	talk about	look out

rise	leave	seek	be careful	discuss
postpone	explode	return	abandon	enter

blow up =.....

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Task 10

Do you know what a squash bite is? Skim the following text about “**What an occlusal record is**” to find out. Also look at Figure 5.5.



Figure 5.5

How is an occlusion between teeth recorded? First, the impression of the tooth we are interested in, is prepared. The next step is to record the occlusion of this tooth, and the teeth that bite against it. An alginate impression of the tooth opposite to the one we are interested in, is taken. These two models are sent to the dental laboratory. Before doing so, however, a third job must be done. A dental technician needs to know how the two teeth models occlude together.

For this purpose a sheet of pink (or other colour) wax is softened over a flame. Next, it is placed over the prepared tooth, while the patient closes into the wax. In this way an imprint of the prepared tooth on the one side and the opposing teeth on the other, is given. After that, a wax pattern is prepared by the dental technician and his assistant on the basis of the squash bite, which shows how the two models occlude naturally.

If only a single inlay is needed, then only one squash bite is needed. If more inlays are needed, then a squash bite is not enough.

Instead of wax, some other elastic materials are used, while special trays are used to take both the occlusal record impression and the opposing jaw impression.

Task 11

Imagine that you took part in a workshop on how an occlusion between teeth is recorded. Explain to a fellow student the different steps of such a process using the past tense form of the verbs. The following structure will help you:

When we use a verb form in the passive to talk about the past, the structure is: was/were + past participle.

First the impression of the tooth we were interested in **was prepared**.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... how the two models occlude naturally.

Warm-up activity

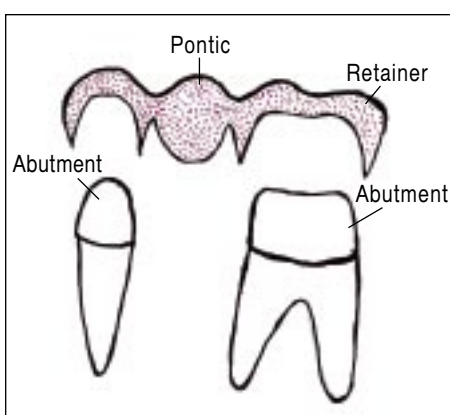


Figure 5.6

What do you think these are parts of?

Task 1

Skim the following text and find out if your guesses were right.

C Bridges

A bridge is a fixed replacement for one or a few missing teeth. The artificial tooth filling the gap has a gold backing or a gold base which is soldered to crowns on adjacent teeth (Figure 5.6). The artificial tooth is called a **pontic** (Figure 5.6) and the supporting teeth are called **abutments** (Figure 5.6). The crowns or the inlays on the abutment teeth are called **retainers** (Figure 5.6). Thus, a bridge consists of one or more pontics, soldered to gold retainers on the abutments.

The dentist takes an elastomer impression of all the teeth involved and full occlusal records, before a temporary bridge is fitted. A temporary bridge is necessary between visits to prevent pain, space closure, tipping or over-eruption of the abutment teeth.

The technician uses the impression to make a model of the prepared bridge before he constructs the permanent bridge.

As bridges consist of one or more crowns, a number of appointments must be planned by the dentist, after he studies the models and X-ray films are taken. When all the required procedures are completed, he finally cements the permanent bridge with GIC or zinc phosphate.

A bridge is an ideal replacement for a missing tooth, as it is permanently fixed in place, and functions as well as a natural tooth.

Task 2

Match the following words with their definitions:

A		B
1.	pontic	a) join two parts together
2.	abutments	b) replaced tooth
3.	retainers	c) supporting teeth
4.	solder	d) abutment restorations

Task 3

Answer the following questions about the text.

1. What is a bridge and what different parts does it consist of?
2. Why is the fitting of a temporary bridge important?
3. What must be done by both the dentist and the dental technician/dental technician assistant in order to have a perfect bridge constructed?
4. Why is a bridge an ideal replacement for a missing tooth? Do you agree?

1.
.....
2.
.....
3.
.....
4.
.....

Task 4

The following sentences in the text are connected with the conjunctions **before**, **after** and **when** to describe a sequence of events. Complete them and then work with the sentences that follow making one sentence from two.

1. The technician uses the impression to make a model of the prepared bridge he constructs the permanent bridge.
2. As bridges consist of one or more crowns, a number of appointments must be planned by the dentist, he studies the models and X-ray films are taken.
3. all the required procedures are completed, he finally cements the permanent bridge with GIC or zinc phosphate.

The tense in the sentences is **Present Simple**. The same thing happens with **while**, **as soon as**, **until** or **till**. We can also use the **Present Perfect** after **when**, **after**, **until**, **as soon as**.

1. The gap of the missing tooth is filled with a piece of cotton wool roll. Then the abutment teeth are prepared.

Before

2. A first impression of the bridge area is then taken. The cotton wool is put aside.
..... after.....

3. The abutments are now prepared. An impression for the permanent bridge is taken.
When.....

4. The first impression is now used to make a temporary bridge. A resin is placed in the part of the impression containing the abutment teeth and pontic area. The impression is then reinserted. The resin sets.
The first impression is now used to make a temporary bridge. A resin is placed in the part of the impression containing the abutment teeth and pontic area.
..... until
.....

5. Then the impression is withdrawn. The temporary bridge is removed, trimmed and cemented back into place.
.....
after
The permanent bridge is cemented at another visit.

Task 5

In the following sentence in the text, the tense form of the main clause is introduced with a **modal verb**. Complete it and then complete the rule that follows.

As bridges consist of one or more crowns, a number of appointments
by the dentist, after he studies the models and X-ray films are taken.

When we use a modal verb with the p. , the structure is:
..... + + **past participle.**

Now you can complete the following sentences with the modal verbs in parenthesis in the passive:

1. A temporary bridge (may, do) at a surgery.
2. The direct method of making bridges (can, facilitate)
by new materials.
3. Maryland bridges are far quicker to make and (can, replace).....
much more easily than conventional bridgework.
4. All marginal adjustments (should, take) with great accuracy.
5. Full gold veneer crowns (must, use) to restore teeth
which are unsuitable for amalgam.

Task 6

The prefix **un-**

(with adjectives, adverbs and nouns): not
(with verbs): the opposite or reverse of a process

The opposites of adjectives, nouns and verbs are often formed by adding a negative prefix **un-**, **in-**, **il-** (before the letter **l**), **im-** (before the letter **m**), **ir-** (before the letter **r**), **dis-**.

Put one of the above prefixes in each space in the phrases below to make the word which follows it opposite in meaning.

1. a(n) possible plan
2. a(n) legal business
3. a(n)..... responsible scientist
4. to like a person
5. a(n) accurate calculation
6. a(n) expensive hobby
7. formal clothes
8. a(n)..... secure patient
9. a(n) agreement
10. a(n) moral action