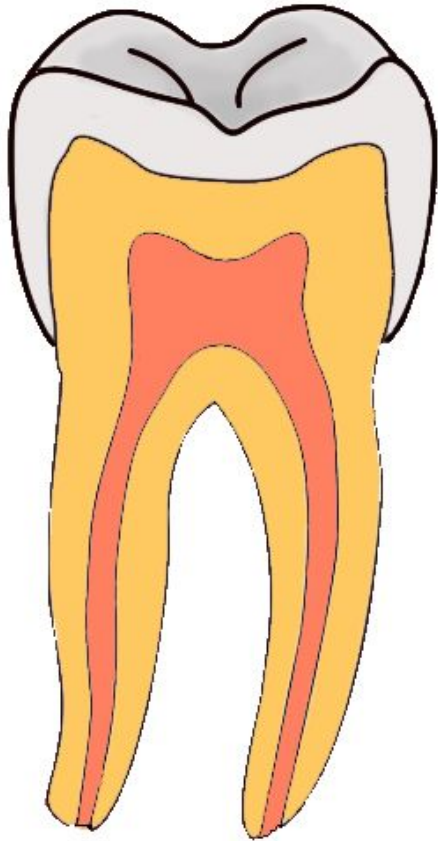
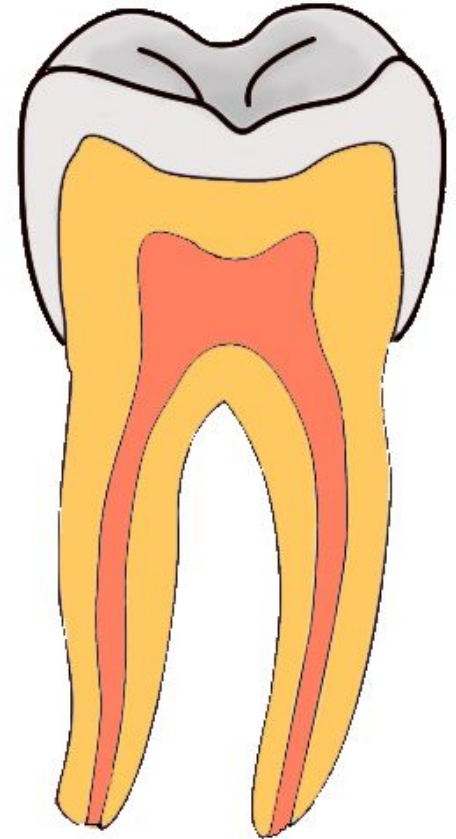


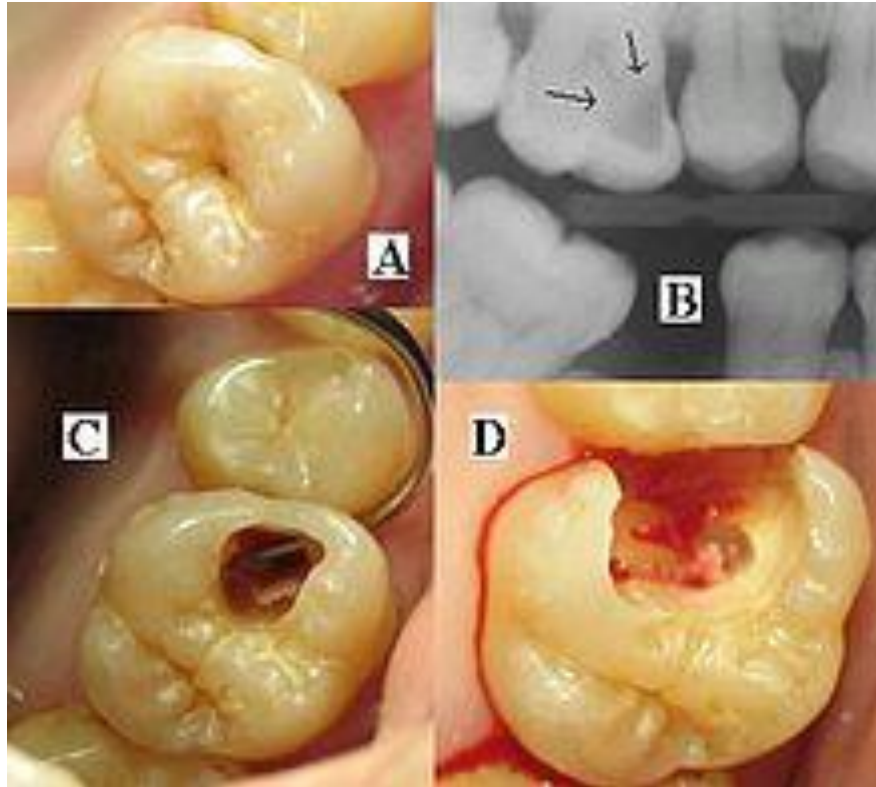
# DENTAL CARIES & CONDITIONALS

Doszhanov T. B. 2007  
dentistry

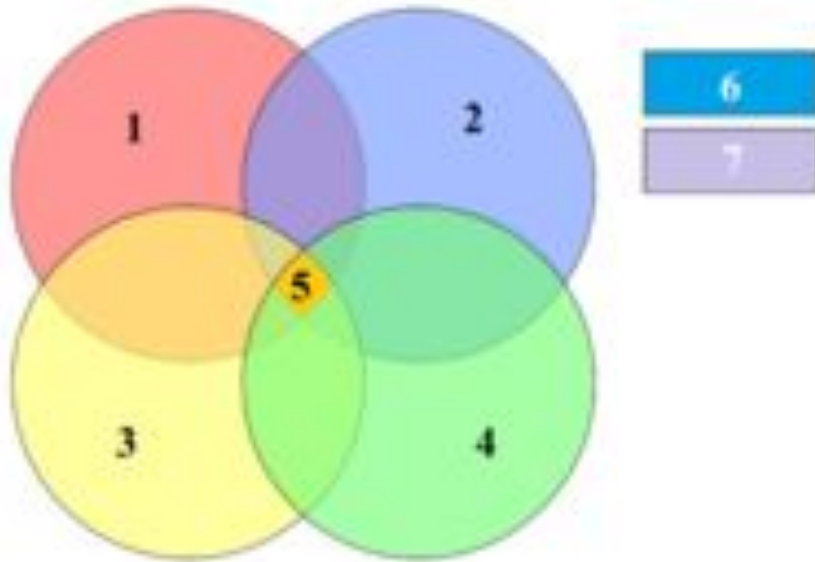


**Dental caries** is a breakdown of teeth due to activities of bacteria. The cavities may be a number of different colors from yellow to black. Symptoms may include pain and difficulty with eating. Complications may include inflammation of the tissue around the tooth, tooth loss, and infection or abscess formation.





**(A)** A small spot of decay visible on the surface of a tooth. **(B)** The radiograph reveals an extensive region of demineralization within the dentin (arrows). **(C)** A hole is discovered on the side of the tooth at the beginning of decay removal. **(D)** All decay removed.



Diagrammatic representation of acidogenic theory of causation of dental caries. Four factors, namely, a suitable carbohydrate substrate **(1)**, micro-organisms in dental plaque **(2)**, a susceptible tooth surface **(3)** and time **(4)**; must be present together for dental caries to occur **(5)**. Saliva **(6)** and fluoride **(7)** are modifying factors

# SIGNS AND SYMPTOMS

A person experiencing caries may not be aware of the disease. The earliest sign of a new carious lesion is the appearance of a chalky white spot on the surface of the tooth, indicating an area of demineralization of enamel. This is referred to as a white spot lesion, an incipient carious lesion or a "microcavity". As the lesion continues to demineralize, it can turn brown but will eventually turn into a cavitation ("cavity"). Before the cavity forms, the process is reversible, but once a cavity forms, the lost tooth structure cannot be regenerated. A lesion that appears dark brown and shiny suggests dental caries were once present but the demineralization process has stopped, leaving a stain. Active decay is lighter in color and dull in appearance.



# CAUSE

There are four things required for caries formation: a tooth surface (enamel or dentin), caries-causing bacteria, fermentable carbohydrates (such as sucrose), and time. However, these four criteria are not always enough to cause the disease and a sheltered environment promoting development of a cariogenic biofilm is required. The caries disease process does not have an inevitable outcome, and different individuals will be susceptible to different degrees depending on the shape of their teeth, oral hygiene habits, and the buffering capacity of their saliva. Dental caries can occur on any surface of a tooth that is exposed to the oral cavity, but not the structures that are retained within the bone.

Tooth decay is caused by biofilm (dental plaque) lying on the teeth and maturing to become cariogenic (causing decay). Certain bacteria in the biofilm produce acid in the presence of fermentable carbohydrates such as sucrose, fructose, and glucose.

Caries occur more often in people from the lower end of the socioeconomic scale than people from the upper end of the socioeconomic scale.



# PREVENTION

## Oral hygiene

Personal hygiene care consists of proper brushing and flossing daily. The purpose of oral hygiene is to minimize any etiologic agents of disease in the mouth. The primary focus of brushing and flossing is to remove and prevent the formation of plaque or dental biofilm. Plaque consists mostly of bacteria. As the amount of bacterial plaque increases, the tooth is more vulnerable to dental caries when carbohydrates in the food are left on teeth after every meal or snack. A toothbrush can be used to remove plaque on accessible surfaces, but not between teeth or inside pits and fissures on chewing surfaces. When used correctly, dental floss removes plaque from areas that could otherwise develop proximal caries but only if the depth of sulcus has not been compromised. Other adjunct oral hygiene aids include interdental brushes, water picks, and mouthwashes.





## Zero Conditional

**Uses:** Use the zero conditional to talk about scientific facts, constant laws of nature, unchangeable rules, customs and personal routines.

**Formula:** present simple, present simple

**Positive Example:** If/When the tooth pains, it is time to go to dentist.

**Negative Example:** If/When it is not below zero degrees Celsius, it is not snowing.

**Notes:** Either *if* or *when* can be used in the if-clause.



## First Conditional

**Uses:** Use the first conditional to talk about probable/possible conditions in the future, or for threats or warnings involving direct action.

**Formula:** present simple, future

**Positive Example:** If Dr. Smith comes from business trip, I will make an appointment.

**Negative Example:** If you don't brush your teeth regularly, you will not have healthy teeth.

**Notes:** You can use an imperative in the main clause

You can use the present continuous or present perfect instead of the present simple.

## Second Conditional

**Uses:** Use the second conditional to talk about unreal or hypothetical situations in the present or improbable events in the future.

**Formula:** past simple, would / wouldn't + infinitive

**Positive Example:** If I met Obama, I would ask for his autograph.

**Negative Example:** If I met Dr. Smith before, I would not have such problems with my teeth.

**Notes:** You can use the past continuous instead of the past simple.

Instead of would, you can use could or might.

## Third Conditional

**Uses:** Use the third conditional to talk about past events that are untrue.

**Formula:** past perfect, would have / wouldn't have + past participle

**Positive Example:** If you had paid attention, you would have known what to do.

**Negative Example:** If they had not been looking the other way, they would have seen the sign.

**Notes:** You can use the past perfect continuous instead of the past perfect.

# MIXED CONDITIONALS

When we talk about **mixed conditionals**, we are referring to conditional sentences that combine two different types of conditional patterns.

# MIXED 3/2 CONDITIONAL

3rd conditional in the if-clause followed by a 2nd conditional in the main clause

If Clause (3 <sup>rd</sup> )	Main Clause (2 <sup>nd</sup> )
If + had/hadn't + past participle	Would/wouldn't + infinitive

## Example:

If he **had taken** the medication as prescribed, he **wouldn't** still **be** sick in bed.

# MIXED 3/2 CONDITIONAL

With this combination we are describing what the outcome would be in the **present**, if things had happened differently in the **past**.

the opposite of what actually happened

Example: If she **had taken** reasonable precautions, she **wouldn't be** pregnant now.

Hypothetical present outcome



# WHAT IS THE DIFFERENCE BETWEEN THE THIRD CONDITIONAL AND THE MIXED CONDITIONAL?

## 3<sup>rd</sup> Conditional

Describes what the outcome would have been **in the past**, if things had happened differently in the past.

Example: If Vika **hadn't given** birth to a unicorn, she **wouldn't have gone** to the hospital last night.

## Mixed Conditional

Describes what the outcome would be **in the present**, if things had happened differently in the past.

Example: If Vika **hadn't given** birth to a unicorn, she **wouldn't be** a unicorn today.





# MIXED 3/2 CONDITIONAL

2nd conditional in the if-clause followed

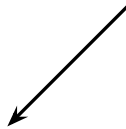
If clause (2nd)	Main Clause (3rd)
If + simple past	Would/wouldn't + have + past participle

Example: If you **weren't** so scary, you **wouldn't have made** the baby cry.

# MIXED 2/3 CONDITIONAL

With this combination we are describing ongoing circumstances or characteristics in relation to a past event.

ongoing characteristic



Example: If you weren't such a poor dancer, you would've got a job in the chorus line in that musical.



past event