

# Diabetic education

thumb|Insulin pump with infusion set thumb|Main symptoms of diabetes

Diabetic education is a process that strengthens the patient's knowledge, skills, and abilities necessary for independent care of diabetes and for active cooperation with healthcare professionals. In case of children, of course, education also applies to their parents. Similarly, we involve relatives or loved ones in educational process for patients, whom we assume, will not cooperate with healthcare professionals.

Education is an essential part of a treatment plan, as the compensation of the disease largely depends on the patient's behavior towards his or her illness, that is adherence to pharmacotherapy, diet, and physical activity. The patient must be aware of the consequences that may occur if he or she does not follow the advice of a doctor or dietitian.

## Educational process

Educational process consists of several phases: basic (initial), extended (complex) and, if necessary, repetitive (re-educational) phase. This division is important due to the patient's ability to receive new information. Commonly, the form of administration and, in part, the content must be correct according to the patient's mental capacity. The basic phase of the educational process should focus on the following:

- Goals therapy,
- Method of therapy,
- Self-monitoring (self-control) focusing on acute complications (hypoglycemia and hyperglycemia),
- Dietary measures and physical activity.

The extended phase is built on the diabetic person's knowledge about his or her disease deepens. It should focus on obtaining further information on the nature of diabetes, especially on chronic complications and specific situations that the patient may encounter, such as pregnancy, travel, psychological problems, etc. Recently, group education of several patients, who can exchange their knowledge of living with diabetes, was recommended.

Re-education is aimed at restoring knowledge or motivating a patient, who must be re-instructed about the consequences if he or she refuses to cooperate in the treatment process.

## Education content

### 1. The nature of diabetes and its treatment

Clarification of the pathogenesis of the disease and justification of the administration of the treatment of PAD or insulin, including their correct administration (for diabetic individuals treated with insulin, this includes practice of insulin application or the principle of insulin pump care).

### 2. Self-monitoring

This includes instructing the patient about the need for cooperation. Only in the case of cooperation it is possible to achieve therapeutic goals of blood glucose levels and prevent acute or chronic complications. We will instruct the patient about blood glucose monitoring using a glucometer (and possibly CGM – continuous blood glucose measurement) and the need to keep records of their values for regular check-ups. In addition, the patient should record insulin doses, carbohydrate volume and physical activity. Smartphone applications (such as Diabetes diary (<http://www.diabetesdagboka.no/en/download/>) are currently available), which allow communication with the meter and in which the diabetic person can store other records. As an auxiliary method, we can recommend monitoring the levels of glucose and ketone bodies in the urine. A better, but more costly, method of monitoring blood sugar levels is the, so-called, continuous blood glucose measurement (CGM), where blood glucose is measured in the interstitial fluid of the subcutaneous tissue using a sensor at intervals of 1-5 minutes.

### 3. Prevention of acute complications

How to prevent and what to do in case of hypo- or hyperglycemia.

### 4. Dietary measures

In collaboration with a dietitian, a diabetic person should learn the proper principle of diet.

### 5. Physical activity

Emphasis on physical activity - as an important element of proper diabetes compensation. It is essential to instruct the patient in preventing hypoglycemia.

### 6. Preventions of chronic complications

The goal of diabetes mellitus treatment is to prevent complications, resulting from long-term hyperglycemia – heart and large vessel diseases, retinopathy, nephropathy, neuropathy, and diabetic foot syndrome. The physician should instruct the patient about the effect of smoking and obesity on the development of these complications.

## 7. Specific aspects of diabetes in everyday life

As part of a comprehensive education, the diabetic person should learn what to do in case of atypical situations and should also be provided with information about social problems (employment, driver's license, entitlement to a financial contribution), about associations for diabetic people.

## References

### Related articles

- Diabetes mellitus 1. type (endocrinology)• Diabetes mellitus 1. type (biochemistry)
- Diabetes mellitus 2. type (endocrinology)• Diabetes mellitus 2. type (biochemistry)
- Gestational diabetes mellitus• Newborn of a diabetic mother
- Complications of diabetes mellitus

### External links

Diabetes diary: <http://www.diabetesdagboka.no/en/download/>

### Sources

1. Standards of Medical Care in Diabetes--2012. Diabetes Care [online]. 2011, 35(Supplement\_1), S11-S63 [cit. 2016-12-09]. DOI: 10.2337/dc12-s011. ISSN 0149-5992. Available from: <http://care.diabetesjournals.org/cgi/doi/10.2337/dc12-s011>

2. Czech diabetological society. *Recommendations for diabetic education - update 2012*. Available from: [http://www.diab.cz/dokumenty/Standard\\_edukace\\_diabetika\\_2012.pdf](http://www.diab.cz/dokumenty/Standard_edukace_diabetika_2012.pdf)