

# Chosen life aspects of diabetic patients.

## Part 1. Access to education and employment



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## Abstract

Majority of properly treated patients are able to lead almost normal life — study, work, set up families and participate in social life. Well controlled diabetes, without chronic complications does not disable the patient from working in most professions. People that

developed diabetes during childhood or adolescence face different educational and employment's problems than group of patients who became diabetic later. Another group consists of patients who had to change the method of treatment due to progression of the disease or whose health was deteriorated by chronic complications.

**key words:** diabetes mellitus, insulin-treated diabetes, strict glycemic control, blood glucose monitoring, diabetes in the professional life, discrimination at work, insured diabetic individuals

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## Introduction

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Progress in medicine increases the group of handicapped people, but on the other hand enables proper functioning of people, who in the past were discriminated in social life on account of their disease. Such group of people contains for example diabetic patients.

In last several years methods of management of diabetes have changed fundamentally. One of the first forerunners of those changes was an introduction of self-monitoring of blood sugar by the patient at home in the middle seventies. This enabled to raise criteria of metabolic control considerably.

Development of modern methods of monitoring leads to adaptation of Continuous Glucose Monitoring System (CGMS, Guardian) [1–5]. It seems that wide use of those devices is a matter of not a long time.

Another, very important change in diabetes treatment was improvement of medications, insulin in particular.

Recent years showed an advancement of more and more „aggressive methods of insulin treatment” of diabetes. They are supposed to lead to possibly the best metabolic control and enable to maintain the state of nearly normoglycemia with considerably low risk of hypoglycemia at the same time. Introduction of insulin analogs, that enabled to achieve good metabolic control safely, was an important progress in this field [2, 6–14]. There have been attempts of administrating insulin by other ways than subcutaneous injection. The most promising of those are systems that deliver insulin via pulmonary route [15].

Within the compass of recent years devices to insulin injection have changed significantly. Traditional syringes have been replaced by much more convenient insulin pens; and nowadays more and more popular are insulin pumps. Most popular are external pumps used to continuous subcutaneous insulin infusion [2, 5, 7, 8, 14, 16–24]. However, more and more commonly used are programmable devices, implanted into abdominal integument, that infuse insulin intraperitoneally [25, 26]. This very rapid advancement of diabetes treatment methods (diabetes type 1 in particular) brings the chance for maximal metabolic control closer, what should reduce or prevent both, acute and chronic complications [12].

Diabetic patients, with a bit of effort and strong will can substantially improve their ability to perform various activities including travelling, working and driving vehicles. Undoubtedly diabetic patients shouldn't be discriminated due to their disease at work, school, while obtaining their driving licence, insurance and others.

In every case, person with some chronic disease, requesting for the medical approval when applying for employment or driving licence must be assessed indivi-

dually by an experienced specialist or a team of specialists. They must evaluate the range of medical indications and contraindications, as well as the prognosis for health condition and establish suitable intervals between each re-assessment. Doctor's negative decision, which means prohibition of employment in a chosen occupation as well as decision that puts on such medical approval various restrictions relating to type of work may be prosecuted by the patient. On the other hand, granting permission, in case of accident at work due to patients failure may be also prosecuted by both, the victims and by the insurance company or even by the patient or his/her family. Doctors, thus, must carefully consider such decisions — both negative and positive.

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## Access to education and employment for diabetic patient

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In many countries attitude towards people with diabetes and their place in the society has changed recently. Significant improvement in management of diabetes was noticed. Patients' education programs and large-scale public education campaigns resulted in increased awareness of diabetes. Although diabetes still remains incurable disease, the way of thinking about this illness has changed. Not so long ago, diabetes was deemed not only incurable disease, leading inevitably if not to premature death due to acute complications then to disability due to chronic complications. Although nowadays we still cannot cure it, there are very efficient ways of metabolic control and therapeutic programs that allow to avoid acute complications and significantly reduce the risk of chronic ones, preventing patients from disability. In most cases, properly treated patients may enjoy normal life — study, work, set up families and participate in social life. Of course, it is possible only with extremely rigorous fulfillment of treatment requirements. Patient's participation in management of diabetes is far more important than in any other disease. In diabetes there is nothing one can do without patient's cooperation.

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## Problems with young diabetic patients education

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Achieving good metabolic control in children and teenagers may be more difficult than in adults due to several factors that are conducive to instable course of the disease. Youth education must consider not only knowledge about their disease and ways of coping with current problems but also preparation to adult life and work with diabetes. They should be thought about the kind of

problems they may encounter and ways to solve them (sports and exertion, friends, girlfriends, parties, alcohol, cigarettes or even drugs, stress and professions that might be hazardous or just simply inappropriate etc.). Young patients, at the entry into adult life are at worse position than healthy people. For some of them it might be harder to find work and compete with others, but of course, not impossible. Still, importance of good general education should be emphasized [27]. Young people should be encouraged to choose such professions that would allow for easy change of occupation.

Patients engagement in the process of learning depends on age and physical, intellectual and emotional maturity. It is also very important to determine relationships between patient and family (guardians). In case of young patient, participation of parents or other members of the family is very necessary if not indispensable, but on the other hand child must be taught responsibility for his/her own health and thus must be given as much independence as possible. Family should avoid incapacitation of such a young person. During the management and education doctor should negotiate goals, duties and priorities as well as make sure that patient understands and accepts those issues.

In this group of patients most important is to discuss dietary recommendations. Patient must be aware of the consequences of poor metabolic control and must believe that it is possible to avoid them. This is a fundamental condition of psychological stability. Thus, effective education in order to be put into practice must bring not only knowledge but also strength and motivation to young person. Education itself is not a guarantee of good metabolic control.

Teachers, trainers and other instructors should be also given some informations about the disease. Young person spends a lot of time outside, away from the family, and during this time cannot rely only on him/herself. Lack of knowledge about diabetes is often the reason why teachers and instructors exclude diabetic patients from various activities and thus from normal life causing frustration and feeling of inferiority with all their consequences.

Very helpful, both in education and in improvement of life quality is organized leisure time. Among children and teenagers who take part in trips (holiday and winter break camps, tours during weekends) much higher acceptance of the disease is observed, easier adaptation to its requirements, openness towards other people and stronger self esteem.

First camp for diabetic children was organized in 1925 by Dr. L.F.C. Wendet in Detroit. In the same year, cooperating with Joslin Clinic, nurse Elizabeth Devine took charge of organizing such camps. In year 1932 camp for diabetic girls was organized by Dr. Elliot Jo-

slin. In Europe, Prof. Lastradet introduced the idea of such camps in 1953 in France. In Poland first diabetic camp was organized by Dr. A. Margolis in 1961. Recently, idea of such camps is known all over the world. They are thought to be an important factor improving management of young diabetic patient [12].

## Employment of diabetic patients

Well managed diabetes, without chronic complications does not disable the patient from undertaking most of the professions. Diabetes per se cannot be criterion excluding ill people from being employed. However, in real life, with bigger and bigger unemployment and thus competition discrimination of diabetic patients is observed [28–33].

Great number of doubts and restraints results from insufficient knowledge about new methods of treating diabetes both among employers and, what most important, among their medical consultants. It is therefore crucial that in qualified diabetes care centers diabetic patients are not only instructed on self-management but also informed about their rights and duties as employees and regulations concerning health insurance etc. For this purpose large institutions employ social workers that teach and talk about mentioned above problems during tutorials.

There are quite radical differences between patients with type 1 and type 2 diabetes. They follow many factors such as age, risk of chronic and acute complications etc. However, more relevant than type of diabetes is type of treatment and, most of all, education and motivation to the best metabolic control.

- Different groups of patients face different problems:
- those that developed diabetes during their childhood or adolescence and plan their future work. They almost always have type 1 diabetes and receive insulin treatment. This is a disadvantage but on the other hand they are young and resourceful, well educated in respect to self-management, equipped with modern devices to insulin treatment. Those patients, being still in the process of learning, have chance to choose such profession that will not collide with the disease. All efforts should be undertaken to guarantee the youth possibly the best education that will compensate for their physical disadvantage and allow them to compete with healthy people with much bigger ease;
  - different group consists of patients that became diabetic during adult life. They might be forced to change not even their lifestyle and dietary habits but also their occupation. Thus, they might need a help of a doctor that would teach them how to manage with

diabetes and of social worker that would enable them to learn new profession. An advice of psychologist might be necessary as well;

- another group consists of patients who had to change type of treatment due to progression of the disease (from diet or oral agents to insulin treatment) or whose health was deteriorated by chronic complications.

Employer, before making decision about acceptance or rejection of applicant, should answer the question whether diabetes (or any other disease) affects safety of work and whether type of work will not affect diabetic patient more than any other healthy person.

Legislations differ among countries. Since, as it was mentioned above, many decisions may result from lack of knowledge about diabetes, it is recommended that doctor who is supervising the patient takes part in the process of acceptance or rejection of the candidate.

Type of treatment is an important but not the only one and not the most important criterion for eligibility for an occupation.

It is generally agreed that diabetes treated only with diet, with a lack of tissue alterations that would reduce ones ability to perform certain work, is not an obstacle to any kind of occupation and thus patient is not obliged to inform his employer about such illness.

Eligibility to a certain profession of patients treated with oral hypoglycemic agents, if no tissue deterioration occurs, is often conditioned by type of medications (biguanides or sulphonylurea derivatives). This type of treatment usually disqualifies from working as a policeman, soldier, fireman and pilot but allows being professional driver. However, it obliges the patient to inform the employer and the insurance company about the disease. Reassessment of patient's state is necessary.

Patients receiving insulin treatment face much more restrictions resulting from much higher risk of hypoglycemia. They cannot serve in the army or police. They are not granted a permission to be fireman or professional driver. They cannot control railway nor air traffic, work at the open sea and they are not permitted to perform jobs that in case of hypoglycemic stupor might put in danger the patient and surrounding people (scaffoldings or cranes etc.).

Those restrictions apply mainly to assessment of eligibility to start working on a certain position. Different regulations deal with permission to continue the occupation that was began before commencing the treatment with insulin. Such cases are assessed individually by specialist of industrial medicine cooperating with diabetologist. They are obliged to inform both an employer and the insurance company about the diseases.

Diabetes associated with chronic complication is a separate problem. Such complications might be a serious

obstacle, and hinder the performance of many types of tasks. Thus, they can substantially reduce ones eligibility to a certain work. In such cases, decision of further employment must be taken together by several specialists (diabetologist, ophthalmologist, neurologist, often psychologist etc.). Decision must take into consideration both rights of the patient and safety of surroundings.

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## Insurance

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In many countries, including west and central Europe this is a relatively new issue. Until now, diabetic patients in those countries were liable to the same regulations as other people. Currently, with change of legislations concerning pension, rents, private insurance etc., situation of diabetic patients will change as well.

In many countries insurance regulations are unfortunately still based on old criteria in respect of attitude towards people who suffer from diabetes. Great progress in management and control of diabetes that was made in recent years should convince insurance companies to change existing criteria. In many countries insurance companies, especially private ones, use old standards of evaluation of mortality risk and morbidity associated with diabetes refusing any insurance or demanding very high insurance rates. Education on a large scale is a necessity.

Patients, on the other hand, must learn to inspect insurance offers as well as collect appropriate documents describing their health condition. Those should be issued by professional diabetes care centers.

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