American University of Armenia **Nork Marash Medical Center**

Impact of Enhanced Patient Education Program among Surgical Coronary Heart Disease Patients at Nork Marash Medical Center

Professional Publication

Prepared by:
Candidate for Master's Degree
Naira Yeritsyan

Yerevan, Armenia
2001

.

Table of contents

Executive summary

The term, coronary heart disease (CHD), is used to describe the effect of impaired or absent blood supply to the heart muscle. It is a major health problem all over the world. According to the World Health Organization, CHD causes about 12 million deaths in the world each year. CHD is the leading cause of death in the United States accounting for one-fourth of deaths in the age group over 35 years. CHD is the leading cause of morbidity and mortality in Armenia, accounting for around 8,838 deaths per year.

The cause of CHD is largely unknown. However, a number of epidemiologic studies have identified the major risk factors that increase the likelihood of CHD development. The management and control of CHD modifiable risk factors help to prevent CHD and decrease its morbidity and mortality. According to the literature, during 1968-1976, a 25 percent decline in CHD mortality was mostly due to preventive efforts addressed to modify risk factors through lifestyle changes. The control and management of CHD risk factors are of utmost importance for patients with established coronary heart disease since they are ten times more likely to develop a second myocardial infarction. Cardiac rehabilitation provides means for modifying the risk factors and offers patients a healthier and improved quality of life. Patient education is considered a cornerstone of cardiac rehabilitation because knowledge of the causative factors motivates the modification of health related behavior and reduces CHD morbidity and mortality. A number of studies have proven the effectiveness of educational programs on selected risk factors.

Taking into account the importance of CHD risk factors management and the fact that the NMMC (Nork Marash Medical Center), a tertiary health clinic for CHD patients, provides only verbal instructions to its patients, it was proposed to conduct an enhanced patient education program for CHD surgical patients and to test its effectiveness. The research question of the study was to determine whether the enhanced in-hospital education program on selected risk factors among coronary heart disease surgical patients at NMMC increase their knowledge and awareness, improve their quality of life and increase scores on a locus of control questionnaire. The objective of the study was to test the impact of the enhanced patient education program on CHD surgical patients' knowledge/awareness about heart disease and their perceived locus of control in an intervention group compared to the standard education provided in the control group.

A quasi-experimental design with static group comparison was selected. The study population were surgical patients at NMMC. The control group included patients that had already undergone surgery, while the intervention group comprised current CHD patients, candidates for surgery. The sample size was calculated to be 27 in each study group. For testing the effectiveness of the education program knowledge/awareness, A Health Locus of Control, and the short form SF-36 questionnaires were used. The intervention group received the enhanced education program and was provided with pre and post-questionnaires to assess its effectiveness. The control group received standard patient education and only post-test questionnaires. Prior to study implementation the study protocol was approved by the Institutional Review Board/committee on Human research of the American University of Armenia. Based on the study results, it was concluded that the enhanced patient education on selected coronary heart disease risk factors increased the CHD surgical patients' knowledge-awareness and improved their scores on the health locus of control questionnaire. Higher knowledge scores in the intervention group versus the control group demonstrated the effectiveness of the enhanced education program compared with the standard patient education held at NMMC.

Introduction

General Background

The term, coronary heart disease (CHD), is used to describe the effect of impaired or absent blood supply to the heart muscle.[1] It is a major health problem all over the world. According to the World Health Organization (WHO), CHD causes about 12 million deaths in the world each year.[2] The disease disables people in their most productive life period.[1] CHD is also the leading cause of death in United States accounting for one-fourth of deaths in the age group over 35 years.[1, 2,3, 4] It causes about 800,000 new and 450,000 recurrent heart attacks each year.[1, 2,3, 4] The prevalence of CHD in the United States composes about 13.7 million about half of whom has had acute myocardial infarction and the rest have experienced angina pectoris.[1, 2]

According to the British Heart Foundation, CHD is the most common death in the United Kingdom (UK) accounting for over 135,000 annual deaths or about one fourth of deaths in men and one- fifth of the deaths in women.[5] In the UK 26 percent of premature deaths in men and 16 percent of premature deaths in women are from CHD.[5]

CHD is also the leading cause of morbidity and mortality in Armenia, accounting for around 8,838 deaths per year.[5] According to data obtained from the Ministry of Health, the incidence of CHD in Armenia in 1999 comprised 250 per 100,000-population.[6] The prevalence of CHD composed 1,884 per 100,000 population.[6] It has been estimated that the mortality rate of CHD in 1999 accounted for 233 per 100,000 population or one-third of all deaths.[6]

The data presented for Armenia does not reflect the true CHD morbidity and mortality burden in the country. Due to low utilization and decreased referrals for medical services and the absence of mass screenings during the last few years,[7] the number of registered and diagnosed CHD cases are greatly underestimated. Also there is an absence of a

current census and the ongoing migration problem indicates the population data are overestimated, resulting in underestimated morbidity and mortality rates. Even though there is no reliable data regarding the prevalence and incidence of CHD, it is clearly a major public health problem in Armenia.

CHD Risk Factors

The cause of CHD is largely unknown.[1, 2,3,4,8] However, a number of epidemiologic studies has identified the major risk factors that increase the likelihood of CHD development.[3,4] These studies have added the beliefs that CHD prevention can occur through risk factor modification.[3, 8] The risk factors may be categorized into modifiable versus non-modifiable risk factors.[1, 3] The group of non-modifiable risk factors includes age, sex, and family history while the main modifiable risk factors are estimated to be cigarette smoking, high blood pressure, high blood cholesterol, physical inactivity and diabetes mellitus.[1, 2, 3]

Cigarette smoking is the largest contributor to the risk of having CHD.[2, 3,4, 8] Smoking increases the risk of development of CHD from two to three folds and interacts with other risk factors to multiply the risk. [3] Exposure to environmental tobacco smoke in the home and the workplace has also shown to increase the risk for CHD.[3, 4] Smoking cessation reduces the risk of recurrent events by 50 percent compared with the patients who continue to smoke.[1]

Hyperlipidemia that leads to elevated total and low-density lipoprotein (LDL) cholesterol is strongly linked with the development of CHD.[3,4] High cholesterol can be controlled through diet modification.[7] Studies of randomised clinical trials have shown that modifications in diet and drug therapy cause a significant reduction of total and low density lipoprotein (LDL) levels resulting in decreased CHD morbidity and mortality.[1]

Hypertension has been established to be the next risk factor that leads to atherogenesis and increases the incidence of CHD.[1, 3] The risk imposed by hypertension increases with the presence of other risk factors, which also contribute to the development of CHD.[3]

Diabetes mellitus is an independent risk factor for CHD. It increases the risk of CHD by three times in men and by three to five times in women. CHD is also considered to be the leading cause of deaths in diabetic patiens.[3,4]

The next important factor contributing to the development of CHD is physical inactivity, which doubles the risk for CHD.[3, 7] It is estimated that in the UK about 36 percent of deaths from CHD are related to a lack of physical activity.[5] In addition, a number of epidemiological studies demonstrated that moderate exercising during cardiac rehabilitation reduces cardiovascular mortality from 20 to 25 percent.[3]

The management and control of CHD risk factors helps to prevent CHD and decreases its morbidity and mortality.[1, 2, 3, 10] According to Kass Wenger and Robert Schlant, during 1968-1976, a 25 percent decline in CHD mortality was mostly due to preventive efforts designed to modify risk factors through lifestyle changes.[1, 3] The WHO recommends a population and community approach in altering the life style and environmental characteristics that are considered as underlying causes of CHD.[1, 3] The American Heart Association (AHA) stresses the importance of CHD risk factors control and management and recommends the general population: eliminate cigarette smoking, control hypertension by diet, reduce cholesterol level, adjust calories to achieve ideal body weight, exercise moderately, and control problems associated with diabetes mellitus.[1]

The control and management of CHD risk factors are not only primary but also secondary prevention of CHD mortality and morbidity.[2,3] It is of utmost importance for patients with established coronary heart disease because they are ten times more likely to develop a second myocardial infarction.[10,11,12] In most developed counties for people who have already experienced CHD, widely practiced cardiac rehabilitation programs are an essential component of their treatment.[9, 10] Cardiac rehabilitation provides a means for

modifying lifestyle and other risk factors; thereby, reducing the risk of subsequent coronary events and deaths.[11]

The goal of cardiac rehabilitation, as a multifactorial intervention, is to prevent progression and improve well being after a cardiac event through lifestyle changes and risk factor modifications.[9, 10, 11] Cardiac rehabilitation has been defined by the WHO (1993) as: "…the sum of activities required to influence favourably the underlying cause of the disease, as well as to ensure the patients the best possible physical, mental and social conditions so that they may, by their own efforts, preserve, or resume when lost, as normal a place as possible in the life of the community."[13]

Cardiac rehabilitation is designed to offer the patient a healthier and improved quality of life through education, exercise and behaviour change.[12] There is strong evidence from primary studies verifying the benefits of cardiac rehabilitation.[13,14] Particularly, meta-analyses show reduction in mortality and morbidity, psychological distress, and risk factors for patients who have participated in cardiac rehabilitation programs. Aggregated data from several studies demonstrate that cardiac rehabilitation results in 25 percent reduction of cardiovascular mortality and to some degree, risk factor modification.[12,13] Other studies have shown improvement in the quality of life for patients attending cardiac rehabilitation programs.[11] Comprehensive cardiac rehabilitation includes exercise training, risk factor modification, education, and stress management.[10, 11, 14]

Patient education is an important component of cardiac rehabilitation. It is considered a cornerstone of cardiac rehabilitation, because knowledge of the causative factors and methods of prevention of CHD are essential to reduce morbidity and mortality from them.[11] The focus of education is mainly the moderation of risk factors, which can lead to the reduction of patients' morbidity and mortality.[12, 13] The intended outcome of education about risk factors management is to produce observable changes in the patient's behaviors.[10, 11, 12, 14]

Changes in lifestyle behavior are aimed at reducing the risk of worsening disease, and improving the overall quality of life. Several education programs for patients showed improvement in patients' knowledge, [12] decreased disability, [15] and produced changes in health behaviours. A cross sectional study conducted among Saudi males and females revealed a significant association between education and knowledge of risk factors and prevention of CHD.[12, 13] A subsequent program improved patients' knowledge, restored confidence, and improved their quality of life by helping patients to initiate and maintain lifestyle changes.[14,15]

A number of studies has shown the effectiveness of educational programs on selected risk factors that have resulted in positive health outcomes or changes in behavior.[15,16,17] An educational intervention study conducted in African American churches in the USA showed an 8.1 percent decrease in serum cholesterol due to a health education program.[18,19] The same study showed improvements in knowledge and adherence to dietary recommendations. Another randomised controlled trial showed significant differences in the percentage of calories consumed as fat, fiber consumption, and smoking status between the intervention and control groups as a result of a health education program.[17] The National Heart, Lung, and Blood Institute (NHLBI) encourages healthy life-style behaviours and the establishment and development of medical education programs and community education activities to prevent coronary heart disease.[17]

Recent studies, as an outcome measure for evaluation of the effectiveness of cardiac rehabilitation and patient education, emphasize the Health Locus of Control concept.[18] Health Locus of Control (HLC) is the degree to which individuals believe that their health is controlled by internal or external factors.[20,21] Through a learning process patients develop the belief that outcomes are a result of their actions (internals) or a result of something independent of themselves (externals).[20] Studies conducted on the relationship between

locus of control and cardiac health-facilitating behavior identifies the internal Locus of Control as a mediating factor of actions taken to improve health problems [20] Increasing numbers of investigators are using the Health Locus of Control instruments to evaluate the outcome of the health education program.[20,21]

A collaborative project between the Center for Health Studies Research and development (CHSR) at the American University of Armenia (AUA) and Nork Marash Medical Center (NMMC) was jointly proposed in March 2000. As a part of that project, a hospital survey was undertaken with the aim to assess the compliance of NMMC with standards set by the Joint Commission International Accreditation (JCIA)[24]. The evaluation of a function entitled " Patient and Family Education" revealed that the health education provided at the organization is verbal without any printed materials, established formats, and with little stress on life-style changes (smoking, diet, exercising) [24].

Methods

Taking into account the importance of CHD risk factors management and control and that the staff at NMMC provides only verbal instructions with little stress about risk factors modification and life style changes, this study proposed to conduct an enhanced patient education program. The focus of the new program is on CHD surgical patients at NMMC, and plans were to test the effectiveness of the program.

The research question of the study is the following:

Does the enhanced in-hospital education program on selected risk factors among coronary heart disease surgical patients at NMMC result in an increase in their knowledge and awareness, improve their quality of life, and increase the scores on a locus of control questionnaire?

The objectives of the study are the following:

- To test the impact of the enhanced in-hospital patient education program on CHD surgical patients' knowledge about their disease and their scores on a locus of control instrument in the intervention group compared to the standard education provided in the control group.
- To assess the quality of life in intervention and control groups.

Study design

The most powerful type of design to assess the effectiveness of education program and to answer the research question is the experimental design. The random assignment of patients to the intervention/education versus control groups, which is an essential component of the experimental design, would establish comparability between two groups, prevent biases and control for confounders[22]. However, to avoid dissemination of the education information among the control group patients and having time constraints, it was decided that the patients would not be randomised into control and experimental groups and a **quasi-experimental design with static group comparison** was selected instead**.** Namely, the intervention group included current CHD surgical patients, who based on the established procedure for patient education at NMMC were administered questionnaires designed to test their knowledge/awareness and locus of control before and after the enhanced health education. The CHD patients that had already undergone surgery, stenting, or catheterisation within 30-45 days before the study and had received the standard education were selected as the control group and were provided with the three post-test questionnaires. The intervention group was provided with pre and post-test questionnaires.

Study Population

The study participants in both intervention and control groups were the CHD patients that received invasive surgical procedures with major anaesthesia over the last one-month period. At NMMC these group included patients that underwent coronary artery bypass

surgery, catheterization, or stenting procedures. The inclusion and exclusion criteria for the selection of patients into control and intervention groups are presented in table # 1.

Table 1. Eligibility Criteria

	Inclusion criteria	***Exclusion criteria***
Intervention group	CHD[1] adult surgical patients at NMMC, that had invasive surgical procedures during the study period Males and females Residency in Armenia Patients who agreed to participate in the study	Patients with medical education Patients who disagreed to participate in the study
Control group	CHD adult surgical patients at NMMC[2], who had undergone invasive surgical procedure 30-45 days before study Males and females Residency in Armenia Patients who agreed to participate in the study	Patients with medical education Patients who disagreed to participate in the study

1 Coronary Heart Disease
2 Nork Marash Medical Center

The dependent variables for the study objectives were the following:

- Behavioral risk factors related to knowledge levels (mean knowledge score);
- Change in proportion of patients having internal or external locus of control before and after the intervention; and
- Changes in selected risk factors associated with the quality of life before and after enhanced patient education.

The independent variable is the enhanced patient education program and its effect on selected risk factors among coronary heat disease patients.

Sample Size Calculation: Taking into account that knowledge is a continuous variable the sample size was calculated using the following formula:

$$n = (Z\alpha + Z\beta)^2 * 2(SD/\Delta)^2$$

Based on the expert opinion of a consulted biostatistician it is assumed that a conservative coefficient of variable (SD/Mean) is .33. Thus, a 1 SD effect is equivalent to .33 of the mean baseline value. Also assuming 25 percent increase in knowledge, tolerated α error and acceptable β errors .05 and 0.2 respectively and 95 % confidence interval, then

$$n = 15.7(.33/ .25)^2 = 15.7 (1.74) = 27$$

Based on the sample size calculation and possible problems related to study implementation in both intervention and control groups, the number of study participants will be increased and comprises 30 participants from each group.

Threats to design

The internal and external validity determine the strengths and limitations of the design. The more is the external validity, the more generalizable are the program outcomes. The internal validity assures the interpretability of the results. There are 12 factors jeopardizing both internal and external validities[22]. Table # 2 presents the threats to internal and external validity for the design of the study.

Table 2. Threats to Internal and External Validity

	Threats	Yes +/No -	Explanation
Internal Validity	***History***	+	Other possible education programs can affect the outcome during the program period
	Maturation	-	Due to short time period systematic psychological and biological changes are minimal and equal for both groups
	Testing	+	The pre-testing may impact the scores of the second testing in intervention group
	Instrumentation	-	The instruments used in both groups as well as for pre and post-tests are the same.
	Statistical regression	-	The testing population is not selected on the basis on their extreme characteristics
	Selection bias	+	The intervention and control groups may differ in characteristics (education, availability of information sources and etc.)
	Experimental Mortality	-	As the control group receive only post-test there is no a problem of dropouts, while in the intervention group it may occur.
	Selection-maturation interaction	+	In terms of motivation the intervention group has higher motivation because they receive education manuals.
External Validity	***Reactive effect of testing***	+	The pre-test through a focusing of attention might increase the study population's sensitivity to the education program
	Selection education interaction	-	The outcome data can be generalized to all CHD surgical patients.
	Reactive effect of experimental arrangements	-	The experiment is conducted in away that is maximally close to the usual environment of the hospital
	Multiple program Interference	-	No other programs are conducted

The study protocol

The study protocol was developed taking into account the current practice of patient education at NMMC.

Current Practice-Patients at NMMC receive comprehensive oral inpatient education after catheterization. Prior to catheterization, a minimal amount of information related to the patients' heart problem is provided after the diagnosis. This information is general and descriptive in nature and mostly aims to justify the necessity for the catheterization. Once the catheterization provides the complete picture of the impaired coronary arteries, the cardiologist responsible for the treatment and further follow-up of the patient, provides the

patient education. During the discharge period the patient receives an additional educational session, which includes the schedule of follow-up visits and stresses the importance of compliance to the prescribed treatment and follow up visits. The established patient education procedure is different for urgent cases. In this case the comprehensive patient education is provided after coronary artery bypass surgery or the stenting procedure.

The patient's first follow-up visit is always scheduled for the second day following his or her discharge from the hospital. The unclear topics related to previously received patient education are discussed during the follow-up visits. Generally, the second follow-up visit takes place within seven days of the first visit. All surgical patients are generally seen for follow-up care at least once per month for the first six months. Follow-up care is provided free-of-charge during this period to encourage patients to keep their appointments.

The study protocol was designed based on the established procedures. Both experimental and control group patients received the patient education after catheterisation (in a case of urgent cases after surgery or stenting). The patient selected to be in the experimental group were provided with enhanced patient education using education materials while the control group received the routine education. The study participants in the experimental group before initiation of the patient education program were given pre-test questionnaires (SF-36, locus of control questionnaire, and CHD knowledge assessment questionnaire) to evaluate their baseline level of health-related quality of life, locus of control, and knowledge/awareness. Within the month period following discharge, the study participants were provided the post-tests to assess any changes due to the intervention.

According to the study design, patients who had undergone an invasive surgical procedure during the previous month and who had already received standard patient education at NMMC were selected for the control group. This group of patients were given

only post-test questionnaires to compare with experimental group for purpose of establishing the effect of intervention.

The study was implemented with the support of the NMMC staff that works in the outpatient cardiological clinic. For the staff involved in the study, training sessions were conducted and printed training manuals were distributed. The training manual is attached (see appendix 1). During the implementation of the study the student investigator conducted several visits to monitor the teaching provided by the NMMC designated staff.

Study instruments

Three instruments used for the implementation of the study are the following:

- Short form SF-36
- Locus of control questionnaire
- CHD knowledge assessment questionnaire

The questionnaire used for the measurement of the locus of control in the study is labeled the Multidimensional Health Locus of Control (MHLC), which was a self-administered questionnaire, form C, designed to be "condition specific". The questionnaire has 18 items, which turn contains two six-item Likert type scales and two 3-item sub-scales[25]. The two 6-item scales represent Internal Health Locus of Control (IHLC) and Chance Externality CHLC that assesses perceived non-control of health, or the belief that fate determines one's health status[21]. The subscale called "powerful others" in Form C has two 3-item Likert type subscales related to doctors and other people. High scores in this area indicate that patients believe the control of their disease is in the hands of doctors or their key people.

The MHLC scales have been used in many studies, and they have Cronbach alphas in the .60-.75 range and test-retest stability coefficients ranging from .60-.70.[25]

The CHD knowledge assessment questionnaire is self-administered and was developed based on the questionnaire used in the "Kaiser Permanente Blood Pressure

Awareness" survey and "Heart disease and Its Symptoms" cardiovascular disease quiz used by the Mayo Clinic[23]. The questionnaire contains 10 background information questions such as age, gender, and education, and disease history. There are 17 knowledge/awareness questions. All questions are close-ended and arranged in a way that the general questions are asked before the specific ones. The questionnaire contains mostly Likert type scale questions as well as a checklist, yes/no, and multiple-choice types of questions.

The next questionnaire used in the study is the short form SF-36; also a self-administered questionnaire. This questionnaire has high reliability and validity, and it has been tested on variety of populations[26]. It is used as a basic indicator for health status. Based on statistical analyses, there is a sound basis for interpreting SF-36 scales as measures of health and health-related quality of life. It measures eight health attributes using eight multi-item Likert-Type scales containing 2 to 10 items each. The eight domains include: physical functioning, role-limitations physical, social functioning, bodily pain, general mental health, role-limitations emotional, vitality, and general health perceptions[26]. This questionnaire was translated into Armenian, based on the required guidelines and regulations developed by the Health Assessment Lab (HAL) Inc., the organization that licenses the SF-36 for commercial and research use.

All three questionnaires were pre-tested before the implementation of the study. The Armenian version of the SF-36 had been pre-tested at NMMC during the NMMC/AUA collaborative project.

The Locus of Control and CHD Knowledge Assessment questionnaires were pre-tested among the coronary heart disease patients at the heart clinic at NMMC. As a result of the pre-tests, wording problems were revealed and corrected. Based on the results of the pre-testing, the questions regarding the disease history were added to the knowledge assessment questionnaire. Moreover, some clarifications were included to questions that were confusing

to the patients. For instance, the term “angina” was explained as “chest pain” and noted in the brackets in the questionnaire. The study instruments are attached in appendix #1.

Enhanced Education Program

The patients in the intervention group after the catheterization in the ward filled out the three pre-test questionnaires. After collecting the questionnaires the nurse presented and distributed the specially developed educational materials. Two to three hours later, the assigned cardiologist provided the patient education using the educational manual and explaining all topics included within the guide. The patient, who had had a chance to review the educational material, was given an opportunity to ask questions and discuss them with the cardiologist.

Educational material

The educational material was developed based on the British Heart Foundation teaching brochures. Based on the needs of the population served by the clinic, the relevant topics were selected, translated, and modified with the active participation and support of NMMC clinical leaders. A copy of the program is contained in appendix # 2.

The enhanced educational program is approximately 12 pages and included the following main topics:

- Anatomy of the heart.
- Normal blood circulation
- Background information about CHD
- Main risk factors
  - Smoking
  - Hypertension
  - Diet
  - Exercising
- Brief description of Coronary Artery Bypass Surgery.

Ethical considerations

Prior to study implementation the study protocol was approved by a Departmental Institutional Review Board within the College of Health Sciences at the American University of Armenia. According to the study protocol written consent was obtained from the participants before the provision of questionnaires. (See consent form in appendix 3)
The study was considered as minimal risk for the patients. The probability of anticipated discomfort and inconvenience were not greater than those experiences during routine educational procedures provided on a daily basis. The only inconvenience identified was the time connected with the administration of the study instruments.

A unique identifier was assigned to each participant to ensure confidentiality. The confidentiality of the patient information along with detailed explanation of the purpose and goals of the study created a trustful attitude, which is an important factor for obtaining accurate and reliable data.

Data Entry **-** The data were entered was entered into the SPSS-10 statistical software package. Prior to data analysis the data were checked for out-of-range values. Any out-of-range values were checked and corrected with the original questionnaire.

Results

During the data collection process information from 54 CHD surgical patients were collected; 27 patients from each group. However, in the experimental group one patient refused to fill in the post-test questionnaire, which resulted in a 96.3 percent response rate for the group. The mean age of the patients in the control group was 53.56, while in the experimental group it was 52.62. Male patients comprised 96.2 percent of the experimental group and 88.9 percent in the control group. Tables 3 and 4 display the educational and disease history status from both groups.

Table 3 Patients' education status (*actual numbers in brackets*)

Categories/groups	***Experimental group***	***Control group***
Years in school	***Percentage***	***Percentage***
8 years	***7.7 (2)***	***14.8 (4)***
10 year	***11.5 (3)***	***3.7 (1)***
College	***46.2 (12)***	***18.5 (5)***
High (post graduate)	***34.6 (9)***	***59.3 (16)***

Table 4 Patients' disease history (*actual numbers in brackets)*

Categories/groups	***Experimental group (Percentage)***	***Control group (Percentage)***
Less than 1 year	***34.6 (9)***	***24 (6)***
1-2 years	***19.2 (5)***	***16 (4)***
3-4 years	***19.2 (5)***	***44 (11)***
Don't remember	***26.9 (7)***	***16 (4)***

In both groups 50 percent of patients indicated that they experience angina pectoris several times a day. The comparison between the two groups is noted in table 4.

Table 4 Angina type description in Experimental versus Control groups

Angina type/groups	***Experimental group (Percentage)***	***Control group (Percentage)***
During the rest	***30.8***	***33.3***
After physical activity	***23.1***	***28.6***
Always	***30.8***	***4.8***
Nocturnal	***15.4***	***33.3***

CHD knowledge/awareness

Paired t-test analysis showed statistically significant difference in knowledge/awareness from the pre and post scores in intervention group after the enhanced education program (p=0.000, mean difference = 22.8, 95% CI [29.9 – 16.2]).

Independent t-test analysis showed statistically significant difference in the knowledge/awareness scores between the control and intervention groups (p=0.000, mean difference=28.44, and 95% CI [19.9 – 36.6]). An interesting finding related to the mean difference knowledge score in the intervention group is that the further analysis showed that

the mean score difference is higher in the high education group patients and comprises about 28.8 (p=0.003, CI [44.1 – 13.4]).

Considering the small sample size and for the convenience of the analysis the four education categories were collapsed into two major ones. Though the mean difference in the other education groups (8 class, 10 class, and college education) is lower and composes 19.6, it is still statistically significant. The additional paired t-test analysis showed that patients with longer disease history have higher mean score difference after the education program than patients with disease history less than 1 year. In the intervention group the mean score differences were tested in correlation with experiencing angina frequencies. Besides, the paired t-test showed that the mean knowledge score differences were higher in patients who experience angina pectoris once per day or several times a month (28.4) compared to patients that experienced angina several times per day (17.2).

Locus of control

The paired sample t-test was performed to find association between the internal locus of control mean score differences and the enhanced patient education in the intervention group. Although the results of this test are borderline (p=0.043, mean difference 2.7) it showed that the increase in the internal locus of control scores is statistically significant. Although an increase in the internal locus of control mean scores was detected in intervention group versus the control group, the independent t-test showed that the increase in the internal locus of control scores was not statistically significant (p=0.08, mean difference 2.7). Similarly, the analysis showed that there was no statistically significant association among the mean locus of control scores and the patients' educational status, disease history duration, and angina frequency. The analysis of the external locus of control and "powerful others" scores showed no statistical differences among the scores.

Quality of Life

One of the study objectives was to analyze the quality of life in both intervention and control groups measured by the short form SF-36. The majority of respondents in the control group (55.6 percent) rated their health in general as “good”, only 37 percent of patients in the intervention group considered their health as “good”. The patients in both groups were asked also about the extent to which their health limits them in their everyday activities. The comparative description of the comparisons is presented in table 5.

Table 5 Percentage of respondents with limited activities because of their health condition

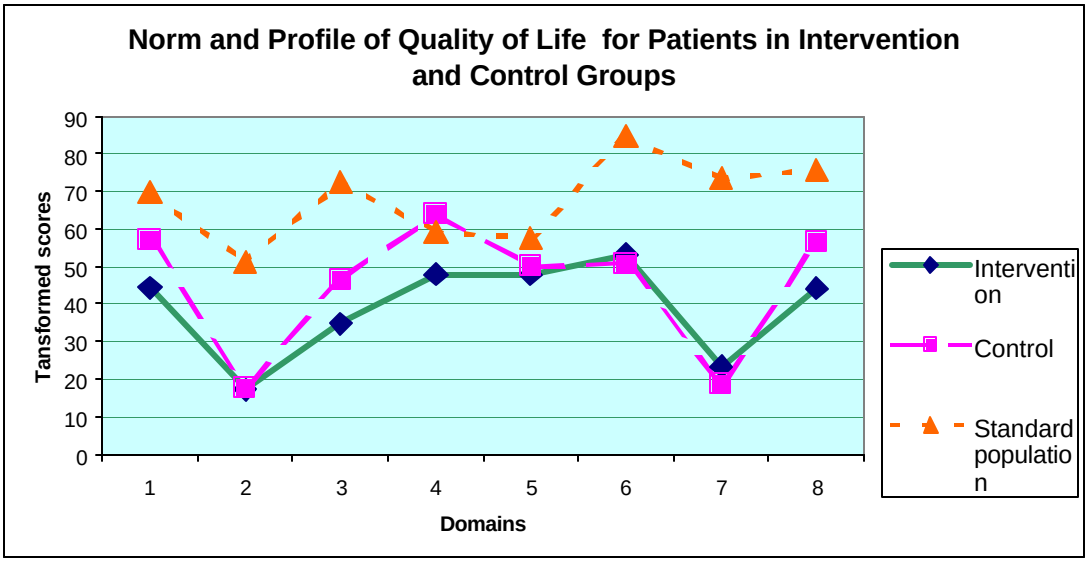
Activities	**Control group**		*Intervention group*	
	Limited a lot (%)	***Limited a little (%)***	***Limited a lot (%)***	***Limited a little(%)***
Vigorous activities	***63***	***25.9***	***74.1***	***22.2***
Moderate activities	***55.6***	***29.6***	***55.6***	***33.3***
Lifting or carrying groceries	***59.3***	***25.9***	***55.6***	***25.9***
Climbing several stairs	***33.3***	***37.9***	***40.7***	***40.7***
Climbing one flight of stairs	***3.7***	***29***	***11.1***	***51.9***
Bending, kneeling, or stooping	***33***	***25.9***	***25.9***	***51.9***
Walking more than a mile	***11.1***	***44.4***	***48.1***	***37.0***
Walking several blocks	***7.4***	***29.6***	***14.8***	***51.9***
Walking one block	***3.7***	***18.5***	***11.1***	***40.7***
Bathing and dressing yourself	***11.1***	***25.9***	***18.5***	***40.7***

Further analysis was performed based on the guide lines developed by the Health Assessment Lab (HAL)[26]. For testing the "quality of life" portion, the obtained data were compared with estimated norms for SF-36 scales for patients with recent acute myocardial infarction. Prior to testing the results, according to guidelines the obtained data have been transformed into 0-100 scales. Table 6 presents the data from the eight domains for the study population versus the norms obtained in the US.

Table 6 Summary of the results for intervention and control groups compared with norms

Groups/Domains	***PF***	***RP***	***BP***	***GH***	***VT***	***SF***	RE	***MH***
Intervention	***44.63***	***17.31***	***34.74***	***48.03***	***47.96***	***53.24***	***23.45***	***44.00***
Control	***57.22***	***17.59***	***46.29***	***64.07***	***50.00***	***50.92***	***18.51***	***56.74***
Standard population	***69.68***	***51.41***	***72.75***	***59.17***	***57.68***	***84.64***	***73.49***	***75.78***

Graph 1



Graph 1 displays the study participants' scores on the eight quality of life domains compared with the norms established in the USA for patients recently diagnosed with acute myocardial infarction[26].

For analysis of the mean values of the eight domains, one-sample t-test was performed. In the control group the patients' quality of life substantially differed from the US population data. Out of eight domains that are used to assess the quality of life, only two functions (General Health and Vitality) were not statistically not significant compared with the US norms (p=0.062 and p=0.076 correspondingly). In the intervention group the analysis for all eight functions reveal statistically significant differences compared with US norms developed for patients who recently experienced myocardial infarction.

In order to reveal the difference in the "quality of life" category between the intervention and the control groups, an independent sample t-test was applied to each of the eight domains. The results of the tests showed that the two groups statistically differed in two fields; "General Health" and "Physical Functioning" (p=0.000 and p=0.046).

Discussion

CHD risk factors knowledge/awareness

At the beginning of the study it was hypothesized that the enhanced patient education among the CHD surgical patients will increase their knowledge and awareness of the disease and its treatment. The results of this study showed a statistically significant association between the increase in the mean knowledge scores in the enhanced patient education group. In the intervention group, there was a 34.4 percent increase in the knowledge scores compared to the baseline data that was documented. In comparison there was a 46.8 percent difference detected in the control group. These results support the study hypothesis and confirm that the enhanced patient education increases the CHD patients' knowledge and awareness, which may lead to health-related behavioral changes and a decrease in CHD morbidity and mortality. These findings correlate with those in the literature [2,12].

One of the interesting findings of the study was that relatively high knowledge score differences was detected in the intervention versus control group. It is difficult to interpret this result because there is no baseline data for the control group. These data were collected as post-test information. However, one possible explanation can be suggested that the enhanced patient education was more effective than the standard education approach.

Some analysis has been done to test the knowledge score differences in the different subgroups. As it was mentioned in the " Results" section, patients with high education and longer disease history have higher mean knowledge score differences. It can be deducted that patient with high education and longer disease history have a better understanding of their heath condition and are more inclined to absorb new information related to their disease. Their longer experience with the disease process has led to their knowing more about CHD.

Locus of Control

One of the objectives of the study was to test whether the enhanced patient education may improve the internal locus of control among CHD surgical patients. As it was stated in the previous "Results" section, the findings indicate statistically significant increases in the internal locus of control scores in the intervention group after they received the education program (p=0.043). These results are supported by other studies that through education patients develop the belief that certain health outcomes are a result of their individual actions[20,21]. Adequate knowledge about their disease leads to beliefs about being more in control of its process.

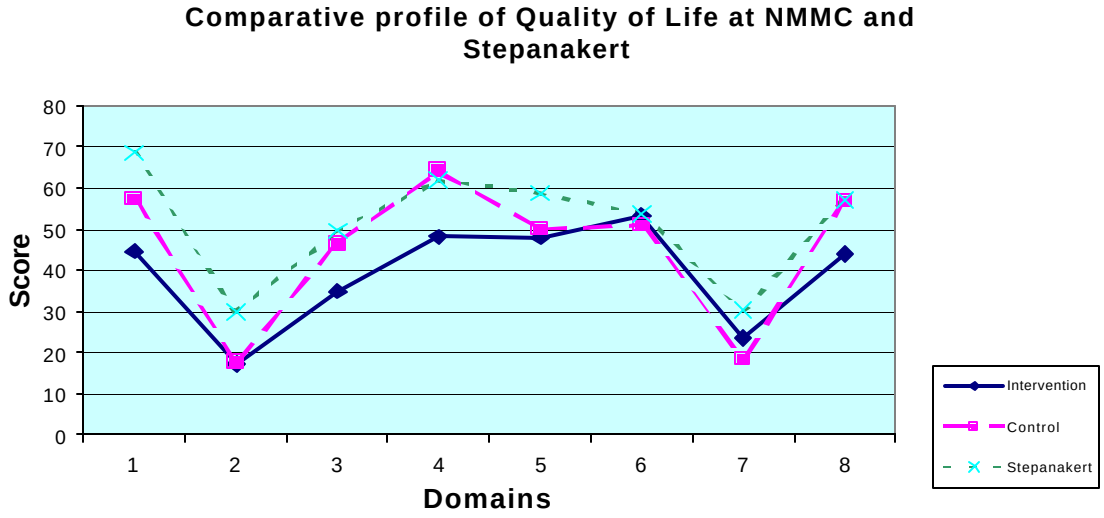
As a possible reason for not detecting a statistical significant difference in the locus of control scores in the other subgroups, the small sample size should be considered. Besides, the detected small difference in the internal locus of control scores can be explained by the short duration between the pre and post-tests, which is not enough to improve the internal locus of control. Moreover, the concept related to the patients' beliefs that their health to some extent is determined by their own behavior was inadequately reflected in the enhanced education manuals. In addition, follow-up activities designed to reinforce the enhanced teaching may have been helpful.

Quality of life

One of the objectives of the study was the assessment of the quality of life status in both the intervention and the control groups. Forty percent in intervention group and 33 percent in control group rated their health as "fair", which correlates with findings of baseline household assessment in Armavir Marz, where 38.7 percent of cases rated their health in general as "fair" [27]. One of the most interesting findings was that in the intervention and the control groups 55 percent and 37 percent of the study respectively, rated their health in

general as “good”, which is higher than in the Armavir survey where only 10.5 percent considered their health to be “good”. The reason could be expected because the patient population at NMMC represents higher a socio-economic group with a better quality of life. Another interesting finding was that the “quality of life” scores for the eight domains at NMMC are similar with the “quality of life” findings

Graph 2



in a recent Stepanakert survey:

This can be explained that according to the results of general health status assessment in Stepanakert [28], the recent stress situation in Stepanakert have resulted in higher CHD morbidity that may be the cause of the similar Quality of life patterns with NMMC patient population.

The additional analysis revealed that the quality of life in both groups significantly differed from the established US norms developed for the patients with recent myocardial infarctions. This can be explained that quality of life is a multi-dimensional concept and not only the health condition but also other factors such as socio-economic conditions and financial problems determine the overall quality of life. Because the norms were developed

for the US population, it can be hypothesized that those norms are less applicable for the Armenian population.

As it was presented in the "Results" section the analysis showed statistically significant difference in quality of life scores between intervention and control groups in two functions: "General Health" and "Physical Functioning". A possible reason for detecting this difference could be that the patients in the control group who rated higher in the two functions have already undergone cardiac surgery. These findings support the idea that coronary artery bypass surgery improves the quality of life including the improved mental outlook of the survivors.

Study limitations

The main limitation of the study was that due to time constraints the sample size was small. The sample size was sufficient only for answering the basic research question. The sample included patients from Nork Marash Medical Center; therefore, it is impossible to generalise the results of the investigation to all CHD patients in Armenia. Patients pay a high treatment fee at NMMC, and are typically from the higher socio-economic strata.

The next limitation of the study was the absence of randomization, which is an important tool in dealing with potential confounders. The absence of randomization affects the comparability of intervention and control groups.

The absence of pre-test in the control group can be considered as another limitation of the study.Because the baseline data for knowledge level and health locus of control were not determined, it was impossible to adequately assess the effectiveness of the standard patient education and compare it with the enhanced patient education.

Conclusions and recommendations

Based on the study results it can be concluded that the enhanced patient education on selected coronary heart disease risk factors does increase the CHD surgical patients'

knowledge-awareness and improves the health locus of control. The higher knowledge scores in the intervention group versus the control group indicate the effectiveness of the enhanced education program compared with the standard patient education held at NMMC. There was also reason to suggest that patients with higher education and longer disease history are more receptive to conducted patient education efforts.

The study results added to the beliefs that the enhanced patient education improves the internal locus of control, which according to literature is a motivation for health related behavioral changes. In addition, from the quality of life analysis it can be inferred that the coronary artery bypass surgery improves the quality of life. However, with regards to the enhanced patient education the results of the quality of life analysis can serve as a baseline data for the evaluation of long-term effects of the enhanced patient education program.

Recommendations as a result of the study are to include the enhanced education program in the daily practice of the Nork Marash Medical Center. To ensure the success of the patient education program, it is also recommended that along with the distribution of the education materials the medical staff provide more detailed discussion of the relevant topics as well as motivate and encourage patients to follow their recommendations. For that reason it is recommended that a person be identified, who will be responsible for the patient education function at NMMC. In addition, considering the importance of the internal locus of control as a motivator of health behavioral changes, it is necessary to stress in the education materials that health outcomes are to some extent a result of their own behavior.

For the evaluation of the long-term effect of the conducted enhanced education program it is recommended in six-months to assess the knowledge/awareness, health locus of control, and quality of life of the study population.

It is also recommended to conduct a similar study for CHD non-surgical patients and to test the effectiveness of the enhanced education program for that target population. Should

a similar study be conducted, it is recommended a larger sample size be used to analyze all the variables included in the questionnaire. In addition, classes and telephone follow -up to the patients to assess this progress should be included in the subsequent programs. Modifications of life style behaviours are not easy, and multiple interventions could provide valuable tools for the patients.

Acknowledgments

I would like to thank first of all my adviser Dr. Krikor Soghikian for his valuable help and comments. Thanks too, to Susan McMarlin and Michael Thompson for their kind support. Appreciation is expressed to Matthew Tayback for his helpful advice for sample size calculations. Thanks to Zara Mkrtchyan for her assistance with the analysis. I would like to sincerely thank NMMC staff and particularly Hrair Hovaguimian, Karine Sargsyan and Aida Avagyan for their kind support.

References

1. Wenger NK, Schlant RC. Prevention of coronary atherosclerosis. In:Alexander RW, Schlant RC, Fuster V editors. Hurst's The Heart Arteries and Viens. 6th edition. USA. McGrow -Hill Companies Inc. 1986; 817-830

2. Goble AJ and Worcester MUC. Best Practice guidelines for cardiac rehabilitation and secondary prevention. Heart Research Center, Australia: Department of Human Services Victoria. 1999.

3. Risk Factors and Coronary Heart Disease. August, 2001. [on-line] http://www.healthanswers.com/library/MedEnc/enc/1151.asp

4. Maron DJ, Ridker PM, Pearson ThA. Risk Factors and Prevention of Coronary Heart Disease. In: Alexander RW, Schlant RC, Fuster V editors. Hurst's The Heart Arteries and Viens. 9th edition. USA. McGrow-Hill Companies Inc. 1998; 1175-1184.

5. Key Facts. August, 2001 [on-line] http://www.dphpc.ox.ac.uk/bhthprg/stats/2000/2000/keyfacts/index.html

6. Health and Care of Public Health. Statistical Collection, Ministry of Health of Armenia. Armenia, 1999.

7. Government of Armenia, UNICEF, Save the Children. A Situation Analysis of Children and Women in Armenia 1998

8. Trends in Ischemic Heart Disease Deaths--United States 1990-1994. MMWR Morb Mortal Wkly Rep. 1997; 7: 146-50.

9. Desert Cardiology Center – Patient Education. Facts about Coronary Heart Disease. August, 2001 [on-line] http://www.desert cardiology.com/Dialog Documents/Coronary.htm

10. Thompson D. The effectiveness of cardiac rehabilitation. Nursing in Critical Care. 1996:1

11. Goholke J, Goholke-Barwolff C. Cardiac Rehabilitation: Where are we going? The European Society of Cardiology. 1998.

12. Cardiac rehabilitation. Overview. December, 2001 http://www.saintjosephdenver.org/cardiacrehab/cardiac_rehab.htm

13. Pell J. Cardiac Rehabilitation. A review of its effectiveness. Coronary Health Care. Pearson Proffessional Ltd. 1997.

14. Browman G, Bryar RM, Thompson DR. Is the Place for Cardiac Rehabilitation in the Community? Social Science in Health. 1998; 4.

15. Thompson DR, Bowman GS, Kiston AL, de Bono DP, Hopkins A. Cardiac rehabilitation in the United Kingdom: Guidelines and audit standards. Heart. 1996; 75: 89-93

16. ACC/AHA Guidelines for the Management of Patients with Acute Myocardial Infarction. November, 2001. [on-line] http://www.americanheart.org/Scientific/statements/1999/AMI/edits/jac17/6pvll.htm.

17. Sorensen G, Staddard A, Hunt MK, Hebert JR, Ockene JK, Avrunin JS, et al. The effects of a health promotion-health protection intervention on behavior change: the WellWorks Study. Am J Public Health; 1998; 88: 1685-90.

18. Wiist WH, Flack JM. A church-based cholesterol education program. Public Health Rep; 1990; 105: 381-8.

19. Fulwood R. Setting the agenda for research and education on coronary heart disease. J Health Care Poor Underserved; 1997 Aug. Vol 8 Issue 3 p 247-9

20. Locus of Control and Cardiovascular Health. August, 2001. [on-line] http://www.workhealth.org/risk/rfblocus.html.

21. University of South Florida. Health Locus of Control. September, 2001 http://hsc.usf.edu/~kmbrown/Locus_of_Control_Overview.htm.

22. Donald TC, Julian CS. Experimental and quazi-experimental designs for research. In: Handbook of research on teaching. Houghton Mifflin Company. 1963.

23. Heart disease and its symptoms. Cardiovascular disease quiz: Do you know enough? November, 2001. [on-line] http://www.mayohealth.org/home?id=QZ00032

24. Koroukian S, McPherson R, Yeritsyan N, and Oksuzyan A. A survey of adherence to international hospital standards at Nork Marash Medical Center. Technical Report. American University of Armenia/Nork Marash Medical Center; 2000.

25. Multidimensional Health Locus of Control (MHLC) Scales. June, 2001. [on-line] http://www.vanderbilt.edu/nursing/kwallston/mhlcscales.htm

26. John E, Ware Jr. SF-36 Health Survey. Manual and Interpretation Guide. 1993.

27. Thompson M, Demirchyan A, and Babajanyan A. Baseline household assessment in Armavir Marz, Armenia. For American International Health Alliance. Armavir Marz-University of Texas, Galveston Partnership. 2001.

28. Hovhannisyan Gohar. Wartime stressors: Impact on general health status of population aged 40 and older in Stepanakert. Thesis in Candidacy of Master of Public Health. American University of Armenia. 2001.

Appendix 1

CHD Knowledge Assessment Questionnaire

Background Information- please circle the number that applies

01. Sex

a. Male
b. Female

02. Your present age _ _ years

03. Your present marital status

a. Single
b. Married
c. Divorced
d. Widowed

04. Are you presently?

a. Employed
b. Unemployed
c. Retired

05. How many years of education you have?

a. 10 year education
b. 8 year education
c. College education
d. University education

06. On average how often have you had angina in the last two weeks?

a. Once or twice in last two weeks
b. Once a day
c. Several times a day or more
d. Never

07. On average over the last two weeks when your episodes of angina been

a. During rest
b. During performing physical activity
c. Persistent
d. Nocturnal

08. Have you had heart failure in the last 6 months

1. Yes 0. No 2. Don't know

09. Have you used any medication to cope with angina in the last 6 months?

1. Yes 0. No 2. Don't know

010. On average how often have you used any heart medication

a. Every day
b. 2 to 3 times a week
c. 3 to 4 times a week
d. Not at all

Circle the <u>one</u> best answer that you think is the most appropriate for you.

1. I don't think that heart disease is such a serious problem, as many people seem to think it is.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. Don't know

2. What are the symptoms of heart failure?
   a. Arrhythmia, headache
   b. Severe tiredness, breathlessness, swelling of the ankles and feet
   c. Chest-pain and nausea
   d. Don't know

3. Reducing my blood cholesterol level will decrease my risk of heart disease.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. Don't know

4. Eating less fat will probably decrease my risk of heart disease.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. Don't know

5. I don't think there is much I can really do that will stop me from getting recurrent heart attacks.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

6. It will be quite difficult for me to make changes in my diet.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

7. I usually try to avoid eating foods with a lot of salt in them.

1. Yes 0. No

8. After this heart attack I am planning to change my eating habits and to reduce the salt and fatty food in my diet.

1. Yes 0. No

9. Coronary heart disease is the leading cause of death in the world.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

10. Do you know the CHD risk factors?

1. Yes 0. No

11. Which are the CHD risk factors? (Check all that apply)

a. Smoking
b. Tiredness
c. Overweight
d. High blood pressure
e. Sedentary lifestyle
f. CHD in other family members

12. What do you know about atheroma?

a. It is a tumor
b. It is a fatty tissue that plagues the arteries and narrows it.
c. It is one of the symptoms of CHD.
d. Don't know.

13. Stopping smoking, eating less fatty food, and regularly exercising can reduce the risk of developing arteriosclerosis.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

14. Quitting smoking reduces the risk of developing coronary artery disease by 50%.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

15. After developing CHD quitting smoking will not reduce the risk of developing new heart attacks

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

16. Coronary artery disease refer to

a. The narrowing of the arteries in brain.
b. The narrowing the arteries that supply the heart muscle
c. The heart enlargement
d. Don't know

17. Physical activities can prevent the development of Coronary Heart Disease and heart attack.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

18. I am currently not physically active, and do not intend being physically active in the next 6 months.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

19. During past 12 months, how often did you do any physical exercise (such as walking, swimming, tennis, etc)?

a. 3 or more times a week
b. 2 to 4 times a month
c. Once a month
d. Never

20. Physical activities cannot prevent the development of new heart attacks.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree
e. Don't know

21. What kind of physical activities can prevent the development of heart attacks?

a. Regular physical activities (walking, bicycling, etc) at least 20-30min three times a week
b. Any type of physical activities, both regular and irregular
c. Physical activities can never prevent heart attacks
d. Don't know

22. What is the heart's function?

a. Only provide oxygen to your heart and tissue cells
b. Keep your blood circulation so that all your cells are properly nourished
c. Remove waste products from the blood
d. Don't know

23. Which of the following statements about cigarette smoking is true?

a. Smoking is not harmful for my heart
b. Smoking influence on brain arteries and improve the blood circulation
c. Carbon monoxide from cigarette smoke joins onto the hemoglobin inside the red blood cell, reducing its ability to carry oxygen to the heart

d. Smoking is harmful only for my lungs

24. Low tar cigarettes are not harmful to my heart.
    a. Strongly agree
    b. Agree
    c. Disagree
    d. Strongly disagree
    e. Don't know

25. Reducing your blood pressure by 5 mm Hg can reduce your risk of having heart attack by about 20 percent.
    a. Strongly agree
    b. Agree
    c. Disagree
    d. Strongly disagree
    e. Don't know

26. All of the following are true about high blood pressure except:

a. High blood pressure is associated with heart attack and stroke.
b. Weight loss may help reduce blood pressure for overweight individuals
c. Once the blood pressure has been reduced by a medication, the drug should be stopped immediately
d. Regular exercise helps reduce blood pressure

27. Arteriosclerosis

a. Occur only in blood arteries supplying blood to heart
b. Is due to increasing elasticity of the blood arteries
c. Can result from an initial injury to arterial walls by certain factors such as cholesterol
d. Can result in a stroke when it cuts off the supply of blood and oxygen to the heart.
e. Don't know

SF-36 HEALTH SURVEY

INSTRUCTIONS: This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

(circle one)

Excellent 1

Very good 2

Good 3

Fair 4

Poor 5

2. Compared to one year ago, how would you rate your health in general now?

(circle one)

Much better now than one year ago 1

Somewhat better now than one year ago 2

About the same as one year ago 3

Somewhat worse now than one year ago 4

Much worse now than one year ago 5

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

(circle one number on each line)

ACTIVITIES	**Yes, Limited A Lot**	**Yes, Limited A Little**	**No, Not Limited At All**
a. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing **several** flights of stairs	1	2	3
e. Climbing **one** flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking **more than a mile**	1	2	3
h. Walking **several blocks**	1	2	3
i. Walking **one block**	1	2	3
j. Bathing or dressing yourself	1	2	3

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(circle one number on each line)

	YES	**NO**
a. Cut down on the **amount of time** you spent on work or other activities	1	2
b. **Accomplished less** than you would like	1	2
c. Were limited in the **kind** of work or other activities	1	2
d. Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2

5. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

(circle one number on each line)

	YES	NO
a. Cut down the **amount of time** you spent on work or other activities	1	2
b. **Accomplished less** than you would like	1	2
c. Didn't do work or other activities as **carefully** as usual	1	2

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

(circle one)

Not at all 1

Slightly 2

Moderately 3

Quite a bit 4

Extremely 5

7. How much bodily pain have you had during the past 4 weeks?

(circle one)

None 1

Very mild 2

Mild 3

Moderate 4

Severe 5

Very severe 6

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

(circle one)

Not at all 1

A little bit 2

Moderately 3

Quite a bit 4

Extremely 5

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks -

(circle one number on each line)

	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
a. Did you feel full of pep?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt downhearted and blue?	1	2	3	4	5	6
g. Did you feel worn out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

(circle one)

All of the time..... 1

Most of the time..... 2

Some of the time..... 3

A little of the time..... 4

None of the time..... 5

11. How TRUE or FALSE is each of the following statements for you?

(circle one number on each line)

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a.	I seem to get sick a little easier than other people	1	2	3	4	5
b.	I am as healthy as anybody I know	1	2	3	4	5
c.	I expect my health to get worse	1	2	3	4	5
d.	My health is excellent	1	2	3	4	5

Health Locus of Control Questionnaire

Instructions: Each item below is a belief statement about your medical condition with which you may agree or disagree. Beside each statement is a scale, which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you agree or disagree with that statement. The more you agree with a statement, the higher will be the number you circle. The more you disagree with a statement, the lower will be the number you circle. Please make sure that you answer **EVERY ITEM** and that you circle **ONLY ONE** number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

1=STRONGLY DISAGREE **(SD)** 2=MODERATELY DISAGREE **(MD)** 3=SLIGHTLY DISAGREE **(D)**	4=SLIGHTLY AGREE **(A)** 5=MODERATELY AGREE **(MA)** 6=STRONGLY AGREE **(SA)**

		SD	**MD**	**D**	**A**	**MA**	**SA**
1	If my condition worsens, it is my own behavior, which determines how soon I will feel better again.	1	2	3	4	5	6
2	As to my condition, what will be will be.	1	2	3	4	5	6
3	If I see my doctor regularly, I am less likely to have problems with my condition.	1	2	3	4	5	6
4	Most things that affect my condition happen to me by chance.	1	2	3	4	5	6
5	Whenever my condition worsens, I should consult a medically trained professional.	1	2	3	4	5	6
6	I am directly responsible for my condition getting better or worse.	1	2	3	4	5	6
7	Other people play a big role in whether my condition improves, stays the same, or gets worse.	1	2	3	4	5	6
8	Whatever goes wrong with my condition is my own fault.	1	2	3	4	5	6
9	Luck plays a big part in determining how my condition improves.	1	2	3	4	5	6
10	In order for my condition to improve, it is up to other people to see that the right things happen.	1	2	3	4	5	6
11	Whatever improvement occurs with my condition is largely a matter of good fortune.	1	2	3	4	5	6
12	The main thing, which affects my condition, is what I myself do.	1	2	3	4	5	6
13	I deserve the credit when my condition improves and the blame when it gets worse.	1	2	3	4	5	6
14	Following doctor's orders to the letter is the best way to keep my condition from getting any worse.	1	2	3	4	5	6
15	If my condition worsens, it's a matter of fate.	1	2	3	4	5	6
16	If I am lucky, my condition will get better.	1	2	3	4	5	6
17	If my condition takes a turn for the worse, it is because I have not been taking proper care of myself.	1	2	3	4	5	6
18	The type of help I receive from other people determines how soon my condition improves.	1	2	3	4	5	6

Appendix 2

Training materials for NMMC staff Involved in the Study

Project overview

Public Health Department (MPH) of the American University of Armenia (AUA) in collaboration with Nork Marash Medical Center proposed to investigate the effect of an enhanced patient education program among CHD post-operative patients at Nork Marash Medical Center. This project designed in the framework of experimental trail will serve as a learning opportunity for MPH student to complete thesis project. Moreover, in a case of positive result, the proposed education program will be included in the daily practice at NMMC and other health institutions to provide health education among CHD patients. All activities for the project implementation are planned and organized with the support of MPH faculty.

The study protocol proposed using the established procedure of patient education for the implementation of the study. Patients selected as an experimental group will receive the enhanced education using specially developed materials while the control group will be educated in the usual/standard way. The study participants of both experimental and control groups before initiation of the program will be administered with pre-test questionnaires (SF-36, locus of control questionnaire, and CHD knowledge assessment questionnaire) to evaluate the baseline level of quality of life, locus of control, and knowledge/awareness. Within a month period following discharge all study participants will be given the locus of control and knowledge/awareness questionnaires as a post-test to assess the changes due to intervention. The study will be implemented with the support of the NMMC staff (outpatient cardiological clinic).

At the first will be selected the participants of the control group. Post-operative CHD patients, during the last day of their hospital stay will be administered with the questionnaires, receive the usual/standard education, and during the second follow-up visit to NMMC will be given the post test questionnaires (knowledge assessment and Locus of Control questionnaires). After the completion of the control group with study participants and administration of the questionnaires, will be started the collection of patient for the experimental group. As in the first case the patients, who agree to participate in the study will be administered with pre-test questionnaires, that include the SF-36, Locus of Control, and Knowledge Assessment questionnaires and post-test within one month period.

The research question addressed in this proposal is:
Does the enhanced pre-discharge education program on selected risk factors among post-operative coronary heart disease patients at NMMC increase their knowledge/awareness, quality of life and improve locus of control?

Review of the entire process

The design of the study is an experimental trial, with estimated 30 participants in each group. The eligibility criteria for the study participants are.

- CHD post operative adult patients

- Patients, who agree to participate in the study
- Residency in Armenia
- Males and females

The data collection activities are expected to begin on 25 of July 2001 and be accomplished within 1-month period. It is expected that administering the survey will be done by Adult cardiology clinic staff. Each member of the study team is required to complete this training course before starting the actual study. For filling out the questionnaires approximately 30 minutes are required. Each member of the study team will be provided with the stationary supplies necessary for work: questionnaire forms, consent forms, survey administration guides, etc.

Sampling

Starting: Start selection of the study participant considering the eligibility criteria in the cardiological department.

Survey Administration

a) Script of an introduction to the patient.

Good morning/day, NMMC in collaboration with AUA is conducting a study aimed to determine the effectiveness of enhanced education program on selected Coronary Heart Disease risk factors. Can we talk to you?

Possible answers: Yes

*No – **Try to find out the reasons for the refusal. Try to convince a person to participate, based on what you know about the survey – talk about the confidentiality issues, say that it will be interesting experience for him/her and that his/her participation will be really valuable for the study, etc. NOTE: Don't be too persistent. If a person still refuses, apologize and try to contact with another patient***

5. Present the introductory statement.

We would be very thankful if you participate in this study and fill the questionnaires that we are going to administer. Any personal information that you'll provide will be coded and kept confidential and will not cause any harm to you. Your participation is very important and valuable for us and hopefully it will help to improve the patient education practices at NMMC. It will take not more than 30 minutes. Thank you in advance.

6. Can we start?

Possible answers: Yes

*No – **Try to find out the reasons for the refusal. Try to convince a person to participate, based on what you know about the survey – talk about the confidentiality issues, say that it will be interesting experience and that their answers will be really valuable for the***

study, etc. NOTE: Don't be too persistent. If the person still refuses- apologize and leave the ward.

7. It is preferable that respondent fill out the questionnaires themselves. If someone else is present/wants to be present, explain gracefully that the specifics of study requires that the third person should not interfere in order to avoid influencing the respondent's answers.

8. Now it is necessary to provide a participant with the consent form. Read the consent form, give time to understand and ask questions, if any. After signing the form, go ahead and administer the questionnaires.
After filling out the questionnaires start the actual patient education procedure (standard in the control group and using specially developed materials in the experimental group). It is also essential to warn the study participants about the post-test that will be conducted during their follow-up visits within one-month period.

b) Interview tips

The interviewers should pay attention to their style of communication with the potential and actual study participant and to the style of the survey administration.
The interviewer should:

1. Use the introductory statement as an opportunity to gain the rapport with a respondent. It is better not to read the statement, but say it in the conversational manner, to avoid tension and formal tone.
2. Not be intrusive/ too persistent in his/her attempt to recruit the participants
3. Provide respect to person being intervie wed/members in the ward
4. Convey that respondent's knowledge, experience and attitude are important
5. Show no favor, discontent, shock, anger
6. Not be afraid to interrupt gracefully when the respondent starts talking to other people.

c) How to deal with ongoing "flows"

Question Refusal: it is possible that the patient /respondent will refuse to answer certain questions or even refuse to continue the interview. In the first case, it is necessary to ask about the reasons for refusal, record it, and continue with the next question. In the second case, it is necessary to ask about the reasons for discontinuing and then try to convince the patient to continue. *NOTE*: Have just one attempt, don't be too persistent. If the patient still refuses, apologize and leave the ward.

Probing: Sometimes respondents may not fully understand or misunderstand the content of the question, in that case the patient will be asked to skip that question. As the questionnaires are self-administered the persons conducting the study should not provide any explanation. To avoid such situations the study instruments should be pre-tested before starting the study.

Coding procedures - It is necessary to perform the coding of the questionnaire correctly, since the study protocol requires contacting the same patients to administer the poet test questionnaires. The codes that will be stated on the questionnaires include code for Yerevan, code specifying the study group (control/experimental), the frequency number of the patient, and the date of discharge.

d) What defines completed survey

Do not leave the ward until the questionnaires are completed. The survey can be considered completed if

1. If at least 2/3 of the questionnaire is covered (do not consider selective refusals to certain questions as omissions)
2. Consent form is given to the participant

Pre-test and Observations

It is planned to conduct a local pre-test of the questionnaire before their actual administration. The main idea of this process is to reveal the questions that are difficult to understand and that might upset the patients in order to correct them before the study. Apart from that pre-test is intended to estimate the time required for filling out the questionnaires. If in the course of the pre-test minor drawbacks occur, the student investigator should correct them and inform the study team about those changes. In case of major flaws the retraining is required.

Logistics

Interviewer Checklist:

It is required to have the list of the following items checked before starting.

- ❑ **Sampling Guide**
- ❑ **Survey Administration Guide**
- ❑ **Blank Surveys**
- ❑ **Consent Forms**
- ❑ **Writing Implements (pens)**
- ❑ **Contact Information (phone numbers of executive committee members)**

Observations

It is planned that observations should be organized and implemented by the student investigator through initial observation and ongoing spot-checking.

Languages Used

All questionnaires and the teaching manual are in Armenian.

Summary/Conclusion

It is imperative for the success of the study that selection is performed in unbiased and systematic manner. Besides, the study team members adherence to the survey rules and instructions and their ability to feel responsible for their performance is important, since they are the performers of the most essential part of the study – information gathering.

Appendix 3

American University of Armenia

Department of Public Health

Institutional Review Board/Committee on Human Research

CONSENT FORM TEMPLATE

Title of Research Project: Randomized Trail to Determine the Effectiveness of the Enhanced Education Program on Selected Risk Factors among CHD Patients at NMMC

CHR#

The Public Health Department of the American University of Armenia is conducting the research on assessment of effectiveness of the enhanced education program among postoperative CHD patients at NMMC. The purpose of the study is to assess the knowledge, quality of life, and locus of control before and after the education program in the intervention group vs traditional education program in the control group. Women and men aged from 35 to 65 eligible for heart surgery may participate in the research. MPH student with the support of the NMMC staff will conduct the study. The study protocol includes distribution of educational materials and administration of questionnaires, which require 20-25 min to fill out. The investigator may stop the procedure if necessary. We appreciate your participation in this study and your responses are highly valuable to us.

Explanation of Research Project

RISKS/DISCOMFORTS:

There is no known risk for the participants of the study. The research possesses risk, discomfort, and inconveniences the same as encountered in your daily life.

BENEFITS:

Participation in the study may improve your knowledge about CHD and its risk factors that may result in positive changes in your health related behaviors. Moreover, the information provided by you is essential for testing the effectiveness of the proposed education program.

CONFIDENTIALITY:

The identifying codes will be noted on the questionnaires and your direct name and address or other identifying data will not be used in any part of the research process. Your responses will be accessible only to the Public Health Department of the American University of Armenia.

VOLUNTARINESS:

It is your decisions whether participate in the study or not. You have the right to stop providing information at any time you wish or skip any question you consider inappropriate. Your refusal to participate in the study or your decision to withdraw from at any time will not affect your job.

WHOM TO CONTACT:

You should ask the person in charge any questions you may have about this research. You should ask him questions in the future if you do not understand something that is being done. The researchers will tell you anything new they learn that they think will affect you.

If you want to talk to anyone about this research you should call the person in charge of the study, **[Michael Thompson]** at **[phone number: (374 1) 51 25 60 /e -mail: mthompso@aua.am]**.

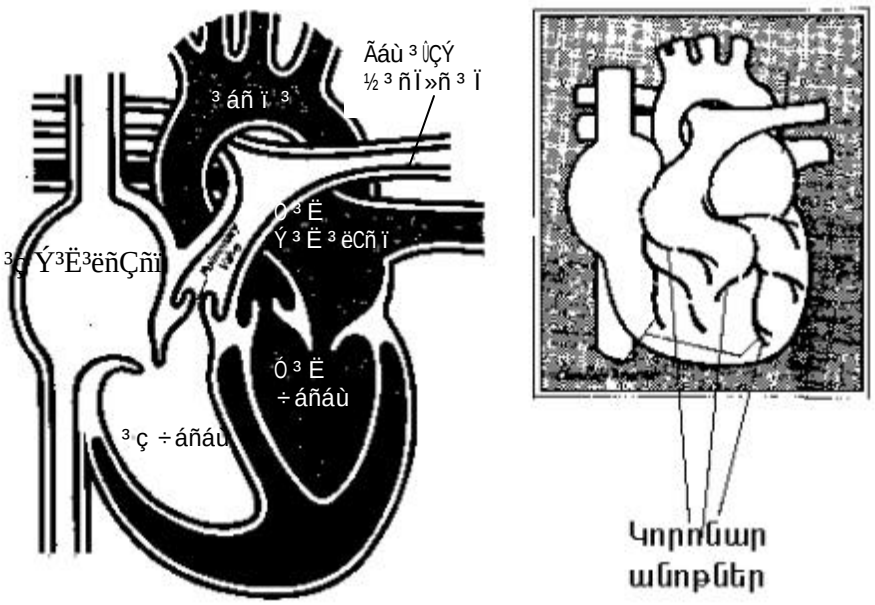
The person in charge of the study will answer your questions. If you want to talk to anyone about the research study because you feel you have not been treated fairly or think you have been hurt by joining the study you should contact the American University of Armenia at (374 1) 51 25 12.

If you agree to be in this study, please sign your name below.

_____
Subject's signature

_____
Signature of Investigator

êðîÆ ¨ ²ðÚ²Ü Þðæ²Ü²èàôÂÚàôÜ



Ø³ñ¹áõ ûñ³·ÝÇ½ÙÇ ó³ÝÏ³ó³Í ûñ·³Ý/Ñ³Ý³Ï³ñ·Ç ÝáñÙ³É ·áñÍáõÝ»áõÃÛ³Ý Ñ³Ù³ñ³ÝÑñ³Å»ßï ¿ ³ÝÁÝ¹Ù»ç ³ñÛ³Ý Ù³ï³Ï³ñ³ñáõÙ: Â³ñÙ³ñÛáõÝÁ ÑÛáõë í³ÍùÝ»ñÇÝ ¿ Ñ³ëóÝáõÙ ÃÃí³ÍÇÝ áõ ëÝáõóáõÙ ¨ Ñ»é³óÝáõÙ ¿ áã ó³ÝÏ³ÉÇ ³ÍË³ÍÝÇ ÙáÝáùëÇ¹Á ¨ ÝÛáõÃ³÷áË³Ý³ÏáõÃÛ³Ý ³ÛÉ ³ñ·³ëÇùÝ»ñ: úñ·³ÝÇ½ÙáõÙ ³ñÛáõÝÁ ßñç³Ý³éáõÙ ¿ ÷³Ï ³ñÛ³Ý ³ÝáÃÝ»ñÇ Ñ³Ù³Ï³ñ·Ç ÙÇçáóáí, áñÇ Ï»Ýñ ïáÝáõÙ ï»Õ³Ï³ÛÍ³Í ¿ ëÇñï Á: êÇñï Á 4 Ëáéáã³ÝÇ åáÙå ¿, ÙÇ³ÏáÕÙ³ÝÇ ÷³Ï³Ý³ÛÇÝ Ñ³Ù³Ï³ñ·áí: ÚÛáõñ³ù³ãÛáõñ ÏÍÏÙ³Ý Å³Ù³Ý³Ï ³ñÛáõÝÁ ÙÕíáõÙ ¿ ¹»åÇ½³ñÏ»ñ³ÏÝ»ñÁ, áñáÝù ³ë ï Ç×³Ý³µ³ñµ³Å³Ýíáõ»Ý ³í»ÉÇ ÷áùñ ×ÛáõÕ»ñÇª ÁÝ¹Ñáõå ÙÇÝã¨ Ù³½³ÝáÃ³ÛÇÝ ó³ÝóÇ ¨ ³ÛëÇëáí ³å³ÑáíáõÙ ³ñÛ³Ý ÑáëùÁ Ù³ñÙÝÇ µáÉáñ Ñ³ï í³ÍÝ»ñáõÙ: Ø³½³ÝáÃ»ñÇó ³ñÛáõÝÁ 'Ñ³í³ùíáõÙ ¿ »ñ³ÏÝ»ñÇ ÙÇçáóáí, áñáÝó ×ÛáõÕ»ñÁ ÙÇ³Ý³Éáí ³ë ï Ç×³Ý³µ³ñ í»ñ»Ý³Íáõ Ù³í»ÉÇ Ù»Í»ñ³ÏÝ»ñÇ: ºñ³Ï³ÛÇÝ ó³ÝóÇ ÙÇçáóáí ßñç³Ý³é³Í ³ñÛáõÝÁ í»ñ³¹³éÝáõÙ ¿ » ï ¹»åÇ ëÇñï: ºñ³Ï³ÛÇÝ ³ñÛáõÝÁ ÉóíáõÙ ¿ ëñï Ç ËáéáãÝ»ñÁ, »ñµ ³ÛÝ·ï ÝíáõÙ ¿ Ñ³ñ³µ»ñ³Ï³Ý Ñ³Ý·ë ï Ç ßñç³ÝáõÙ (³ÛëåëÏáãí³Í ¹Ç³ë ï áÉ³), áñÇÝ Ñ³çáñ¹áõÙ ¿ ÏñÍ ïáõÙÁ(ëÇë ï áÉ³): ì»ñÁ ÝÏ³ñ³·ñí³Í ßÝç³Ý³éáõÃÛ³Ý Ñ³Ù³Ï³ñ·Ý³ÝµáÕçáõÃ³ÛÙµ ÏáãíáõÙ ¿ ëÇñï - ³ÝáÃ³ÛÇÝ Ñ³Ù³Ï³ñ·: Þñç³Ý³éáõÃÛ³ÝÁ Ù³ëÝ³Ïóáõ Ù ¿ ·ñ»Ã» 5.36 É. ³ñÛáõÝ, áñÁ ß³ñáõÝ³Ï³µ³ñ í»ñ³ßñç³Ý³éáõÙ ¿ ëñï Ç ÙÇçáóáí, 1 ûñí³ ÁÝÃ³óùáõÙ ëÇñï Á ÏÍÏíáõÙ ¿ Ùá ï ³íáñ³å»ë 100.000 ³Ý·³Ù ¨ ÙÕáõÙ ¿ ·ñ»Ã» 23 É. ³ñÛáõÝ:

Àë ï ¿áõÃÛ³Ý ëÇñï Á µ³ÕÏ³ó³Í ¿ 2 ³é³ÝÓÇÝ åáÙå»ñÇó, áñáÝù ³ßË³ï áõÙ »Ù Ñ³Ù³Å³Ù³Ý³Ï (ëÇÝËñáÝ): ²ç ëÇñï Á ë ï ³ÝáõÙ ¿ ßÝç³Ý³é³Í Ùáõ· »ñ³Ï³ÛÇÝ ³ñÛáõÝÁ ¨ ÙÕáõÙ ³ÛÝ ¹»åÇ Ãáù»ñÁ, áñ ï »Õ ³ÛÝ Ñ³·»ÝáõÙ ¿ Ã³ñÙ ÃÃí³ÍÝáí ¨ ÏñÏÇÝ ë ï ³ÝáõÙ í³é Ï³ñÙÇñ ·áõÝ³íáñáõÙ: Ò³Ë ëÇñï Á Ãáù»ñÇó ë ï ³ÝáõÙ ¿ Ã³ñÙ ÃÃí³ÍÝáí Ñ³·»ó³Í ³ñÛáõÝÁ ¨ ÙÕáõÙ ³ÛÝ ¹»åÇ ½³ñÏ»ñ³Ï³ÛÇÝ Ñ³Ù³Ï³ñ·, áñ ï »ÕÇó ¿É ³ÙµáÕç Ù³ñÙÇÝ: êñï Ç Ûáõñ³ù³ÝãÛáõñ

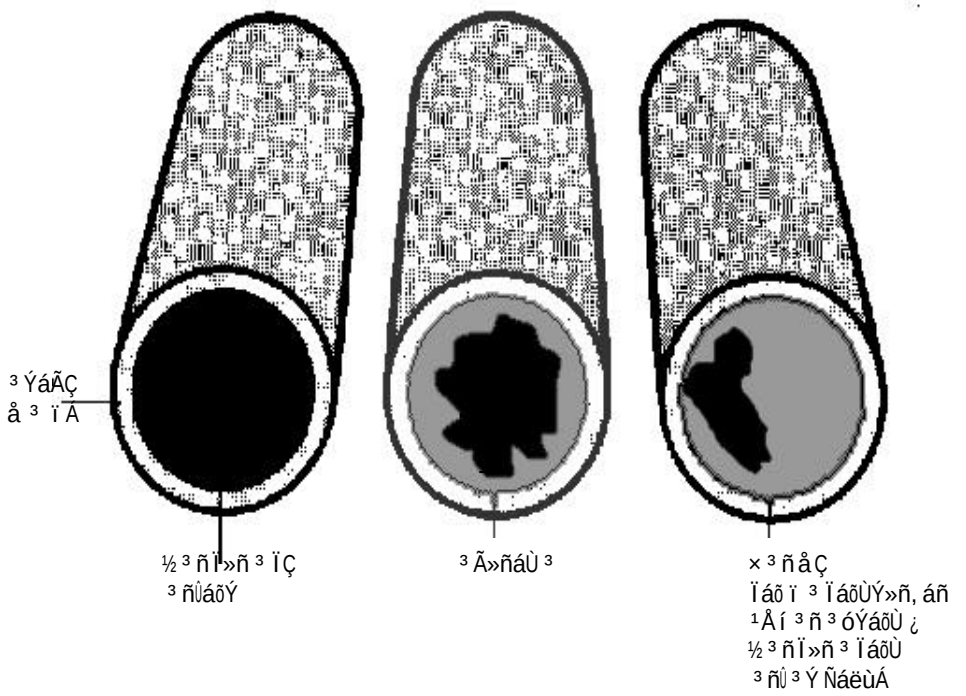
ïáÕÙÁ (³ç ¨ Ó³Ë) áõÝÇ µ³ñ³Ï å³ï»ñáí Ñ³í³ùÙ³Ý é»½»ñíáõ³ñ (Ý³Ë³ëÇñï), áñÁ û·ÝáõÙ ¿ ÉóÝ»É Ñ³ëï å³ï»ñáí Ù»Í åáÙåÁ (÷áñáùÝ»ñÁ): êñï Ç å³ï»ñÁ Ï³½Ùí³Í »Ý Ñ³ïáõÏ ï»ë³ÏÇ ÙÏ³Ý³Ã»É»ñÇó, áñáÝù Ï³½ÙáõÙ »Ý ÙÇáÏ³ñ¹:

ÆÝå»ë ó³ÝÏ³ó³Í ³ÛÉ Ï»Ý¹³ÝÇ ÑÛáõëí³Íù, ³ÛÝå»ë ¿É ÙÇáÏ³ñ¹ÝÇÝùÁ Ï³ñÇù áõÝÇß³ñáõÝ³Ï³Ï³Ý ëÝáõóÙ³Ý: ²ÛÝ Çñ³Ï³Ý³óíáõÙ ¿ ½³ñÏ»ñ³ÏÝ»ñÇ ÙÇçáóáí, áñáÝù ï í³É¹»åùáõÙ ÏáãíáõÙ »Ý ÏáñáÝ³ñ ³ÝáÃÝ»ñ:

êÇñï ³ÝáÃ³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñ

Ü»ñÏ³ÛáõÙë ³ÙµáÕç ³ßË³ñÑáõÙ ëÇñï-³ÝáÃ³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ Ù³Ñí³Ý¨Ñ³ßÙ³Ý¹³ÙáõÃÛ³Ý ÑÇÙÝ³Ï³Ý å³ï×³éÝ»ñÝ»Ý: êÇñï-³ÝáÃ³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÇ å³ï×³éáí ï³ñ»Ï³ÝÙ³Ñ³ÝáõÙ »Ý 350.000 ïÕ³Ù³ñ¹, ÏÇÝ¨»ñ»Ë³-³í»ÉÇÝ ù³ÝÙ³ÑÍ³Ý ³ÛÉ µáÉáñ å³ï×³éÝ»ñÁ ÙÇ³ëÇÝ í»ñóñ³Í: àñáß ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ ÑÇÙÝ³Ï³ÝáõÙ ³Ëï³Ñ³ñáõÙ »Ý ½³ñÏ»ñ³ÏÝ»ñÁ: àñáßÝ»ñÁ ³Ëï³Ñ³ñáõÙ »Ý áõÕÕ³ÏÇáñ»Ý ëÇñï³ÙÏ³ÝÁ: ²Ù»Ý³Ù»Í ËÝ¹ÇñÁ ÏáñáÝ³ñ ½³ñÏ»ñ³ÏÝ»ñÇ Ñí³Ý¹áõÃÛáõÝÝ¿:

²Ã»ñáÙ³



²Ã»ñáÙ³

²Ã»ñáÙ³Ý ½³ñÏ»ñ³ÏÝ»ñÇ ¹³Ý¹³Õ ÁÝÃ³óáÕ ÑÇí³Ý¹áõÃÛáõÝ¿, áñÁ Ý»ñÏ³ÛÇë Ù»Í³·áõÛÝ íï³Ý·Ý»ñÇó Ù»ÏÝ¿:

Ö³ñå³ÛÇÝ ÑÛáõëí³ÍùÇ áã ÙÇ³ë»é ÏáõÏ³ÏáõÙÝ»ñÁ Ýëï áÙ »Ý ½³ñÏ»ñ³ÏÝ»ñÇ Ý»ñùÇÝÙ³Ï»ñ¨áõÛÃÇÝ, áñÇ ³ñ¹ÛáõÝùáõÙª

1. ¼³ñÏ»ñ³ÏÝ»ñÁ ÷³é³Ï³ÉíáõÙ »Ý ¨Ý»Õ³ÝáõÙ;

2. ¼³ñÏ»ñ³ ÏÝ»ñÇ ÝáñÙ³ÛáõÙ Ñ³ñÃ Éáñ Ó³Ã³Õ³ÝÃÁ ×³ù×ùíáõÙ ¿ (¹³éÝáõÙ ¿ Ëáñ¹áõµáñ¹), áñÁ µ»ñáõÙ ¿ ³ñÛ³Ý Ù³Ï³ñ¹áõÏÇ ³é³ç³óÙ³ÝÁ Ñ»Ýó ³Û¹ Ñ³ïí³ÍáõÙ, ÇÝãå»ë Ù³ßÏÇ ³ñï³ùÇÝ íÝ³ëí³ÍùÝ»ñÇ ¹»åùáõÙ:
3. ¼³ñÏ»ñ³ ÏÝ»ñÇ å³ï»ñÁ íÝ³ëíáõÙ »Ý (µ³ñ³ÏáõÙ) ¨ ³ñÛáõÝ³ÑáëáõÙ (Ñ»ÙáéÉ³·Ç³):

ºñµ ³Ã»ñáÙ³Ý ³Ëï³Ñ³ñáõÙ¿ ÏáñáÝ³ñ½³ñÏ»ñ³ÏÝ»ñÁ, ³ÛÝ µ»ñáõÙ¿ ëï»ÝáÏ³ñ¹Ç³ÛÇ, ÙÇáÏ³ñ¹ÇÇÝý³ñÏïÇ, Ï³Ù Ñ³ÝÏ³ñÍ³Ù³ÑáõÃÛ³Ý: ºñµ ³ÛÝ ³Ëï³Ñ³ñáõÙ ¿ áõÕ»ÕÇ ½³ñÏ»ñ³ÏÝ»ñÁ, ³é³ç³ÝáõÙ ¿ ÇÝëáõÉï: ºñµ ³Ëï³Ñ³ñáõÙ¿ áïùÇ ½³ñÏ»ñ³ÏÝ»ñÁ ëÏÇ½µ¿ ï³ÉÇë ó³í»ñÇ ¨ Ï³ÕáõÃÛ³Ý (claudication – ÏË³áõ¹ÇÏ³óÇ³):

²Ã»ÝáÙ³Ý ÙÇÝã áñ¨¿ ³ÝÑ³Ý·ë ïáõÃÛáõÝ å³ï×³é»ÉÁ ½³ñ·³ÝáõÙ¿ß³ï ¹³Ý¹³Õ¨ß³ï »ñÏ³ñï³ñÇÝ»ñÇ ÁÝÃ³óùáõÙ: ê³Ï³ÛÝ ³ÛÅÙ Ñ³Ûï Ý³µ»ñí»É¿, áñ ³Ã»ñáÙ³Ý áã ÙÇßï ¿ Í»ñ³óÙ³Ý ³Ýí»ñ³¹³ñÓ Ñ»ï¨³Ýù: Æñáù ¹Åµ³Ë ïáõÃÛáõÝÁ Ï³Û³ÝáõÙ ¿ Ýñ³Ýáõß, áñ ³ÛÝ áõß³¹ñáõÃÛáõÝ ¿ å³Ñ³ÝçáõÙ ÏÛ³ÝùÇ »ñÇï³ë³ñ¹ ï³ñÇÝ»ñÇó: Ð» ï³½áï áõÃÛáõÝÝ»ñÁ í»ñçÝ³Ï³Ý³å»ëã»Ý å³ñ½»É ³Ã»ñáÙ³ÛÇ ³é³ç³óÙ³Ý ×ß·ñÇï å³ï×³éÝ»ñÁ, ë³Ï³ÛÝ Ù»Ýù Ï³ñáÕ »Ùù åÝ¹»É, áñ ³ÛÝ ³í»ÉÇ Ù»Í Ñ³í³Ý³Ï³ÝáõÃÛ³Ùµ ½³ñ·³ÝáõÙ¿ª

1. ºñµ ¸áõù ÍËáõÙ »ù;
2. ºñµ ³ÛÝ Ñ³Ûï Ý³µ»ñíáõÙ¿ ÁÝï³ÝÇùÇ ³ÛÉ ³Ý¹³ÙÝ»ñÇ Ùáï;
3. ºñµ ¸áõù áõÝ»ù µ³ñÓñ×ÝßáõÙ;
4. ºñµ ¸áõù ß³ï »ù û·ï³·áñÍáõÙ ×³ñå³ÛÇÝ ëÝáõÝ¹, ÏßéáõÙ »ù ÝáñÙ³ÛÇó ³í»É¨ Ï³ÝáÝ³íáñ³å»ë ã»ù Ï³ï³ñáõÙ ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñ;
5. ºñµ ¸áõù áõÝ»ù ß³ù³ñ³ÛÇÝ ¹Ç³µ»ï, Ï³Ù
6. ²ñÛ³Ý Ù»ç ËáÉ»ë ï»ñÇÝÇ Ù³Ï³¹³ÏÁ ÝáñÙ³ÛÇó µ³ñÓñ¿:

²ÛÝ Ñ³Ý·³Ù³ÝùÝ»ñÁ, áñáÝù Ýå³ëïáõÙ »Ý ÇÝý³ñÏïÇ ¨ ÇÝëáõÉïÇ ½³ñ·³óÙ³ÝÁ Ñ³ÛïÝÇ »Ý áñå»ë §séÇëÏÇ ³½¹³ÏÝ»ñ¦: ²ÏÝÑ³Ûïáñ»Ý ß³ï»Ý ³ÛÝ ÙÇçáóÝ»ñÁ, áñáÝù Ï³ñáÕ »Ý Ï³ÝË³ñ·»É»É ÇÝý³ñÏïÇ ¨ ÇÝëáõÉïÇ ³é³ç³óáõÙÁ: <u>àõëïÇ ³ÏÝÑ³Ûïáñ»Ý Ù»Ýù Ï³ñáÕ »Ýù ß³ï ³í»ÉÇÝ ³Ý»É Ù»ñ ÇëÏ Ñ³Ù³ñ, »Ã» ëÏë»Ýù Å³Ù³Ý³ÏÇÝ:</u>

<u>êñïÇ ÏáñáÝ³ñ ÑÇí³Ý¹áõÃÛáõÝ – Å³Ù³Ý³Ï³ÏÇó Ñ³Ù³×³ñ³Ï</u>

Îáñáݳñ ½³ñÏ»ñ³ÏÝ»ñÁ ëñïÇ ³ñÛáõÝ Ù³ï³Ï³ñ³ñáÕ ËáÕáí³ÏÝ»ñÝ »Ý:Üñ³Ýù »Ý ÏñáõÙ ¨ ï»Õ³÷áËáõÙ ëñïÇ ÝáñÙ³É (¿ý»Ïï Çí) ·áñÍáõÝ»áõÃÛ³Ý Ñ³Ù³ñ ³ÝÑñ³Å»ßï í³é»ÉÇùÁ ¨ ÃÃí³ÍÇÝÁ: ºñµ ³Ûë ½³ñÏ»ñ³ÏÝ»ñÁ ³Ëï³Ñ³ñíáõÙ »Ý, Ýñ³Ýó ÉáñÓ³Ã³Õ³ÝÃÁ Ñ³ëï³ÝáõÙ¿ ×³ñå³ÛÇÝ ¨ ³ÛÉ ÝÛáõÃ»ñáí ³ÛëåÇëáí Ýí³½»óÝáõÙ ³ñÛ³Ý ÑáëùÁ, Ñ³ï³Ï³å»ë »ñµ ëÇñïÁ ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñÇ Ï³Ù ÑáõÙ½ÙáõÝùÇ ¹»åùáõÙ ëïÇåí³Í¿ ³ßË³ï»É É³ñí³Í¨ áõÅ·Ýáñ»Ý: ÜÙ³Ý ¹»åùáõÙ ÏñÍù³í³Ý¹³ÏÇ ßñç³ÝáõÙ ³é³ç³ÝáõÙ »Ý ëï»ÝáÏ³ñ¹Ç³ (angina) ÏáãíáÕó³í»ñ:

ºñµ ³ÝáÃÇ ÉáõëÝóùÁ ³ÙµáÕçáõÃÛ³Ùµ ÷³ÏáõÙ¿ (ûµëïñáõÏóÇ³) ¨ ³ñÛ³Ý ÑáëùÁ »ñÏ³ñ³ï¨ áõ ½·³ÉÇáñ»Ý Ýí³½áõÙ¿, ëñï³ÙÏ³ÝÇ ³Û¹ Ñ³ïí³ÍÁ íÝ³ëíáõÙ¿ (Ù³Ñ³ÝáõÙ), áñÇ Ñ»ï¨³Ýùáí½³ñ·³ÝáõÙ ¿ ëñï³ÙÏ³ÝÇ ÇÝý³ñÏï:

Îáñáý³ñ½³ñÏ»ñ³ÏÝ»ñÇ (³ÝáÃÝ»ñÇ) ÑÇí³Ý¹áõÃÛáõÝ

1. ANGINA (ëï»ÝáÏ³ñ¹Ç³) - ºñµ ëñï Ç ¿Ý¿ñ·Ç³ÛÇ ¨ ÃÃíùÍÝÇ Ï³ñÇùÝ»ñÁ µ³ñÓñ³ÝáõÙ »Ý, ÇÝãå»ë ûñÇÝ³Ï Ù³ñÙÝ³Ù³ñ½áõÃÛ³Ý ¹»åùáõÙ, ëÇñïÁ ëïÇåí³Í ¿ ÉÇÝáõÙ ³ßË³ï»É áõÅ·Ýáñ»Ý: ÜáñÙ³ÛáõÙ ³Û¹ ³é³í»É Ï³ñÇùÝ»ñÁ µ³í³ñ³ñíáõÙ »Ý áõÅ»Õ³ó³Í ³ñÛ³Ý Ñáëùáí, áñÝ Çñ³Ï³Ý³óíáõÙ ¿ ÏáñáÝ³ñ ³ÝáÃÝ»ñÇ ÙÇçáóáí: ºñµ ÏáñáÝ³ñ ³ÝáÃÝ»ñÇó Ù»ÏÁ ÷³Ïíáõ Ï³Ù Ý»Õ³ÝáõÙ ¿ ³Ã»ñáÙ³ÛÇ å³ï×³éáí, ëñïÇ ÙÇ Ù³ëÁ ãÇ Ï³ñáÕ³ÝáõÙ ëï³Ý³É µ³í³ñ³ñ ù³Ý³Ïáí ³ñÛáõÝ: ²ëïÇ×³Ý³µ³ñ ïíÛ³É Ñ³ï³í³ÍÇ å³Ñ»ëï³ÛÇÝ Ñ³í³ë³ñ³ÏßéáõÃÛáõÝÁ ëå³éíáõÙ ¿, ³ÛÝ í»ñ³ÍíáõÙ ¿ Çß»ÙÇÏ ûç³ËÇ (áñÁ Ýß³Ý³ÏáõÙ ¿ áã µ³í³ñ³ñ ³ñÛ³Ý Ù³ï³Ï³ñ³ñáõÙ ëï³óáÕ): Æ Ñ³Ûï ¿ ·³ÉÇë Ý³Ë³½·áõß³óÝáÕ ó³íÇ ½·³óáõÙ: ²Û¹ ó³íÁ, áñÁ ÏáãíáõÙ ¿ ëï»ÝáÏ³ñ¹Ç³ (angina), ÑÇÙÝ³Ï³ÝáõÙ ë»ÕÙáÕ, ³ÛñáÕ µÝáõÛÃÇ ¿ , ³ÛÝ »ñµ»ÙÝ ÏñÍù³í³Ý¹³ÏÇó ×³ï³·³ÛÃíáõÙ ¿ (ï³ñ³ÍíáõÙ) ¹»åÇ áõë³·áïáõ, Ã¨Ç, å³ñ³ÝáóÇ,Ó³Ë ÃÇ³Ï³ÛÇÝ ¨ ÍÝáïÇ ßñç³ÝÁ: ºñµ ³ßË³ï³ÝùÇ Í³Ýñ³µ»éÝí³ÍáõÃÛáõÝÁ å³Ï³ëáõÙ ¿, í»ñÁ ÝßÍ³Í »ñ¨áõÛÃÝ»ñÝ ³ÝÑ»ï³ÝáõÙ »Ý: ²ÛÉ ÝßÝ³ÝÝ»ñÇó »Ý ùñïÝ³ñï³¹ñáõÃÛáõÝÁ, ëñïË³éÝáóÁ, ßÝã³ñ·»ÉáõÃÛáõÝÁ ¨ ÁÝ¹Ñ³Ýáõñ ÃáõÉáõÃÛáõÝÁ:

¸»Õ³Ñ³µ»ñÝ ÇÝã áñ ã³÷áí û·ÝáõÙ »Ý, ë³Ï³ÛÝ ¹ñ³Ýù ³ÛÝù³Ý ³ñ¹ÛáõÝ³í»ï ã»Ý ÇÝãå»ë Ý»Õ³ó³Í ³ÝáÃÝ»ñÇ É³ÛÝ³óáõÙÁ Ï³Ù ¿É íÇñ³Ñ³ïáõÃÛáõÝÁ, áñÇ Ýå³ï³ÏÝ¿ ßñç³Ýó»É ÏáñáÝ³ñ½³ñÏ»ñ³ÏÇ Ý»Õ³ói³Í Ñ³ï í³ÍÁ: ²Ûë »ñÏáõ »Õ³Ý³ÏÝ»ñÝ ¿É áõÝ»Ý µ³í³Ï³Ý ³é³çÁÝÃ³óÝ»ñ:

2. êñï³ÙÏ³ÝÇ ÇÝý³ñÏï (heart attack) - ºñµ Ù»Ýù ËáëáõÙ »Ýù ëñï³ÙÏ³ÝÇ ÇÝý³ñÏïÇ Ù³ëÇÝ, Ù»Ýù ÝÏ³ïÇ áõÝ»Ýù ÏáñáÝ³ñ½³ñÏ»ñ³ÏÇ Ñ³ÝÏ³ñÍ³ÏÇ Ù³Ï³ñ¹áõÏáí ÷³Ïí»ÉÁ (ÏáñáÝ³ñ ïñáÙµá½): ²ÏÝÑ³Ûïáñ»Ý ëñï³ÙÏ³ÝÁ, áñÁ ëÝáõóíáõÙ¿ ÷³Ïí³Í½³ñÏ»ñ³Ïáí, ãÇ Ï³ñáÕ³ÝáõÙëï³Ý³É µ³í³ñ³ñù³Ý³Ïáí ³ñÛáõÝ: ê³ µ»ñáõÙ¿ ÏñÍù³í³Ý¹³ÏÇó³í»ñÇ, ÇÝãå»ëë ï»ÝáÏ³ñ¹Ç³ÛÇ ¹»åùáõÙ: ê³Ï³ÛÝ ÙÇáÏ³ñ¹Ç ÇÝý³ñÏï Ç Å³Ù³Ý³Ï ó³íÁ ÙÇ ù³ÝÇ ñáå» Ñ³Ý·ëï Çó Ñ» ïá ãÇ ³ÝóÝáõÙ: êñï³ÙÏ³ÝÇ ÙÇ Ñ³ï³í³ÍÁ Ù³Ñ³ÝáõÙ ¿ (ÙÇáÏ³ñ¹Ç ÇÝý³ñÏï): ÎáñáÝ³ñ ïñáÙµá½Ç ¹»åùáõÙß³ï Ï³ñ¨áñ Ýáñ µáõÅÙ³Ý ÙÇçáó¿ ïñáÙµáÉÇ½ÇëÁ– Ù³Ï³ñ¹áõÏÁ ÉáõÍáÕ ¨ ëñï³ÙÏ³ÝÇ ³Ëï³Ñ³ñáõÙÁ ë³ÑÙ³Ý³÷³ÏáÕ ¹»Õ³ÙÇçáóÝ»ñÇ Ý»ñ³ñ³ÏáõÙÁ:

êñïÇ Ýáå³Ý »ñµ»ÙÝ Ï³ñáÕ¿ µ³ñ¹³Ý³ÉÉáõñç ¨ ÝáõÛÝÇëï×³Ï³ï³·ñ³Ï³Ý ëñïÇ éÇÃÙÇ Ë³Ý·³ñáõÙÝ»ñáí: Ð³ïÏ³å»ë³Ûë µ³ñ¹áõÃÛáõÝÝ¿, áñ µ»ñáõÙ¿ ³ÛÝ Ù»Í ÃíáíÙ³Ñí³Ý ¹»åù»ñÇ, áñáÝù ³ñÓ³Ý³·ñíáõÙ »Ý ëñïÇ ÇÝý³ñÏïÇ Å³Ù³Ý³Ï: ²Û¹ ¹»åù»ñÇ ·»ñ³ÏßéÉÇ Ù³ëÁ å³ï³ÑáõÙ¿ ³ÝÙÇç³å»ë ëñïÇ Ýáå³ÛÇ ëÏëí»Éáõó Ñ» ïá: ²Ù»Ý³íï³Ý·³íáñÁ ëñïÇ éÇÃÙÇ Ë³Ý·³ñáõÙÝ ¿ª ÷áñáù³ÛÇÝ ýÇµñÇÉ³óÇ³Ý, áñÁ ³ÙµáÕçáõÃÛ³Ùµ Ë³÷³ÝáõÙ ¿ ëñïÇ µ³µ³ËáõÙÝ»ñÁ, áñÇ Ñ» ï¨³Ýùáí ³ñÛ³Ý ßñç³Ý³éáõÃÛáõÝÁ ¹³¹³ñáõÙ¿ (ëñïÇ Ï³Ý· - cardiac arrest):

Ä³Ý³Ù³ÏÇÝ ÏÇñ³éíáÕ í»ñ³Ï»Ý¹³Ý³óáõÙÁ Ï³ñáÕ ¿ ÷ñÏ»É ÑÇí³Ý¹Ç ÏÛ³ÝùÁ: êñïÇ Ù»ñëáõÙÁ ¨ ³ñÑ»ë ï³Ï³Ý ßÝã³éáõÃÛáõÝÁ û·ÝáõÙ »Ý ÙÇ ù³ÝÇ ñáå»Ý»ñ Ñ» ï³½·»É Ù³ÑÁ: Æñ³Ï³ÝáõÙ ³ÝÑñ³Å»ßï ¿ Ï³ñ·³íáñ»É ëñïÇ éÇÃÙÇ Ë³Ý·³ñáõÙÝ»ñÁ: öáñáù³ÛÇÝ ýÇµñÇÉ³óÇ³ÛÇ ¹»Ù å³Ûù³ñ»Éáõ Ñ³Ù³ñ ÏÇñ³éíáõÙ ¿ ¹»ýÇµñÇÉ³óÇ³ª Ñ³ïáõÏ ¿É»Ïï ñ³Ï³Ý ßáÏÇ ÙÇçáóáí: ÜÙ³Ý ¹»åù»ñáõÙ ³ÝÑñ³Å»ßï ¿ ëï³Ý³É Ñ³Ù³å³ï³ëË³Ý ßï³å µáõÅû·ÝáõÃÛáõÝ Ù³ëÝ³·Çï³ói³Í µñÇ·³¹Ç ÏáÕÙÇó, áñáÝù Ñ³·»ói³Í »Ý Ñ³Ù³å³ï³ëË³Ý ë³ñù³íáñáõÙÝ»ñáí: Ø»Í ÃíáíÙ³ñ¹ÇÏ ëáíáñáõÙ »Ý ³é³çÇÝ û·ÝáõÃÛ³Ý

ÙÇçáóÝ»ñÝ áõ Ó¨»ñÁ, áñå»ë½Ç Ï³ñáÕ³Ý³Ý ûÅ³Ý¹³Ï»É ÝÙ³Ý³ï Çå ÇñÇ³¹ñáõÃÛáõÝÝ»ñáõÙ ÙÇÝã Ù³ëÝ³·Çï³óí³Í û·ÝáõÃÛ³Ý Ñ³ëÝ»ÉÁ:

êñï³ÙÏ³ÝÇ ³Ëï³Ñ³ñí³Í ûç³ËÁ Ù³Ñ³ÝáõÙ ¿ ¨ ³ÛÝáõÑ»ï¨ ÷áË³ñÇÝíáõÙ ëåÇ³Ï³Ý ÑÛáõëí³ÍùáÍ: ´³ñ»µ³Ëï³µ³ñ ëÇñïÝ áõÝÇ ½·³ÉÇ å³Ñ»ëï³ÛÇÝ ÑÝ³ñ³íáñáõÃÛáõÝÝ»ñ, ¨ ëñïÇ Ýåå³ÛÇó ³å³ùÇÝí»Éáõó Ñ»ïá ÙÇ ÷áùñ ûç³ËÇ Ïáñáõë ï Á ãÇ ËáãÁÝ¹á ï áõÙ í»ñ³¹³éÝ³É ÝáñÙ³É ·áñÍáõÝ»áõÃÛ³Ý:

3. Ð³ÝÏ³ñÍ³Ù³ÑáõÃÛáõÝ - ºñµ»ÙÝ Ù³ñ¹ÇÏ Ñ³ÝÏ³ñÍ³Ù³Ñ »Ý ÉÇÝáõÙ ëñï Ç éÇÃÙÇ Ù³Ñ³óáõ Ë³Ý·³ñáõÙÝ»ñÇó ³é³Ýó ½·³Éáõ áñ¨¿ Ý³Ë³½·áõß³óÝáÕ ó³í: Ð³ÝÏ³ñÍ³Ù³ÑáõÃÛ³Ý Ù»Ï ³ÛÉ å³ï×³é ¿ ëñï Ç Ï³Ù Ù»Í ³ñÛ³Ý ³ÝáÃÝ»ñÇ, ÇÝãåÇëÇÝÝ ³áñï³Ý¿, ×»ÕùáõÙÁ:

Ì Ë»ÉÁ ¨ ëÇñï Á

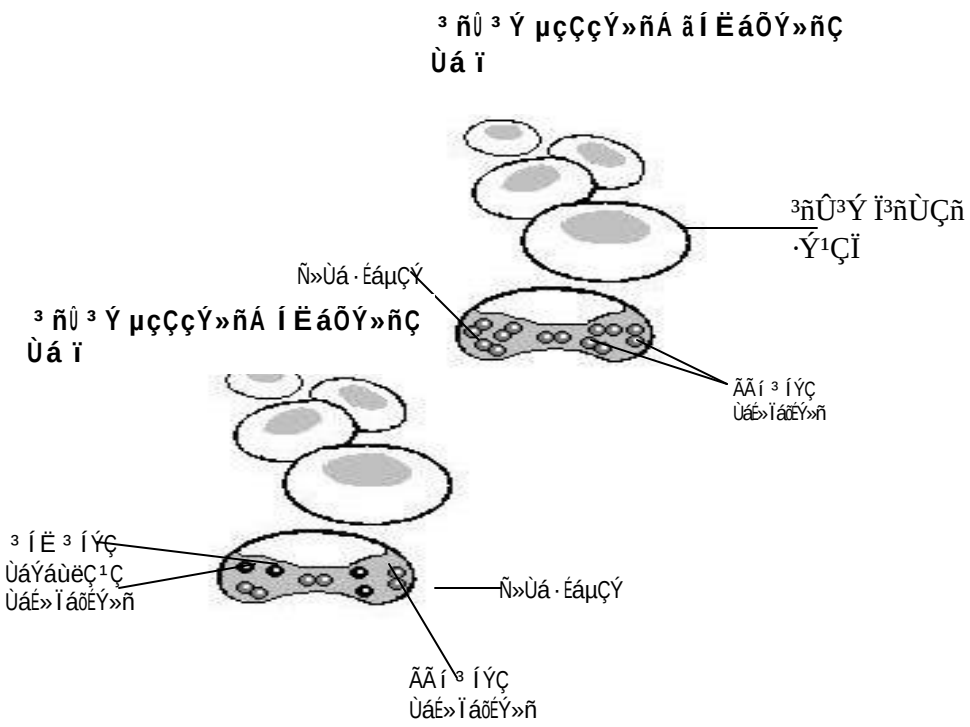
Ì Ë»ÉÝ ³ÛÝ ÑÇÙÝ³Ï³Ý ³½¹³ÏÝ»ñÇó Ù»ÏÝ ¿,áñÁ µ»ñáõÙ ¿ ëñï Ç Ýáå³Ý»ñÇ ½³ñ·³óÙ³ÝÝ áõ Í³·Ù³ÝÁ: ØÛáõë »ñÏáõ ³½¹³ÏÝ»ñÝ »Ýª ³ñÛ³Ý µ³ñÓñ ×ÝßáõÙÁ ¨ ³ñÛ³Ý Ù»ç ËáÉ»ëï»ñáÉÇ (×³ñåÇ ï»ë³Ï) µ³ñÓñ Ù³Ï³ñ¹³ÏÁ: Ð³ßí³ñÏí³Í ¿, áñ »Ã» ØÇóÛ³É Â³·³íáñáõÃÛáõÝáõÙ(Ø»Í ´ñÇï³ÝÇ³) Ù³ñ¹ÇÏ ÍË³Ëáï ãÍË»Ý, ï³ñÇÝ ·ñ»Ã» 100.000-áí ³í»ÉÇ ùÇã ³ßË³ï áõÝ³Ï ï³ñÇùÇ ïÕ³Ù³ñ¹ÇÏ ¨ Ï³Ý³Ûù ÏÙ³Ñ³Ý³Ý ëñïÇ Ñ³ñí³ÍÇó: ²Ûë ·ñùáõÛÏÁ ÷³ëï³ñÏÝ»ñ ¿ µ»ñáõÙ ÍË»Éáõ ¨ ëñïÇ íñ³ Ýñ³ ³½¹»óáõÃÛ³Ý Ù³ëÇÝ, ¨ óáõÛó ¿ ï³ÉÇë áñ »ñµ Ù³ñ¹ÇÏ ¹³¹³ñ»óÝáõÙ »Ý ÍË»ÉÁ Ýñ³Ýù ÝÍ³½»óÝáõÙ »Ý ëñïÇ Ñ³ñí³Í ëï³Ý³Éáõ íï³Ý·Á: ØÇ¨ÝáõÛÝ Å³Ù³Ý³Ï ËáñÑáõñ¹Ý»ñ ¿ ï³ÉÇë Ã» ÇÝãå»ë ¹³¹³ñ»óÝ»É ÍË»ÉÁ:

ö³ë ï³ñÏÝ»ñª

Ø»Í³·áõÛÝ Ù³ñ¹³ëå³Ý ÍË»ÉÁ ëñïÇ ÏáñáÝ³ñ ÑÇí³Ý¹áõÃÛ³Ý Ù³ÑÍ³Ý ÑÇÙÝ³Ï³Ý å³ï×³éÝ¿:

êñïÇ ÇÝý³ñÏïÇ íï³Ý·Ý ³í»É³ÝáõÙ ¿ ÍË»Éáõ ã³÷Ç ¨ ù³Ý³ÏÇ Ñ»ï½áõ·ÁÝÃ³ó: ÀÝ¹Ñ³Ýñ³å»ë, Ù³ñ¹ÇÏ, áíù»ñ ÍË³Ëáï »Ý û·ï³·áñÍáõÙ ëñïÇ ³ÝáÃÝ»ñÇ ³Ëï³Ñ³ñáõÙ ëï³Ý³Éáõ, ·ñ»Ã» ÏñÏÝ³ÏÇ ³Ý·³Ù ß³ï íï³Ý·áõÝ»Ý ù³Ý ãÍËáÕÝ»ñÁ: ê³Ï³ÛÝ ³Ûë µ³ñÓñ íï³Ý·Á Ù³ëÝ³íáñ³å»ë ³í»ÉÇ Ù»Í¿ 50 ï³ñ»Ï³ÝÇó ó³Íñ ³ÝÓ³Ýó Ñ³Ù³ñ: ²Ûë ï³ñÇù³ÛÇÝ ËÙµáõÙ ÍËáÕÝ»ñÇ Ùáï ëñï³ÛÇÝ Ù³Ñ»ñÁ ³í»ÉÇ ù³Ý 10 ³Ý·³Ù ·»ñ³½³ÝóáõÙ »Ý ÝáõÛÝ ËÙµ»ñÇ ãÍËáÕÝ»ñÇ óáõó³ÝÇßÝ»ñÁ: àñù³Ý ³í»ÉÇ ß³ï »ë ¹áõ ÍËáõÙ ¨ áñù³Ý ßáõï »ë ëÏëáõÙ ÍË»É, ³ÛÝù³Ý ³í»ÉÇÝ¿ ùá éÇëÏÁ:

ÆÝãáõ¿ ÍË»ÉÁ íÝ³ëáõÙ ëÇñï Á - ²ÍË³ÍÝÇÙáÝáùëÇ¹Á¨ÝÇÏáïÇÝÁ ÍË³ËáïÇ ÍËÇ ³Ù»Ý³Ï³ñ¨áñ µ³ÕÏ³óáõóÇã Ù³ë»ñÝ »Ý, áñáÝù íÝ³ë³Ï³ñ ³½¹»óáõÃÛáõÝ áõÝ»Ý ëñïÇ íñ³: ÜÇÏáïÇÝÁ Ù³ñ¹áõ ûñ·³ÝÇ½ÙáõÙ ËÃ³ÝáõÙ ¿ ³¹ñ»Ý³ÉÇÝÇ ³ñï³¹ñáõÃÛáõÝÁ, áñÇ Ñ»ï¨³ÝùÝ ¿É ëÇñï Á ëÏëáõÙ ¿ ³ßË³ï»É ³í»ÉÇ ³ñ·µ³ñÓñ³óÝ»Éáí ³ñÛ³Ý ×ÝßáõÙÁ: ²ÍË³ÍÝÇ Ù³Ý³ùëÇ¹Á (CO) ÙÇ³ÝáõÙ¿ ³ñÛ³Ý Ñ»Ùá·ÉáµÇÝ ÏáãíáÕ Ï³ñÙÇñ åÇ·Ù»Ý ïÝ»ñÇÝ¨ ÝÍ³½»óÝáõÙ¿ Ýñ³Ýó ÃÃÍ³ÍÇÝ ï»Õ³÷áË»Éáõ áõÝ³ÏáõÃÛáõÝÁ, ÇÝãå»ë ¹»åÇ ëÇñïÝ, ³ÛÝå»ë¿É Ù³ñÙÝÇ ³ÛÉ ÑÛáõëí³ÍùÝ»ñÁ: àñáß ÍËáÕÝ»ñÇ Ùáï ·ñ»Ã» ³ñÛ³Ý Ï»ëÁ ÃÃÍ³ÍÝÇ ÷áË³ñÝ ÏñáõÙ¿ ³ÍË³ÍÝÇ ÙáÝáùëÇ¹, ½ñÏ»Éáí ëÇñïÁ Ï»Ýë³Ï³Ýáñ»Ý Ï³ñ¨áñ ÃÃÍ³ÍÝÇó: ØÇ¨ÝáõÛÝ Å³Ù³Ý³Ï ÝÇÏáïÇÝÁ, ¨ ³ÍË³ÍÝÇ ÙáÝáùëÇ¹Á Ýå³ëïáõÙ »Ý ï³ñ³Ùµá½Ç ½³ñ·³óÙ³ÝÁ:



²½¹ñ³ÛÇÝ½³ñÏ»ñ³ÏÇ ÑÇí³Ý¹áõÃÛáõÝ- Ì Ë»ÉÁ Ï³ñ¨áñ¹»ñ¿Ë³ÕáõÙÝ³¨ ³½¹ñ³ÛÇÝ½³ñÏ»ñ³ÏÇ ÑÇí³Ý¹áõÃÛ³Ý½³ñ·³óÙ³Ý·áñÍáõÙ, áñÁ³ñï³Ñ³Ûï íáõÙ ¿ ëï áñÇÝ Í³Ûñ³Ý¹³ÙÝ»ñáõÙ ù³ÛÉ»Éáõ Å³Ù³Ý³Ï ³é³ç³óáÕ ó³í»ñáí: ²Ûë ³Ëï³ÝÇßÁ µ³í³Ï³ÝÇÝ Ñ³½í³¹»å ¿ ãÍËáÕÝ»ñÇ Ùáï: ²ÛÝ Ï³ñáÕ ¿ µ»ñ»É Í³Ûñ³Ý¹³ÙÇ ³Ý¹³Ù³Ñ³ïÙ³Ý, áñÁ »½³ÏÇ ¹»åù»ñáõÙ ¿ ³ÑÓ³Ý³·ñíáõÙ Ýñ³Ýó Ùáï, áíù»ñ ¹³¹³ñ³óÝáõÙ »Ý ÍË»ÉÁ:

üÇÉïñáí ÍË³ËáïÝ»ñ-¸»é¨ëãÏ³Ý³ÛÝåÇëÇ÷³ëï³ñÏÝ»ñ,áñáÝùËáëáõÙ »Ý³ÛÝÙ³ëÇÝ, áñ ýÇÉïñáí ÍË³ËáïÝ»ñÁ³í»ÉÇ ùÇã íï³Ý·»Ý Ý»ñÏ³Û³óÝáõÙ ëñïÇ ÑÇí³Ý¹áõÃÛ³Ý½³ñ·³óÙ³Ý Ñ³Ù³ñ, ù³Ý³é³Ýó ýÇÉïñÇ ÍË³ËáïÝ»ñÁ: ºÝÃ³¹ñíáõÙ ¿ ÝáõÛÝÇëÏ, áñ ¹ñ³Ýù ³í»É³óÝáõÙ »Ý Ý»ñÍÍíáÕ ³ÍË³ÍÝÇ ÙáÝáùëÇ¹Ç ù³Ý³ÏÁ ¨ Ñ» ï¨³µ³ñëñïÇÝ Ñ³ñáõóáõÙ ß³ï ³í»ÉÇ íÝ³ë: ø³ÝÇ áñ, »ñµ ÍËáÕÝ»ñÁ ³ÝóÝáõÙ »Ý ó³Íñ ÝÇÏáïÇÝáí ÍË³ËáïÝ»ñÇ Ñ³í³ï³Éáí, áñ ¹ñ³Ýù å³Ï³ëíÝ³ë³Ï³ñ»Ý, ÍËáõÙ »Ý ³í»ÉÇ ß³ï¨Ý»ñßÝãáõÙ »Ý ³í»ÉÇ ËáñÁ:

ä³ëÇí ÍË»É – ä³ëÇí Ï³Ù áãÏ³Ù³Û³Ï³Ý ÍË»ÉÁ ³ÛÝ ¿ »ñµ ãÍËáÕÝ»ñÁ Ý»ñßÝãáõÙ »Ý ßñç³å³ïÇ ³ÛÉ ³ÝÓ³Ýó ÍË³ËáïÇ ÍáõËÁ: ²ÛÝ ß³ï Ñ³×³Ë ³é³ç³óÝáõÙ ¿ Í³ÏÍÏáÕ ó³í»ñ ³ãù»ñáõÙ, ëáõñ Ã³ñ³Ë³ÛÇÝ ïáÝ½ÇÉÇïÏ³Ù ·ÉË³ó³í»ñ: ä³ëÇí ÍË»ÉÁ Ï³ñáÕ ¿ íÝ³ë³Ï³ñ ÉÇÝ»É Ýñ³Ýó Ñ³Ù³ñ, áíù»ñ ï³é³åáõÙ »Ý ëï»ÝáÏ³ñ¹Ç³ÛáíÛáõÝÝ»ñáí:

ÜÙ³Ý¹»åù»ñáõÙ ³Û¹ ³½¹»íáõÃÛáõÝÇó å»ïù¿ÑÝ³ñ³íáñÇÝã³÷Ëáõë³÷»É: ä³ëÇí ÍË»ÉÁ µ³ñÓñ³óÝáõÙ¿Ý³¨ÃáùÇù³ÕóÏ»ÕÇ½³ñ·³óÙ³Ýíï³Ý·ÁãÍËáÕ ³ÝÓ³Ýó Ùáï, ÇÝãå»ë Ý³¨ µ»ñáõÙ ÏñÍù³í³Ý¹³ÏÇ åñáµÉ»ÙÝ»ñÇ ¨ áñáß³ÏÇ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÇ »ñ»Ë³Ý»ñÇ Ùáï, áíù»ñ Ï³ÝáÝ³íáñ³å»ë »ÝÃ³ñÏíáõÙ »Ý ßñç³å³ïÇ ÍËÇ »ñÏñáñ¹³ÛÇÝ ³½¹»óáõÃÛ³ÝÁ:

²ñ¹Ûáù ³ñÅ» ¹³¹³ñ»óÝ»É ÍË»ÉÁ, Ñ» ï ³ · ³ ëñ ï Ç Ï ³ Ãí ³ ÍÝ»ñÇó Ëáõë ³ ÷»Éáõ Ñ ³ Ù ³ ñ:

àñáß ³ ÏÇáñ»Ý ³Ûá: Ø ³ ñ¹ÇÏ, áñáÝù ¹³¹³ñ»óÝáõÙ »Ý ÍË»ÉÁ ß ³ ï ³ í»ÉÇ ùÇã »Ý áõÝ»ÝáõÙ ëñ ï Ç Ýáå ³ Ý»ñ, ù ³ Ý Ýñ ³ Ýù áíù»ñ ß ³ ñáõÝ ³ ÏáõÙ »Ý ÍË»É: ê ³ ³ Ù»Ý ³ ÛÝÇí ¿É ãÇ Ýß ³ Ý ³ ÏáõÙ, áñ ãÍËáÕÝ»ñÁ »ñµ»ù ã»Ý áõÝ»ÝáõÙ ëñ ï Ç Ýáå ³ Ý»ñ, ÇÝý ³ ñÏ ï : àõÕÕ ³ ÏÇ, ¹ñ ³ Ñ ³ í ³ Ý ³ Ï ³ ÝáõÃÛáõÝÁ áñáß ³ ÏÇáñ»Ý ³ í»ÉÇ ó ³ Íñ ¿, ù ³ Ý ÍËáÕÝ»ñÇ Ùá ï : ´ ³ Ûó ëñ ï Ç Ñ ³ ñí ³ Í Ï ³ Ù ³ ÛÉ Éáõñç ÑÇí ³ Ý ¹ áõÃÛáõÝÝ»ñ áõÝ»Ý ³ Éáõ ÁÝÃ ³ óùÝ ³ ÝÙÇç ³ å»ë µ ³ ñ»É ³ í íáõÙ ¿ ÍË»ÉÁ ¹³¹³ñ»óÝ»Éáõ Ñ» ï Ù»Ï ï »Õ:

Ì Ë»ÉÁ ¹³¹³ñ»óÝ»Éáõ Ñ ³ Ù ³ ñ Ï ³ Ý Ý ³ ¨ ³ ÛÉ ß ³ ï Ï ³ ñ¨áñ å ³ ï × ³ éÝ»ñ: Ì ËáÕÝ»ñÁ ß ³ ï ³ í»ÉÇ Ù»Í Ñ ³ í ³ Ý ³ Ï ³ ÝáõÃÛ ³ Ùµ »Ý Ó»éù µ»ñáõÙ ÃáùÇ ù ³ ÕóÏ»Õ, µ»ñ ³ ÝÇ ¨ ÏáÏáñ ¹ Ç ù ³ ÕóÏ»Õ , ËñáÝÇÏ ³ Ï ³ Ý µñ ³ ÝËÇ ï ¨ áõÕ»ÕÇ ¨ ëñ ï ³ ÙÏ ³ ÝÇ ÇÝý ³ ñÏ ï Ý»ñ, ù ³ Ý ãÍËáÕÝ»ñÁ: Ì Ë»ÉÁ Ý ³ ¨ Ï ³ ñáÕ ¿ µ»ñ»É ß ³ ï ³ ÛÉ å ³ ÃáÉá·Ç ³ Ý»ñÇ, áñáÝù ÇÝùÝÇÝ Ù ³ Ñ ³ óáõ ã»Ý, ë ³ Ï ³ ÛÝ Ï ³ ñáÕ »Ý Ýå ³ ë ï »É ³ ÛÉ ÑÇí ³ Ý ¹ áõÃÛáõÝÝ»ñÇ ½ ³ ñ · óÙ ³ ÝÁ Ï ³ Ù áõÕÕ ³ ÏÇáñ»Ý Ë ³ ÷ ³ Ý»É ÝáñÙ ³ É ¨ ³ éáÕç ÏÛ ³ Ýù í ³ ñ»Éáõ ÑÝ ³ ñ ³ íáñáõÃÛáõÝÁ: úñÇÝ ³ Ï, ÍËáÕÝ»ñÇ Ñ ³ ½Á Ï ³ ñáÕ ¿ Ñ ³ ñáõó»É Éñ ³ óáõóÇã Í ³ Ýñ ³ µ»éÝí ³ ÍáõÃÛáõÝ ëñ ï Ç íñ ³ (áñÁ Ï í»ñ ³ Ý ³ ÍË»ÉÁ ¹³¹³ñ»óÝ»Éáõ ¹»åùáõÙ), ÍË»ÉÁ Ï ³ ñáÕ ¿ µ»ñ»É á ï ù»ñÇ ¨ Ó»éù»ñÇ ½ ³ ñÏ»ñ ³ ÏÝ»ñÇ ³ Ë ï ³ Ñ ³ ñÙ ³ ÝÁ, áñÁ Ç í»ñçá Ï ³ ñáÕ ¿ µ»ñ»É ³ Ý ¹ ³ Ù ³ Ñ ³ ï Ù ³ Ý (¨ ÏñÏÇÝ ÝÙ ³ Ý íÇ ³ Ý · Á Ýí ³ ½áõÙ ¿ ÍË»ÉÁ ¹³¹³ñ»óÝ»Éáõ ¹»åùáõÙ):

ÆÝãå»ë ï »ëÝáõÙ »ù, ÍË»ÉÁ ¹³¹³ñ»óÝ»ÉÁ Ò»ñ ³ éáÕçáõÃÛ ³ Ý Ñ ³ Ù ³ ñ ³ Ù»Ý ³ Ï ³ ñ¨áñ áñáßáõÙÝ»ñÇó Ù»ÏÝ ¿, Ñ ³ ï Ï ³ å»ë »Ã» ¸áõù áõÝ»ó»É »ù ÏáñáÝ ³ ñ Ýáå ³ Ý»ñ (coronary attack), ëñ ï ³ ÙÏ ³ ÝÇ ÇÝý ³ ñÏ ï Ï ³ Ù ë ï »ÝáÏ ³ ñ ¹ Ç ³ (angina):

Ì Ë»Éáõ éÇëÏÁ Ï ³ Ý ³ Ýó Ùá ï

Ì ËáÕ Ï ³ Ý ³ Ûù, ÏáñáÝ ³ ñ ³ ÝáÃÝ»ñÇ ³ Ë ï ³ Ñ ³ ñáõÙ, Ãáù»ñÇ ù ³ ÕóÏ»Õ, µñ ³ ÝËÇ ï Ý»ñ Ó»éù µ»ñ»Éáõ Ù»Í Ñ ³ í ³ Ý ³ Ï ³ ÝáõÃÛáõÝ áõÝ»Ý: ÐÕÇ Ï ³ Ý ³ Ûù, á íù»ñ ÍËáõÙ »Ý, Ï ³ ñáÕ »Ý ÍÝÝ ¹³µ»ñ»É Ù ³ Ñ ³ ó ³ Í å ï áõÕ, Çë Ï ÍÝí ³ Í »ñ»Ë ³ Ý»ñÁ Ï ³ ñáÕ »Ý áõÝ»Ý ³ É ýÇ½Ç Ï ³ Ï ³ Ý ¨ Ù ï ³ íáñ ½ ³ ñ · ³ óÙ ³ Ý ï ³ ñÇù ³ ÛÇÝ Ñ» ï ³ ×:

` ³¹³ñ»óÝ»Éáõ Ñ ³ Ù ³ ñ

¶Ç ï ³ ÏóÇñ, áñ ¹³ ³ ñíáõÙ ¿ª

1. ø»½ Ñ ³ Ù ³ ñ ¨ ùá ³ éáÕçáõÃÛ ³ Ý Ñ ³ Ù ³ ñ;
2. öáÕÇ Ñ ³ Ù ³ ñ – Ñ ³ ßíÇñ Ã» ÇÝãù ³ Ý ·áõÙ ³ ñ Ï ³ ñáÕ »ë ß ³ µ ³ Ã ³ Ï ³ Ý, ï ³ ñ»Ï ³ Ý ËÝ ³ Û»É ãÍË»Éáí;
3. øá ÁÝ ï ³ ÝÇùÇ Ñ ³ Ù ³ ñ – ù ³ ÇÇ áñ Ý ³ Ýù å ³ ëÇí ÍËáÕ »Ý ù»½ Ñ» ï ¨ Ï ³ ñáÕ »Ý ÑÇí ³ Ý ¹ áõÃÛáõÝÝ»ñ Ó»éù µ»ñ»É áã ó ³ ÝÏ ³ ÉÇ × ³ Ý ³ å ³ ñÑáí:

Ê áñÑáõñ ¹ Ý»ñª

1. ²ë ³ ùá ßñç ³ å ³ ï áõÙ (Ã» ï ³ ÝÁ ¨ Ã» ³ ßË ³ ï ³ ÝùÇ í ³ ÛñáõÙ), áñ ¹³¹³ñ»óÝáõÙ »ë ÍË»ÉÁ, áñå»ë½Ç Ýñ ³ Ýù û · Ý»Ý ù»½;
2. ú · ï ³ ·áñÍÇñ Ù ³ ë ï ³ Ï ³ Ù ÑáõÙ µ ³ Ýç ³ ñ»Õ»Ý ¨ ãÇñ ÍË»Éáõ ó ³ ÝÏáõÃÛáõÝÁ å ³ Ï ³ ë»óÝ»Éáõ Ñ ³ Ù ³ ñ,µ ³ Ûó ½ · áõß ³ óÇñ · Çñ ³ Ý ³ Éáõó;

3. äÉ³Ý³ íáñÇñ, Ã» ÇÝã Ï³ñ»ÉÇ ¿ ³Ý»É ³ÛÝ ·áõÙ³ñÇ Ñ»ï, áñÁ ËÝ³Û»É »ë 1³ÙÇë Ï³Ù1 ï³ñÇ ãÍË»Éáí;
4. ²ßË ï³ ïÇñ ãÍË»Éáõ áñáßáõÙÁ Çñ³Ï³Ý³óÝ»É Ñ³Ý·ë ï Û³Ý ûñ»ñÇÝ Ï³Ù ³ñÓ³Ïáõñ¹Ç Å³Ù³Ý³Ï, »ñµ ë ï ñ»ëÝ»ñÝ ³ í»ÉÇ ùÇã »Ý:

²ÛÉ éÇëÏÇ ³½¹³ ÏÝ»ñ *– êñ ï Ç ³ÝáÃÝ»ñÇ ³Ë ï ³Ñ³ñÙ³Ý Ñ³ í³Ý³Ï³ÝáõÃÛáõÝÁÙ» Í ¿ áã ÙÇ ³ÛÝ ÍË»Éáõ å³ ï×³éáí, ³ÛÉ Ý³¨ µ³ñÓñ ³ñÛ³Ý ×ÝßÙ³Ý, µ³ñÓñ ËáÉ»ë ï »ñáÉÇ ù³Ý³ÏÇ, ùÇã ýÇ½ÇÏ³Ï³Ý í³ÑÅáõÃÛáõÝÝ»ñÇ Ï³Ù ÝáñÙ³ÛÇó ³ í»ÉÇ ß³ ï ù³ßáõÝ»Ý³Éáõ ¹»åùáõÙ: Î³Ý Ý³¨ ³½¹³ÏÝ»ñ, áñáÝù ÑÝ³ñ³ íáñ ã¿ ÷áË»É: ÆÝãåÇëÇù »Ý ëñ ï Ç ³ÝáÃÝ»ñÇ ³Ë ï Ñ³ñáõÙ Ï³Ù ÇÝý³ñÏ ï Á ÁÝ ï ³ÝÇùÇ ³ÛÉ ³Ý¹³ÙÝ»ñÇ Ùá ï , ûñÇÝ³Ï »Ã» ÍÝáÕÝ»ñÁ »ñÇ ï ³ë³ñ¹ ï ³ñÇùÇó ï ³é³ åáõÙ »Ý í»ñÁ Ýßí³Í ÑÇí³Ý¹áõÃÛ³Ùµ, ³å³Ò»ñ Ùá ï ß³ ï ³ í»ÉÇ Ñ³í³Ý³Ï³Ý¿ ëñ ï Ç ÏáñáÝ³ñ ÑÇí³Ý¹áõÃÛ³Ý½³ñ·³óáõÙ: Ð» ï ¨³µ³ñ¸áõù ³ í»ÉÇ½·áÝ ¨ Ñ» ï ¨áÕ³Ï³Ý å» ï ù¿ ÉÇÝ»ù éÇëÏÇ ³ÛÉ ³½¹³ÏÝ»ñÇ ÝÏ³ï Ù³Ùµ, áñáÝ³ »ÝÃ³Ï³ »Ý ÷á÷áËÙ³Ý (ûñ. ¹³¹ñ»óÝ»ù ÍË»ÉÁ, å³Ï³ë»óÝ»ù ³ í»Éáñ¹ù³ßÁ ¨ ³ÛÉÝ):*

´³ñÓñ ³ñÛ³Ý ×ÝßáõÙ

²ÛáõÝÁ½³ñÏ³ñ³ÏÝ»ñáõÝ·ï ÝíáõÙ ¿ ×ÝßÙ³Ý ï³Ï, ÇÝãå»ë çáõñÁ é» ï ÇÝ ¿ ËáÕáí³ÏáõÙ, »ñµ çñÇ Íáñ³ÏÁµ³ó íÇ×³ÏáõÙ ¿: ²ñÛ³Ý ×ÝßáõÙÁ åáõÉë³ÛÇÝ µÝáõÛÃ ¿ ÏñáõÙ: ²ÛÝ µáñÓñ³ÝáõÙ ¿ ÙÇÝã¨ ëÇë ï áÉÇÏ ·³·³ÃÝ³Ï» ï ÇÝ ëñ ï Ç ÛáõñÙ³ù³ÝãÛáõñ ÏÍÏ³ÝùÇ (Ë÷áóÇ) Å³Ù³Ý³Ï ¨ ÁÝÏÝáõÙ ¿ ÙÇÝã¨ ¹Ç³ë ï áÉÇÏÇ ã³÷³ÝÇßÝ»ñÁ ÏÍÏ³ÝùÝ»ñÇ ÙÇã¨ ÁÝÏ³Í ¹³¹³ñÇ Å³Ù³Ý³Ï³Ñ³ ï í³ÍáõÙ: ÖÇß ï ÇÝãå»ë ×ÝßáõÙÁ çñÇ ËáÕáí³ÏáõÙ µ³ñÓñ³ÝáõÙ ¿ »ñµ Íáñ³ÏÁ ³ í»ÉÇ ß³ ï ¿ µ³óíáõÙ, Ï³Ù »ñµ çñÇ ËáÕáí³ÏÁ Ý»Õ³ÝáõÙ ¿, ³ÛÝåë ¿É ³ñÛ³Ý ×ÝßáõÙÁ ÷á÷áËíáõÙ ¿ Ï³Ëí³Í ëñ ï Ç ÏáÕÙÇó ³ñ ï³ÙÕí³Í ³ñÛ³Ý Í³í³ÉÇó Ï³Ù½³ÑÏ»ñ³ÏÝ»ñÇ ï ñ³Ù³·ÍÇ ã³÷ëÇó: êñ ï Ç ÏáÕÙÇó ³ñ ï³ÙÕíáÕ ³ñÛ³Ý ù³Ý³ÏÁ ÝÏ³ï »ÉÇáñ»Ý ï³ï³Ýíáõù ¿ Ï³åí³Í ³Ù»Ýûñû³ ·áñÍáõÝ»áõÃÛ³Ý Ñ» ï : ´³ñ»µ³Ë ï³µ³ñ ûñ·³ÝÇ½ÙÇ µÝ³Ï³Ý Ï³ñ·³íáñáõÙÁ ¨ ½³ñÏ»ñ³ÏÝ»ñÇ ¹ÇÙ³¹ñáÕ³Ï³ÝáõÃÛáõÝÁ Ï³ÝË³ñ·»ÉáõÙ »Ý ³ñÛ³Ý ×ÝßÙ³Ý Ï ï ñáõÏ ï³ï³ÝáõÙÝ»ñÁ: ²ÛÝáõ³Ù»Ý³ÛÝÇí, ³ñÛ³Ý ×ÝßáõÙÁ ÝáñÙ³ÛáõÙ ûñí³ ÁÝÃ³óùáõÙ áñáß ã³÷áí ï³ï³Ýíáõù ¿: ²Ûë Ñ³Ý·³Ù³ÝùÝ»ñÇó »ÉÝ»Éáí µÅÇßÏÁ / µáõÅùáõÛñÁ ³ñÛ³Ý ×ÝßáõÙ ã³÷áõÙ »Ý ÙÇ ù³ÝÇ ³Ý·³Ù, ÙÇçÇÝ óáõó³ÝÇßÁ · ï Ý»Éáõ Ñ³Ù³ñ:

àñáß Ù³ñ¹ÇÏ áõÝ»Ý ³ í»ÉÇ µ³ñÓñ ³ñÛ³Ý ×ÝßáõÙ, ù³Ý ÙÛáõëÝ»ñÁ, ÇÝãå»ë ûñÇÝ³Ï, áñáß Ù³ñ¹ÇÏ ³ í»ÉÇ µ³ñÓñ³Ñ³ë³Ï »Ý Ï³Ù ³ í»ÉÇ ·»ñ ù³Ý ³ÛÉáù: ´³ñÓñ ³ñÛ³Ý ×ÝßáõÙÁ Ñ³ï Ï³å»ë í ï³Ý·³íáñ ¿ ³ÛÝ å³ï×³ï áí, áñ ³ÛÝ ãÇ ³é³ç³óÝáõÙ áñ¨¿ ëÇÙå ï áÙÝ»ñ (Ýß³ÝÝ»ñ), Ñ³Ï³é³Ï ÁÝ¹áõÝí³Í ï »ë³Ï» ï Ç, áñ µ³ñÓñ ³ñÛ³Ý ×ÝßáõÙÁ ³é³ç³óÝáõÙ ¿ ·ÉË³ó³í»ñ, ·ÉË³å ï áõÛï , ·»ÙùÇ Ï³ñÙáõÃÛáõÝ ¨ ùÃ³ÛÇÝ ³ñÙáõÝ³ÑáëáõÃÛáõÝ: ê³Ï³ÛÝ ³ÛÝ Ç í»ñçá µ»ñáõÙ ¿ ëñ ï Ç ¨ ½³ñÏ»ñ³ÏÝ»ñÇ ·»ñÍ³Ýñ³µ»éÝí³ÍáõÃÛ³Ý, ½³ñÏ»ñ³ÏÝ»ñÇ í³Õ³Å³Ù Í»ñ³óÙ³Ý ¨ Ï³ñÍñ³óÙ³Ý ¨ Ýå³ë ï áõÙ ¿ ³Ã»ñáÙ³ÛÇ ½³ñ·³óÙ³ÝÁ: àñù³Ý µ³ñÓñ ¿ ³ñÛ³Ý ×ÝßáõÙÁ, ³ÛÝù³Ý³ í»ÉÇ Ñ³í³Ý³Ï³Ý »Ý ÇÝý³ñÏ ï Á ¨ ÇÝëáõÉ ï Á: ²ÛÝáõ³Ù»Ý³ÛÝÇí, ÑÇÙÝ³Ï³ÝáõÙ ³ñÛ³Ý µ³ñÓñ ×ÝßáõÙÁ Ï³ñ»ÉÇ ¿ Ñ»ßï áõÃÛ³Ùµ Ï³ñ·³íáñ»É (Çç»óÝ»É)Ñ³Ù³å³ï³ëË³Ý µáõÅÙ³Ý ÙÇçáóáí:

Ì»ñçÇÝ Å³Ù³Ý³ÏÝ»ñÇ Ñ» ï ³½áï áõÃÛáõÝÝ»ñÇ ³ñÅ»ù³ íáñ ³ñ¹ÛáõÝùÝ»ñÇó »Ý Ýáñ ¹»Õ³ÙÇçáóÝ»ñÇ ë ï »ÕÍáõÙÁ, áñáÝù Ï³ñáÕ »Ý Çç»óÝ»É ³ñÛ³Ý ×ÝßáõÙÁ ãÑ³ñáõó»Éáí í ï ³Ý·³íáñ ¨ ³ÝÏ³ÝË»ÉÇ ÏáÕÙÝ³ÏÇ »ñ¨áõÛÃÝ»ñ: Ì»ñÁ Ýßí³Í

µáõÅáÙÁ ÑÇÙÝ³Ï³ÝáõÙ ß³ñáõÝ³Ï³íáõÙ ¿ ³Ýë³ÑÙ³Ý³÷³Ï Å³Ù³Ý³Ï ¨ ëáíáñ³µ³ñãÇ Ë³Ý·³ñáõÙÉÇ³ñÅ»ùáñ»Ý³Ï³ïÇí ÝáñÙ³É ÏÛ³Ýù í³ñ»ÉáõÝ:

´³ñÓñ ³Û³Ý ×ÝßáõÙÁ§éÇëÏÇ ³½¹³Ï¦ Ñ³Ù³ñíáõÙ ¿ ëñÇï-³ÝáÃ³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÇ Ñ³Ù³ñ, áñÇ ¹»Ù å»ïù¿ å³Ûù³ñ»É Ñ³ÛïÝ³µ»ñÙ³Ý ÇëÏ å³ÑÇó: ´³ñÓñ ³ñÛ³Ý ×ÝßáõÙÁ å»ïù¿ í»ñ³µ»ñ»É áñå»ë ³Ëï³ÝÇß ¨ áã Ã» áñå»ë ÑÇí³Ý¹áõÃÛáõÝ: ²ÛÝ µ³í³Ï³ÝÇÝ ï³ñ³Íí³Í¿ (Ù»Í³Ñ³ë³ÏÝ»ñÇ 5-10 % áõÝÇ µ³ñÓñ ³ñÛ³Ý ×ÝßáõÙ), µ³Ûó Ñ³×³Ë ³ÛÝ § Éáõé ¦¿¨ Ï³ñ»ÉÇ¿Ñ³ÛïÝ³µ»ñ»É ÙÇ³ÛÝ ã³÷»Éáõ ÙÇçáóáí: ´³ñÓñ ³ñÛ³Ý ×ÝßáõÙ áõÝ»óáÕÝ»ñÇ ÙÇ³ÛÝ 50 %¿ ï»Õ³Ï ³Û¹ ÷³ëï Ç í»ñ³µ»ñÛ³É ¨ Ýñ³Ýó ÙÇ³ÛÝ Ï»ëÝ¿ ëï³ÝáõÙ Ñ³Ù³å³ï³ëË³Ý µáõÅáõÙ (Ñ³×³Ë Ù³ñ¹ÇÏ ÉÇáíÇÝ ã»Ý·Çï³ÏóáõÙ ¹ñ³ ³ÝÑñ³Å»ßï áõÃÛáõÝÁ):

¸áõù å»ïù¿ Ñ³×³Ë³ÏÇ ëï áõ·ù Ò»ñ ³ñÛ³Ý ×ÝßáõÙÁ Ñ³ï Ï³å»ë »Ã» ÁÝ¹áõÝáõÙ »ù Ñ³Ï³µ»ÕÙÝ³íáñÇã Ñ³µ»ñ, Ï³Ù »ñµ ³ñÛ³Ý ×ÝßÙ³Ý óáõó³ÝÇßÝ»ñÁ Ùáï »Ý ÝáñÙ³ÛÇ í»ñÇÝ ë³ÑÙ³ÝÝ»ñÇÝ:

¸Ç»ï³ (êÝáõóáõÙ)

Ð³í³Ý³µ³ñ ëÝáõóÙ³Ý í»ñ³µ»ñÛ³É ËáñÑáõñ¹Ý»ñÝ »Ý, áñ Ù³ñ¹ÇÏ Ñ³Ù³ñáõÙ »Ý ³Ù»ÝÇó ß÷áÃ»óÝáÕÁ: êÝáõóáõÙÁ Ï³ñ·³íáñ»Éáõ Ñ³Ù³ñ Ï³ »ñÏáõ ÑÇÙÝ³Ï³Ý å³ï×³é: ¸ñ³ÝóÇó Ù»ÏÝ ³í»Éáñ¹ ù³ßÇó ³½³ï í»ÉÝ¿, ÇëÏ ÙÛáõëÁª ³ÛÝ³Ý Ù»ç ËáÉ»ë ï»ñÇÝÇ ù³Ý³ÏÇÝí³½»óáõÙÝ¿:

Ð³Ï³é³Ï ÁÝ¹Ñ³Ýáõñ å³ï Ï»ñ³óÙ³Ý, Ù»ñ ëÝÝ¹áõÙ ß³ï ËáÉ»ë ï»ñÇÝ ãÇ å³ñáõÝ³Ïíáõ Ù: Ò»ñ ëÝÝ¹áõÙ ï»Ý¹³Ý³Ï³Ý Í³·áõÙ áõÝ»óáÕ×³ñåÝ¿, áñ ³½¹áõÙ¿ ³ÛÝ³Ý ËáÉ»ë ï»ñÇÝÇ Ù³Ï³ñ¹³ÏÇ íñ³: ÀÝ¹ áñáõÙ ûñí³ é³óÇáÝáõÙ û·ï³·áñÍíáÕ ×³ñåÁ å³ñáõÝ³ÏáõÙ ¿ ³í»ÉÇ ß³ï Ï³ÉáñÇ³ ù³Ý ÙÇ¨ÝáõÛÝ ù³Ý³ÏÇ³ÍË³çñ³ï Ý»ñÁ Ï³Ùëåç ï³ÏáõóÁ, áñáÝù Ñ³Ý¹Çë³ÝáõÙ »Ý ëÝÝ¹Ç ÙÛáõë ÑÇÙÝ³Ï³Ýµ³Õ³¹ñÇã Ù³ë»ñÁ:

²Ûëåçëáí ÝÍ³½»óÝ»Éáí û·ï³·áñÍíáÕ ×³ñåÇ ù³Ý³ÏÁ, ¸áõù ¨ ³½³ï íáõÙ »ù ³í»Éáñ¹ ù³ßÇó, ¨ ÙÇ¨ÝáõÛÝ Å³Ù³Ý³Ï Çç»óÝáõÙ »ù ³ñÛ³Ý Ù»ç ËáÉ»ë ï»ñÇÝÇ ù³Ý³ÏÁ:

ÂÃí³ë»ñÁ, Ï³ÃÁ, Ù»Í ù³Ý³Ïáí å³ÝÇñÁ, ËÙáñ»Õ»ÝÁ áõ ÃËí³ÍùÝ»ñÁ, ×³ñåáï (ÛáõÕáï) ÙÇëÁ×³ñåÇ ÑÇÙ³Ý³ÏÝ ³ÕµÛáõñÝ»ñÝ »Ý: ¸áõù Ï³ñáÕ »ù Ï³Ù ÷áñÓ»É ÷áË»É Ò»ñ ëÝáõóáõÙÝ (¹Ç»ï³Ý) Ñ³Ù³å³ï³ëË³Ý³µ³ñ (¨ ³ÛÝ ß³ï ³í»ÉÇ ³ñ¹ÛáõÝ³í»ï¿, »ñµ Ù³ëÝ³ÏóáõÙ¿ áÕç ÁÝï³ÝÇùÁ) Ï³Ù Ï³ñáÕ »ù ùÝÝ³ñÏ»É ¨ ÁÝïñ»É Ñ³ñÙ³ñ Ó¨ áõ ×³Ý³å³ñÑ Ò»ñ µÅÇßÏÇ Ñ»ï: Æ ¹»åë û·ï³Ï³ñ¿Ý³¨ ëÝÝ¹Çé³óÇáÝáõÙ Ï»Ý¹³Ý³Ï³Ý×³ñåÇÝí³½»óÙ³Á½áõ·ÁÝÃ³ó ³í»É³óÝ»É ³ÛÉ µáõë³Ï³Ý ÛáõÕñÇ ¨ ÓÏ³Ý ÛáõÕÇ ù³Ý³ÏÁ: ÎñÏÇÝ, Ï³ñáÕ »ù ³Û¹ Ñ³ñó»ñÁ ùÝÝñÏ»É Ò»ñ µáõÅáÕ µÅÇßÏÇ ¨ µáõÅùñáç Ñ»ï:

Ò»ñ ëÝÝ¹áõÙ ³í»É³óñ»ù Ã³ñÙ Ùñ·»ñÇ ¨ µ³Ýç³ñ»Õ»ÝÇ ù³Ý³ÏÁ, ³ÛÝ Ñ³ßí³ñÏáí, áñ ûñí³ ÁÝÃ³óùáõÙ û·ï³·áñÍ»ù 5 ÙÇñ·/µ³Ýç³ñ»Õ»Ý å³ñáõÝ³ÏáÕ ï»ë³Ï³ÝÇ (ëÝÝ¹³ã³÷):

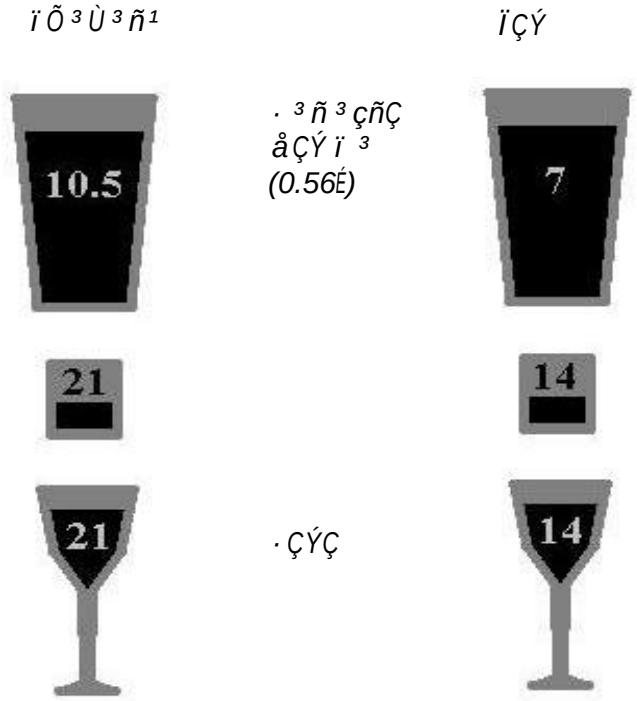
²é³ÝÓÝ³å»ë Ï³ñÇù ãÏ³ Ýí³½»óÝ»É ß³ù³ñÇ ù³Ý³ÏÁ ëñï Ç Ñ³ñí³ÍÇ íï³Ý·Á Ýí³½»óÝ»Éáõ Ñ³Ù³ñ: Þ³ù³ñÇ /ù³ÕóñÇ û·ï³·áñÍáõÙÁ ãÇ ³Ý¹ñ³¹³éÝáõÙ ëñï³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÇ íñ³: ê³Ï³ÛÝ Ñ³ñÏ³íáñ¿ÑÇß»É, áñ ¹ñ³Ýó ã³÷Ç ³í»ÉÇ û·ï³·áñÍáõÙÁ Ï³ñáÕ¿ Ñ³Ý·»óÝ»É ù³ßÇ ³í»É³óÙ³ÝÁ ¨ ¹ñ³Ýáí ÇëÏ µ³ñÓñ³óÝ»É ß³ù³ñ³ÛÇÝ ¹Ç³µ»ïÇ ¨ ³ñÃñÇïÝ»ñÇ ½³ñ·³óÙ³Ý Ñ³í³Ý³Ï³ÝáõÃÛáõÝÁ:

¶ñ»Ã» Ù»½³ÝÇó µáÉáñÁ û·ï³·áñÍáõÙ »Ý ß³ï ³í»ÉÇ ³Õ ù³Ý Ñ³ñÏ³íáñ¿: ²ÛÝ ÑÇÙÝ³Ï³ÝáõÙ å³ñáõÝ³ÏíáõÙ¿ å³ï³ñ³ë³ïÇ ëÝÝ¹³ï»ë³ÏÝ»ñáõÙ (ûñÇÝ³Ï

Ñ³ó) ÇÝãå»ë Ý³¨ ×³ß³ ï»ë³ ÏÝ»ñáõÙ ¨ áõÕÕ³ ÏÇáñ»Ý ë»Õ³ÝÇ íñ³: ²ÕÇ ù³Ý³ ÏÇ Ýí³½»óáõÙÁ Ñ³ ï Ï³ å»ë Ï³ñ¨áñ¿ »Ã» Ò»ñ ³ñÛ³Ý ×ÝßáõÙÁ µ³ñÓñ¿:

²ÉÏáÑáÉÇ ã³÷³ íáñ û·ï³·áñÍáõÙÁ Ï³ñáÕ¿ ÇÝã–áñã³÷áí å³ßï å³Ý»É Ò»ñ ëÇñï Á Ñ³ñí³ÍÝ»ñÇ áõÝ»Ý³Éáõó: ê³Ï³ÛÝ Ù»Í ù³Ý³ Ïáí ËÙÇãù (ëåÇñï³ÛÇÝ) û·ï³·áñÍ»ÉÁ ß³ï í ï³Ý·³íáñ¿: ºÃ» ¸áõù Ñ³½í³¹»å »ù ËÙÇãù û·³ï³·áñÍáõÙ Ï³Ù ¿É ÁÝ¹Ñ³Ýñ³å»ë ã»ù û·ï³·áñÍáõÙ, ³å³ Ï³ñÇù ãÏ³ ÷áË»É Ò»ñ ëáíáñáõÃÛáõÝÝ»ñÁ: îÕ³Ù³ñ¹ÇÏ ãå»ï ù¿ û·ï³·áñÍ»Ý ³í»ÉÇ ù³Ý 3 µ³Å³Ï ·ÇÝÇ (·ÇÝáõ µ³Å³Ï) Ï³Ù ¿É 3·³í³Ã·³ñ»çáõñ, ÇëÏ Ï³Ý³Ûù 2 µ³Å³Ï ·ÇÝÇ Ï³Ù¿É 2·³í³Ã·³ñ»çáõñ:

²ÉÏáÑáÉÇ ÁÝ¹áõÝÙ³Ý ß³µ³Ã³Ï³Ý ÝáñÙ³Ý»ñÁ Ï³Ý³ó¨
ï Õ³Ù³ñ¹Ï³ÝóÑ³Ù³ñ



Ø³ñÙÝ³Ù³ñ½áõÃÛáõÝ (ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñ)

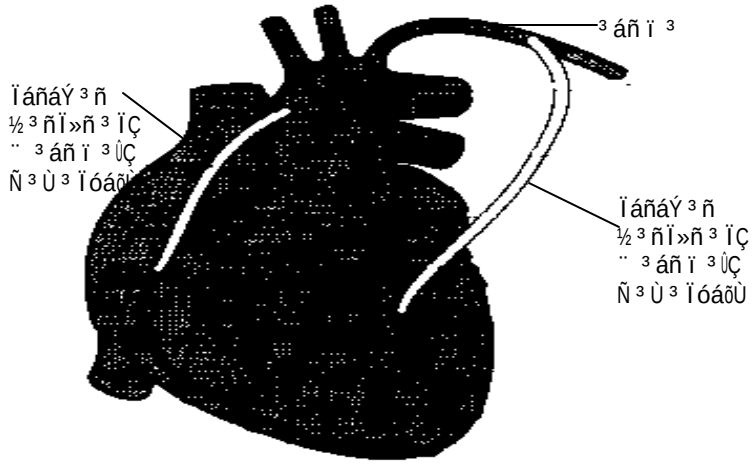
üÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñÁ ³ÝÏ³ëÏ³Í û·ÝáõÙ »Ý Ýí³½»óÝ»É ëñïÇ Ñ³ñí³ÍÝ»ñÇ íÁ³Ý·Á, ë³Ï³ÛÝ Ñ³ñÏ³íáñ¿ ÝßáÉ, áñ ¹ñ³Ýù å»ïù¿ ÉÇÝ»Ý µ³í³Ï³Ý³ã³÷ ³ÏïÇí, ³ÛÝå»ë áñ ³é³ç³óÝ»Ý Ã»Ã¨ ßÝã³ñ·»ÉáõÃÛáõÝ: ²ñ³·ù³ÛÉùÁ Ï³Ù Ã»ù Ù³Ï»ñ¨áõÛÃ (ûñÇÝ³Ï ë³ñ) ù³ÛÉ»Éáí µ³ñÓñ³Ý³ÉÁ, ÉáÕ³ÉÝ áõÑ»Í³ÝÇí í³ñ»ÉÁ ¨ ³ÛÝåÇëÇ ëåáñï³Ó¨ñ, ÇÝãåÇëÇÝ ýáõïµáÉÝ¿, Ù³ëÝ³Ïó»ÉÁ, í³ñÅáõÃÛáõÝÝ»ñÇ ûñÇÝ³ÏÝ»ñ»Ý, áñáÝó Ù³ëÇÝ¸áõù å»ïù¿ ËáñÑ»ù:

üÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñáí å»ïù¿ ½µ³ÕÍ»É Ý³¨ Ï³ÝáÝ³íáñ, áñå»ë½Ç ¹ñ³Ýù µ»ñ»Ý ¹ñ³Ï³Ý³ñ¹ÛáõÝùÝ»ñÇ: úñÇÝ³Ï, áã ùÇã ù³Ý 20–30 ñå» ß³µ³ÃÁ 3 ³Ý·³Ù:

²ÛÝå»ë áñ å»ïù ã¿ µ³í³ñ³ñí»É ³ÝÏ³ÝáÝ, Ù»ñÃÁÝ¹Ù»ñÃ Ï³ï³ñíáÕ ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñáí: ²ëïÇ×³Ý³µ³ñ Ñ³ë»ù ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñÇ áñáß³ÏÇ ³Ï ï ÇíáõÃÛ³Ý, áñÁ Ï³ñáÕ »ù Ñ»ßï áõÃÛ³Ùµ Ï³ï³ñ»É: ºÃ» ¸áõù Ñ³Ùá½í³Í ã»ù ýÇ½ÇÏ³Ï³Ý í³ñÅáõÃÛáõÝÝ»ñÇ

Ýå³ï³Ï³Ñ³ñÏ³ñáõÃÛ³Ý Ù³ëÇÝ, Ñ³ñÏ³íáñ¿ ËáñÑñ¹³Ïóí»É Ò»ñ µáõÅáÕ µÅÇßÏÇ Ñ»ï:

Æ±Ýã¿ Çñ»ÝÇó Ý»ñÏ³Û³óÝáõÙ ÏáñáÝ³ñ³ÝáÃÝ»ñÇ ßáõÝï³íáñÙ³Ý íÇñ³Ñ³ïáõÃÛáõÝÁ



ÎáñáÝ³ñ³ÝáÃÝ»ñÇ ßáõÝï³íáñÙ³Ý íÇñ³Ñ³ïáõÃÛ³Ý Ýå³ï³ÏÝ¿ ßñç³Ýó»É ÏáñáÝ³ñ½³ñÏ»ñ³ÏÇ Ý»Õ³ó³Í Ï³Ù÷³Ïí³Í Ñ³ï³íÁ Ñ³ÙÏó»Éáí³áñï³Ý (ëñïÇó¹áõñë»ÏáÕ ÑÇÙÝ³Ï³Ý³ÝáÃÁ)¨ ÏáñáÝ³ñ½³ñÏ»ñ³ÏÇ³éáÕç Ñ³ï³í³ÍÁ: ÎáñáÝ³ñ ßáõÝï³íáñÙ³Ý Ï³ñáÕ »Ý »ÝÃ³ñÏí»É³Ëï³Ñ³ñí³Í µáÉáñ ÑÇÙÝ³Ï³Ý ÏáñáÝ³ñ½³ñÏ»ñ³ÏÝ»ñÇ Ñ³Ù³ñ: àñáß ÑÇí³Ý¹Ý»ñÇ Ñ³Ù³ñ³ÛÝ Çñ³Ï³Ýóíáõ Ù¿ ÙÇ³ÛÝ Ù»Ï³Ë ï³Ñ³ñí³Í ½³ñÏ»ñ³ÏÇ Ñ³Ù³ñ, ÙÇÝã¹»é áñáß ÑÇí³Ý¹Ý»ñÇ Ùáï, ¨ß³ï³í»ÉÇ Ñ³×³Ë, »ñÏáõ, »ñ»ù Ï³Ù ãáñë ßáõÝï³íáñÙ³Ý Ï³ñÇù¿ ÉÇÝáõÙ:

êñïÇ ÏáñáÝ³ñ ÑÇí³Ý¹áõÃÛ³Ý Ï³å³ÏóáõÃÛ³Ùµ Ï³ï³ñí³Í íÇñ³Ñ³ïáõÃÛáõÝÝ Ïû·ÝÇ Ò»½ Ëáõë³÷»Éáõ Ýáñ ÇÝý³ñÏïÝ»ñÇó å³Ñå³Ý»Éáí Ò³Ë ÷áñáùÇ ÙÏ³ÝÝ»ñÁ: ê³Ï³ÛÝ ³Ã»ñáëÏÉ»ñá½Á, áñ ³Ûë ³ÝáÃ³ÛÇÝ ÷á÷áËáõÃÛáõÝÝ»ñÇ å³ï×³éÝ¿, ß³ñáõÝ³Ï³Ý¿¨ å³Ñ³ÝçáõÙ¿ ³ÝÁÝ¹Ñ³ï µÅßÏ³Ï³Ý ÑëÏáÕáõÃÛáõÝ, Ýáñ ³éáÕç ³å»É³Ï»ñå, áñÁ ÏÝå³ëïÇ Ñ»ïíÇñ³Ñ³ï³Ï³Ý »ñÏ³ñ³ï¨ É³í ³ñ¹ÛáõÝùÝ»ñÇÝ¨ ÏÝí³½»óÝÇ Ýáñ ³Ã»ñáÙ³Ý»ñÇ½³ñ·³óÙ³Ýí³Ý·Á:

êÇñï-Ãáù³ÛÇÝ í»ñ³Ï»Ý¹³Ý³óáõÙ

Ð³ñÏ³íáñ¿ ÑÇí³Ý¹ÇÝ å³éÏ³óÝ»É áõÕÇÕÙ»çùÇ íñ³ ãáñÙ³Ï»ñ¨áõÛÃÇÝ:

³/µ³óÇñ ßÝã³Ï³Ý áõÕÇÝ»ñÁ - ºÃ» ÑÇí³Ý¹Á³Ý·Çï³ÏÇó íÇ×³ÏáõÙ¿¨ ãÇ ßÝãáõÙ, ·ÉáõËÁ»ï Ã»ùÇñ¨ ÍÝáïÁ åÑÇñ:

µ/ ßÝã³ éáõÃÛáõÝÁ – Ü³ÛÇñ, ÉëÇñ¨ ½·³ ßÝã³ éáõÃÛáõÝÁ: ºÃ» ãÇ ßÝãáõÙ, Çñ³Ï³Ý³ óñáõ µ»ñ³Ý-ÁÝ¹-µ»ñ³Ý ßÝã³ éáõÃÛáõÝ: Ø³ï»ñáí ÷áÏÇñ ùÃ³ÝóùÝ»ñÁ¨ ÷ãÇñ µ»ñ³ÝÇÙ»ç: Ð³Ùá½íÇñáñãÏ³û¹Ç³ñï³Ñáëù¨*

ÏñÍù³í³Ý¹³ÏÁÉ³ÛÝ³ÝáõÙ¿: Î³ï³ñÇñ2µ³í³ñ³ñ(ÝáñÙ³É) ßÝã³éáõÃÛáõÝ: Þáß³÷Çñ Ï³ñáï ÇëÝ»ñÇ åáõÉë³óÇ³Ý å³ñ³ÝáóÇ íñ³: »Ã» åáõÉë³óÇ³Ý µ³ó³Ï³ÛáõÙ¿.

·/Æñ³Ï³Ý³óñáõ ÏñÍù³í³Ý¹³ÏÇ ÏáÙåñ»ëÇ³ (ë»ÕÙáõÙ):

î»Õ³¹ñÇñ »ñÏáõ Ó»éù»ñÁ ÏñÍáëÏñÇ ëéáñÇÝ Ù»Ï »ñáñ¹Ç ßñç³ÝáõÙ: ê»ÕÙÇñ ÏñÍáëÏñÇ 1.5-2 ¹áõÛÙ (3-5 ëÙ.) Ù»Ï ñáå»ÛáõÙ 80 ³Ý·³Ù: öá÷áËÇñ ¨ ½áõ·áñ¹Çñ 2 ³ñÑ»ë ï³Ï³Ý ßÝã³éáõÃÛáõÝ ¨ 15 ÏñÍù³í³Ý¹³ÏÇ ë»ÕÙáõÙÝ»ñ: ê ï áõ·Çñ åáõÉëÁ 1 ñáå» Ñ» ï á¨ ³ÛÝáõÑ» ï¨ Ûáõñ³ù³ÝãÛáõñ 3 ñáå» 1 ³Ý·³Ù: