American University of Armenia
Center for Health Services Research and Development

Report on Data Collection and Analysis at Nork Marash Medical Center

American University of Armenia and
Nork Marash Medical Center

July 2001

Acknowledgement

The contribution of selected individuals to the production of this report is gratefully acknowledged.

From the Center for Health Services Research and Development (CHSR), two individuals donated their time to lead the effort to produce the report. Andrew Vardanian, CHSR Intern, was involved in the original conception of the report, gathered the majority of the information that is presented here, and wrote the first draft of the report. Dr. Siran Koroukian, CHSR Technical Advisor, gathered additional information and then led the effort to finalize the written report. Other CHSR local staff also played important support roles.

From the Nork Marash Medical Center (NMMC), a large number of individuals from across the institution gave much of their time and effort to work alongside CHSR counterparts to produce this report. Some key employees gave hours of their time to work with Mr. Vardanian and Dr. Koroukian. Although the list of persons from NMMC who collaborated in this effort is too extensive to elaborate here, that does not in any way diminish the importance of their contribution.

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1. Background

A collaborative project (the AUA/NMMC Project, or "ANP") is underway between the Center for Health Services Research and Development (CHSR) at the American University of Armenia (AUA) and Nork Marash Medical Center (NMMC) with the aim to design and implement quality improvement programs. In an initial hospital survey[1], a number of patient-centered and management-centered functions, including the management-centered function of Management of Information (MOI), were assessed and compared to standards set by the Joint Commission of Accreditation of Hospitals. Given the importance of producing timely and accurate information in quality assurance and improvement, it was deemed important to thoroughly document data collection and analysis activities as they are currently undertaken at NMMC. Such a document would serve as a foundation to identify strengths and weaknesses in current MOI systems at NMMC and provide a blueprint for improvement.

The concept of quality assurance and improvement is at an early stage of development at NMMC. Nonetheless, a number of data collection activities are currently underway to study patient outcomes (i.e., the effects of medical interventions at NMMC on patients' health). One of the most visible and successful programs is that of Infection Control, where post-operative infections are documented and infection rates are calculated before and after making changes at various levels of pre, per, and post-operative care aimed at reducing the incidence of such infections. Other outcome-related activities focus on the study of post-operative mortality, post-Coronary Artery Bypass Graft (CABG) angina, post-operative para-valvular leak, and atrial fibrillation.

The study and monitoring of outcomes is highly relevant in the context of quality assurance and improvement. Without such activities, the management and clinical leadership are deprived of information that is central to identify problems in quality of care, design appropriate interventions, and monitor changes in patients' health that result from the interventions. Hence the importance of collecting patient-specific data on a regular basis and of having a management information system that is capable of providing timely and accurate information for program design and management.

This report provides a first step in the direction of developing indicators to study outcomes at NMMC. Specifically, this report documents in detail two aspects of information systems at NMMC: 1) a "map" of the current system of medical records, and 2) indicators that are currently measured at NMMC that describe patient outcomes. Future related studies under the ANP will focus on data quality issues as well as developing and monitoring indicators of quality.

[1] A Survey of Adherence to International Hospital Standards at Nork Marash Medical Center

2. Methods

Information on current data collection and analysis at NMMC was obtained through interviews with the medical director, medical fellows, nurses and staff. The health care teams were consulted from the divisions of adult cardiology (inpatient and outpatient), pediatric cardiology (inpatient and outpatient), cardiac surgery, intensive care unit, laboratory, anesthesiology, and radiology.

Interviews were conducted in the summer of 2000. The interview consisted of a series of open-ended questions that began with the following: "Does your department collect data on any quality indicator for patient care?" Given the response to this question, more specific questions were asked to gather details on data collection and analysis by each department. Questions were modeled on Daley's survey elements (Ann Thoracic Surgery 1994; 58: 1827-35).

Additionally, direct observation of data collection methods and infrastructure was made. Infrastructure was observed for each department including the facilities/offices where computers and patient medical records are kept. The method of data collection was noted for each department. For example, the process by which data are transferred from paper to computer by the fellow in cardiac surgery was documented.

3. Results

3.1 Flow of patient-specific data at NMMC and list of medical forms at NMMC

NMMC is comprised of inpatient and outpatient or ambulatory units, and provides a wide array of cardiology and cardiovascular surgery services to both adult and pediatric populations. The majority of patients are treated in outpatient settings alone, as their condition is not severe enough to warrant hospitalization. In other cases, patients are seen in outpatient clinics or the Emergency Room (ER) prior to admission, and/or followed-up after discharge. The outpatient units are separate for adult and pediatric patients.

Chart 1 presents a framework of how patients move through NMMC. The tables that follow (Tables 1-A, 1-B and 1-C) list the medical forms that are filled at each step of the way, including the data elements collected through each of the forms, as well as their destination (archives, or computerized database). The chart includes codes that refer to the medical forms listed in the tables. When forms are specific to adult or pediatric patients, the codes are preceded by a prefix of 'A' or 'P', referring respectively to Adult Cardiology and Pediatric Cardiology. For example, the description for the code A-R1, which refers to the outpatient/emergency room (ER) visit in Chart 1, can be found in the tables, under '1st Visit', and 'Subsequent/Follow-up Visits' in Adult Cardiology (Table 1-A).

3.2 Quality Indicators

Results of the data collection effort revealed that NMMC has been collecting data on 5 indicators to monitor post-operative outcomes. Table 2 lists these indicators, along with the source of data and other pertinent information on how data on that particular indicator are collected.

NMMC has been collecting patient-specific data for the last several years, and contributing data to a number of local and regional cardiovascular registries. Following are the five indicators that represent the focus of NMMC's current data collection and analysis activities:

- Post-operative mortality
- Post-operative infection
- Post Coronary Artery Bypass Graft (CABG) Angina
- Atrial fibrillation among patients undergoing surgery on the valve
- Post-operative para-valvular leak

As detailed in Table 2, each of the above indicators is collected for individual patients. Except for post-operative infection, patients are followed indefinitely to monitor the occurrence of such events – whenever possible. To monitor the occurrence of post-operative infections, patients are followed through discharge, and at the first follow-up visit. The events of interest are recorded first in the patient's record, and this information is then entered into computerized databases .

3.3 Strengths and Weaknesses of Present System

The strengths and weaknesses of the medical record system at NMMC and current data collection efforts there are presented below. The comments that follow refer primarily to the quality of the data and the analytic strategies (e.g., validity and reliability, loss to follow-up, risk adjustment) that are used at NMMC, and do not address other important aspects of information systems such as the flow of information within NMMC, the format of patient records, or whether or not given data elements are or are not stored in electronic format.

3.3.1 Strengths

The databases at NMMC are rich in patient specific data. These data encompass patient demographics, comorbidity conditions, pre-operative and post-operative complications. After data quality has been assessed, the wealth of these databases will provide a unique opportunity for NMMC to 1) make pioneering efforts in the collection and use of data to guide Quality Assurance activities that improves processes and outcomes at NMMC and 2) to improve its analytical methods to produce adjusted statistics for NMMC's patient case mix. Risk adjustment allows a fair comparison of results across similar institutions and over time.

Although Continuous Quality Improvement (CQI) does not yet constitute a formal philosophical framework in the management of NMMC, patient specific data have already been used in the design, implementation, and monitoring of the Infection Control Program, a program designed to reduce the rate of post-operative infections. Such activities are indicative of promising trends in potentially useful applications of quality indicator data at NMMC.

3.3.2 Weaknesses

Various weaknesses with the current data collection system at NMMC must be addressed:

1. Although the system is designed to capture the occurrence of the events of interest indefinitely after the patient's discharge, there is a high rate of loss to follow-up, which makes it impossible to have a complete account of events that occur following discharge. In turn, this confounds the accuracy of outcome indicators . There is no structured follow-up system for patients that are cared for at NMMC. Only if a patient chooses to return to NMMC for follow-up care will the attending physician be notified of patient status. This information is likely to be recorded in the patient's record, and later entered in the computerized databases. More commonly, however, the patient receives his/her follow-up care by physicians in the community, especially if the patient resides in remote areas. In such cases, the occurrence of the event(s) of interest is likely not to be reported to the attending physician at NMMC, despite the fact that NMMC physicians have established some networking with physicians at large in order to minimize loss to follow-up.

2. The quality of patient-specific data retrieved from these databases has never been tested. As such, there is a great need to assess the quality of the data that are recorded in the medical record and the hospital databases. The validity and reliability of patient-specific data will be evaluated in a separate sub-project, which is soon to be initiated by an AUA graduate student as part of her Master's thesis.

3. The system of data entry does not incorporate any checks for acceptable ranges of data. For example, the data entry software should warn the user if the data entered in a given field exceeds the acceptable (higher or lower) limit (e.g., 500mg Hg for systolic blood pressure). In addition, the data are entered without the use of any international coding to refer to specific procedures or diagnoses. As a result, an individual data-entry person may enter a description of diagnosis/procedure using terminology that differs from another individual. In databases at other medical centers, diagnosis and procedures are recorded using the International Coding of Diseases (ICD). The adoption of this coding system <u>will enable</u> greater consistency of data entered by various users..

4. There are no analytical strategies employed to properly adjust for patient case mix to enable a fair comparison of indicators over time and eventually across institutions of similar type. Just as it is important to check the quality of the data entered in computerized databases, adequate analytic strategies must be employed to generate the statistics of interest after adjusting for possible biases caused by changes in patient profile over time. Such strategies are particularly useful in the context of continuous quality improvement, where key statistics are frequently monitored to measure the effects programmatic interventions on patient outcomes. Adjusted statistics are therefore important both for comparisons of key indicators between NMMC and other institutions as well as for comparisons within NMMC over time.

5. The information documented in the patient record at NMMC is primarily clinical in nature, focusing almost exclusively on diagnostic and therapeutic aspects of care that are provided

by physicians. As a result, the current patient record does not contain information on many other aspects of care that is delivered at NMMC. For example, a dearth of information exists in the patient record for important nursing activities (aside from close monitoring of vital signs) – particularly data that relates to activities initiated by nurses and independent of physicians' orders. These activities derive from such important nurse functional areas as educating patients in nutritional issues and patient mobilization. The lack of such data is due in part to the limited tasks that Armenian nurses carry out; nurses in the West have far more responsibilities than their Armenian counterparts. However, these tasks are being carried out to some extent at NMMC, albeit by physicians or by physician/nurse teams. The lack of such vital information constitutes an important gap in the database that will be used to assess the quality of care at NMMC.

4. Future Steps

Significant progress has been made at NMMC with respect to 1) recognizing the need to make a change in the institution's mode of operation, and 2) incorporating concepts of continuous quality improvement, peer review, and outcomes research. The clinical and administrative leadership at NMMC must capitalize on the current momentum in these efforts by expanding the scope and quality of these efforts. Three key suggestions that would help to do this are outlined below.

1. **Data Quality Control**: A system must be established at NMMC to ensure data quality. An initial evaluation of the quality of the data at NMMC will be undertaken by an AUA graduate student. In the long run, validity and reliability must be tested on a regular basis to ensure accuracy of the data used in analysis of health care quality at NMMC.

    - Related AUA/NMMC Project:
    - Assessment of adequacy of data quality at NMMC (Project N2RR).

2. **Development of information systems at NMMC and a system to collect information about patients over time:** In addition to improvements in the information system proposed for managing the business aspects of NMMC, an information system must be created that enables authorized users to access patient specific data across different sources within the institution. Both research activities and quality of patient care will benefit from an investment in a patient follow-up system that enables collection of data on patient health status, occurrence of health events, and utilization of health services on short, intermediate, and long term basis. This underscores the importance of developing a comprehensive system for patient follow-up that minimizes loss to follow-up. A networking system between health care providers must be established such that providers from across the country can be asked to notify the attending physician at NMMC of the occurrence of the event(s) of interest.

- Related AUA/NMMC Projects:
- Business Administration Project – Development of management information systems (Project N4).
- Marketing Project – Development of networks of cardiologists (Project N4).
- Patient Follow-up Center (PFUC) – Assessment of feasibility of PFUC (Project N3).

3. **Development of plan to use data to improve quality of care and health outcomes at NMMC:** It is important for the institution to develop a long-term plan to improve the quality of care and services. This plan would describe how data collection and analysis activities would be developed and managed. This implies that a pre-defined set of patient-specific data is collected on a regular basis, that a management information system is developed for easy retrieval and analysis of data, and that a group of people trained in issues of collecting, retrieving, and analyzing data are in charge of such activities.

   - Related AUA/NMMC Project:
     - Quality Assurance Project (Project N2).

4. **Development of a system to collect data on nursing care:** Nursing is a crucial aspect of medical care. Research has shown that the quality of nursing care is associated with improved health outcomes. There is a crucial need for NMMC to develop a patient record system that documents the care that is delivered by nurses and other non-physician medical professionals. For example, similar to the structured forms that document medical care provided by physicians at NMMC, encounter forms that are specifically designed to collect detailed data on nursing care could be developed. The information on these forms could be used to evaluate and monitor nursing activities, thus providing a basis for QA and CQI activities for nursing care. Similar initiatives should be undertaken in other functional areas that are or will be managed by other health care professionals (e.g., nutritionists, physical therapists) as NMMC evolves. Such a strategy would help to gradually instill the QA philosophy in all areas of health care delivery and management at NMMC. The development of a partnership with a local nursing school, such as the four-year Bachelors in Nursing program at Erebuni Medical College, would provide a sound basis for the development of this initiative.

   - Related AUA/NMMC Project:
   - Quality Assurance Project (Project N2).

Appendices

Chart 1: Patient Path through NMMC

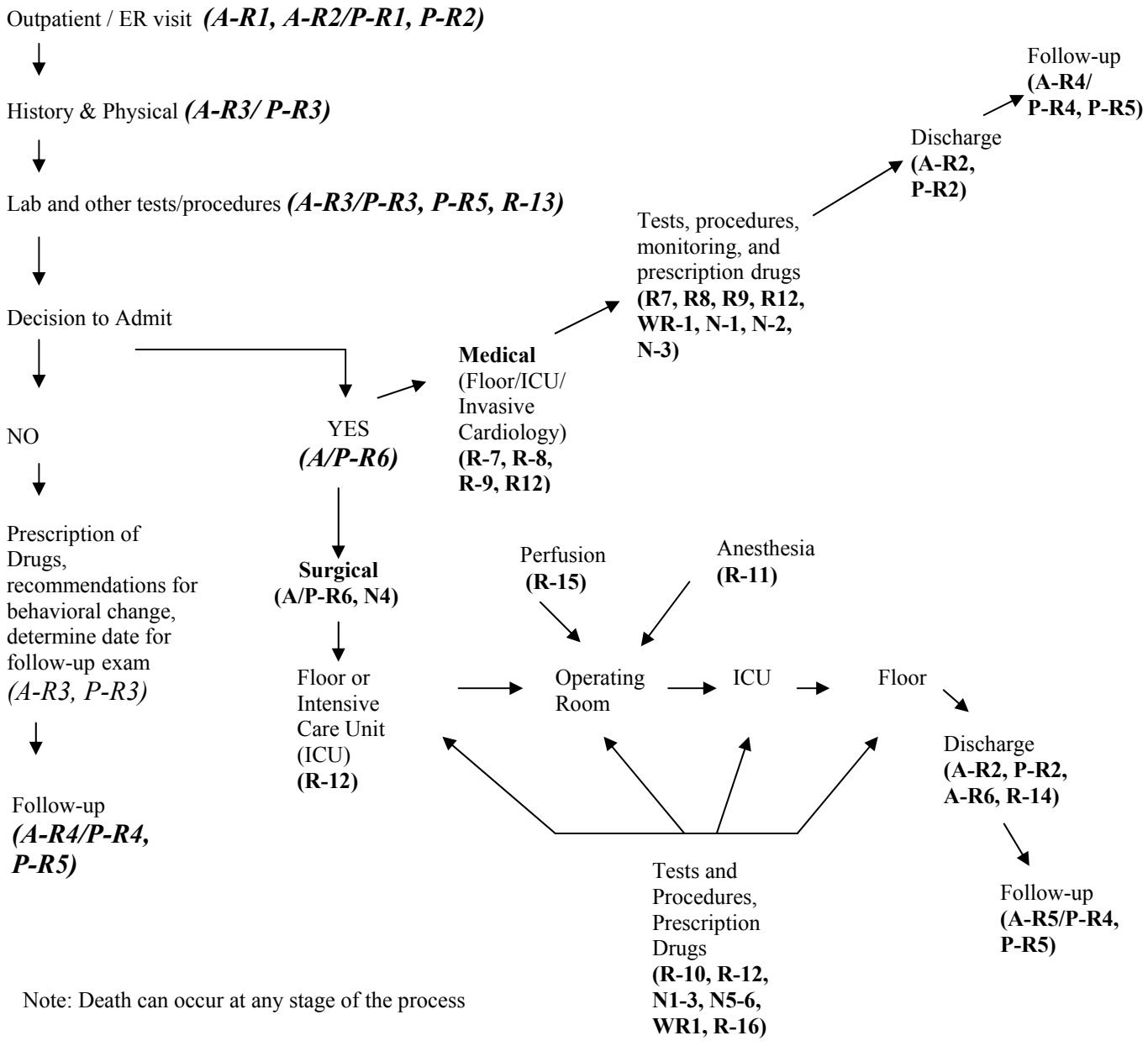


Table 1-A: Adult Cardiology, Outpatient Clinic

Type of encounter/Record	Record	Notes/Destination
1st Visit – ***A-R1***	Ambulatory Investigation Card (#1) – Contents: • Date of the 1st visit • Card number • Number of admission department • 1st visit, 2nd visit, 2nd opinion, consultation by specialist • Post-op → early post-op/late post-op • Referring physician • Attending physician • Patient name • Date of birth • Age • Residence address • Diagnosis • Payment Category • Procedures (Lab tests, x-ray, ultrasound, etc.)	Ambulatory Record Computerized for every patient visit for all 4 departments (Adult Cardiology, Pediatric Cardiology, Cardio-rheumatology)
1st Visit through discharge -- ***A-R2***	Form # 2 – Contents: • Attending physician • Patient identifiers • Residence and work addresses • Contact (kin) • Referring physician • Date of first visit • Diagnostic data • Follow-up/ medication, surgery, or stent • Diagnostic and procedures (to be completed upon discharge) • Risk factors • Date and cause of death	This form is complete for each patient, and all data on the form are entered in a database Destination: Ambulatory record
1st Visit -- ***A-R3***	Form #3 – Contents: • Patient Name • Date of visit • History and Physical, including diagnosis and comorbidity conditions • Test results (X-ray, ECG, and ultrasound) • Other tests prescribed (MRI, holter, treadmill, and CT) • Prescribed drugs	Destination: Ambulatory record.

Type of encounter/Record	Record	Notes/Destination
Subsequent/Follow-up visit(s) -- ***A-R4***	Form # 4 – Contents: • Patient name • Date of visit • Patient complaints • History and physical • Treatment and recommendations	Destination: Ambulatory record. This form is used for follow-up visits of patients who didn't undergo a cardiac surgery.
Post –Surgery visit(s) – ***A-R5***	Form # 5 – Contents: • Patient name • Date of visit • Patient complaints • History and physical • Ultrasound examination results • Treatment and recommendations • Date of next follow-up visit	Destination: Ambulatory record. This form is used for follow-up visits of patients who underwent a cardiac surgery.

Type of encounter/Record	Record	Notes/Destination
Admission Form – ***A/P-R6***	**3 Parts:** **Part I:** **Admission form – Contents:** • Card number • Patient name • Date of birth • Residence address • Phone number • Referring physician • History/ the number of patient record • Date of admission • Admission unit Primary diagnosis • Proposed intervention • Payment category **Part II:** **Post Discharge form – Contents:** • Patient name • History/the number of Patient record • Dates of Admission for each of the units Treatment: • Intervention • Procedure • Disease • Treatment • Complications • Outcome • Final diagnosis • Date of discharge **Part III:** **Accounting form – Contents:** • Card number • Admission department • Patient name • Date of Reimbursement • Reimbursement amount	Destination: The 1st part of this form remains in the reception room, while 2nd part kept with the patient's general records, which are stored in archive room. The 3rd part is send to the accounting office This form is completed for inpatients only – for those admitted through the ER, as well as for those admitted through the outpatient unit.

Table 1-B: Pediatric Cardiology, Outpatient Clinic

Type of encounter/Record	Record	Notes/Destination
1st Visit -- ***P-R1***	**Ambulatory Investigation Card #1 – Contents:** • Date of the 1st visit • Card number • Number of admission department • 1st visit, 2nd visit, 2nd opinion, /project "Nork" or "others" • Post-op visit → early post-op, late post-op (early post-op – follow-up visit within 2 months after surgery; late post-op- follow-up visit 2 later months after surgery) • Attending physician • Patient name • Date of birth • Age • Residence address • Diagnosis • Payment category • Procedures	Destination: Ambulatory Record
P-R2	**Form #2 – Contents:** • Card number • Attending physician • Date of 1st visit • Patient identifiers • Date of birth • Age • Blood group and Rhesus • Residence address • Parents' identifiers and age • Siblings, and respective date of birth • Date at which the data were updated • Referring institution • Diagnosis • Comorbidities • Surgical procedures • Follow-up (follow-up, follow-up S/P, medication, surgery, inoperable, invalid) • End of follow-up (stopped, passed to adults', death, date of death) • Dates and type of catheterization • Dates of surgery	Destination: Ambulatory Record This form is completed for every patient. All data on this form are entered in the database

Type of encounter/Record	Record	Notes/Destination
1st Visit -- ***P-R3***	**Form #3 – Contents:** • Patient name • Date of service • Nutrition • Birth weight • Perinatal exam (heart healthy/ not healthy) • Family history / hereditary diseases • History and physical • Results of ancillary tests (X-ray, EKG, Ultrasound) • Other exams • Diagnosis • Treatment and recommendations • Activity level (no restrictions, activity as tolerated, no sports, related activities • Date of next follow-up	Destination: Ambulatory records
Follow-up visit -- ***P-R4*** (unlike for adults, post-surgery form in pediatrics is used as a form for follow-up visit as well)	**Form #4 – Contents:** • Patient name • Date of service • Height and weight • History and physical • Results of ancillary tests (X-ray, EKG, ultrasound) • Date of service • Treatment and recommendations • Notes	Destination: ambulatory records

Table 1-C: Other Forms

Type of encounter/Record	Record	Notes/Destination
Echocardiography/Doppler – Pediatric -- ***P-R5***	Structured Echocardiography Form – Contents: • Patient Name • Date of test • Gender • Age • Height/Weight • Cardiologist • Resident • Detailed echocardiography and Doppler data	Destination: Patient Record This form is filled for every patient regardless the type of treatment, inpatient or outpatient.
Report of Coronary Angiography – ***R7***	Structured Coronary Angiography Form – Contents: • Patient Name • Date of test Attending Physician • Detailed coronary angiography	Destination: Ambulatory Record. The data are entered in the Heart Chart database under the item "comments" only for patients who have undergone surgery.
Cardiac Catheterization Laboratory Chart (Nursing notes) – ***R8***	Structured Form for Nursing Notes -- Contents: • Examination # • Patient record # • Date • Patient name • age • weight • height • hemoglobin (Hg) • hematocrite (Ht) • SaO_2 • Blood pressure (BP) • Pulse • Temperature • Anesthesia • Anesthesiologist • Complications • Start time • End time • Local anesthesia • Heparin • Details of catheterization	Destination: Patient Record

Type of encounter/Record	Record	Notes/Destination
Saturation and Hemodynamic Chart (Cardiac catheterization lab) - ***R9***	Structured Form for Nursing Notes -- Contents: • SaO • SaO_2 • BP • Time • Diagnosis • Cardiologist • Anesthesiologist • Technician • nurse • details of procedure	Destination: Patient Record
Transfusion Record – ***R10***	Structured Transfusion Record-- Contents: • Patient Name • Medical Record # • Patient record # • Date of Birth • Age • Gender • Blood Group/Rh • Blood Units • Indication for use • Diagnosis • Procedure • Complication • Hematocrit levels pre and post operative, pre CPB, post ICU • Infections (e.g., HIV) • Dates of transfusion (operating room, ICU, Ward)	Destination: Patient Record
Anesthesia Record – ***R11***	Structured Transfusion Record-- Contents: • Patient Name • Number of patient record • Date of surgery • Surgeon • Anesthesiologists • Pre-operative diagnosis • Premedication • Date/*Time of anesthesia and surgery* • Weight/Height • Detailed Anesthesia-related data	Destination: Patient Record

Type of encounter/Record	Record	Notes/Destination
ICU Record – ***R12***	Daily Structured ICU Record (one form per ICU day)– Contents: • Patient Name • Nurse • Date • Weight/Height on that day • Hourly Vital Signs • Medications • Hourly intake and output • Intake-output every 8 hours and total	Destination: Patient record
Record for Laboratory/Biochemical tests – ***R13***	Structured Laboratory Record – Contents: • Patient Name • Attending Physician • Date • Lab Results	Destination: Patient record (for inpatients) and Ambulatory record (for outpatients)
Heart Chart – ***R14***	Structured Discharge Summary Form – Contents: • Patient Name • Date of Birth • Date of Admission • Date of discharge • Date of Surgery • Weight/Height • History # • Age • Cardiologist • Diagnosis • Procedure • Complications • Heart denervation • ReDo • CPB • Left Pleural Top • Right Pleural Top • Intubation Time • ICU Stays • Drips • Numerous procedure related details	Destinations: • Patient Record • Computerized Database that contributes to regional cardiovascular registries

Type of encounter/Record	Record	Notes/Destination
Perfusion record – *R15*	Structured Perfusion Record Contents: • Patient Name • Patient age, weight/height/BSA • Patient blood type and blood test results • Number of patient record • Number of perfusion record • Date of surgery • Diagnosis • Surgical team (surgeons, nurses, anesthesiologist, perfusiologist) • Operation room number • Detailed Perfusion-related data • Aortal clamp time • Data related to specific type of surgical procedures (mitral, aortal, tricuspid procedures, coronary artery bypass grafting)	Destination: Perfusion record Folder All data on this form are entered in the database
Bacteriologic laboratory record – *R-16*	Structured Bacteriologic laboratory record **Form #1 – Contents:** • Patient Name • Patient age • Patient gender • Facility • Number of patient record • Date of specimen collection • Type of specimen • Source of specimen • Diagnosis • Name of the referring physician **Form #2 – Contents:** • Patient Name • Patient age • Patient gender • Facility • Number of patient record • Date of specimen collection • Type of specimen • Source of specimen • Diagnosis • Test Results • Antibiotic sensitivity	Destination: Form#1 – remains in the bacteriologic laboratory. Form#2 – is kept in the bacteriologic laboratory record folder. All data on this form are entered in the database

Type of encounter/Record	Record	Notes/Destination
Nursing record -- ***N1***	Patient health status-Content: • Patient name • Room # • Height • Weight at the admission • Date • Time • temperature • pulse • temperature • respiration • SaO (saturation without oxygen) • SaO_2 (saturation with osygen) • blood pressure • intake • output • weight • stool • Kalium (K) • Natrium (Na) • Calcium • Creatinine • bun • PT.Pat (patient protrombine time) • PT.cont (standard protrombine time)	Destination: Patient record
Nursing record – ***N2***	Drugs prescribed-Contents: • Patient name • Room # • Medication • Date of prescription • prescription of lab tests • prescription of X-ray • prescription of EChG • Pes W (if pacemaker is taken out) • Telemeter	Destination: Patient Record

Type of encounter/Record	Record	Notes/Destination
Nursing record -- ***N3*** Emergency Care Drugs Chart	Contents: • Patient Name • Weight • $NaHCO_3$ (i/v, mEq/kg) • atropin (i/v or e/t, mg/kg) • $CaCl_2$ (i/v or i/c, mg/kg) • epiphedrine (i/v, i/c or e/t , mg/kg) • lidocaine (i/v, mg/kg) • ardouan (i/v, mg/kg) • phenilephrine (i/v, mcg/kg) • phenobarbital (i/v, mg/kg) • defibrillation (wall/seconds) • cardioinversion (wall/seconds) Note: i/v= intravenously i/c= intracardiac e/t=endotracheal	Destination: Patient Record.
Nursing record -- ***N4***	Contents: • Patient name • age • height • weight • diagnosis • blood tests results • urine tests results • blood group • ECG • X-ray • EChG • Catheterization (+/-) • planned surgery • prepared blood amount • the amount of blood checked for personal correspondence • the first and last name of blood donor • donor address and telephone • consent for surgery (+/-) • date • nurse name	Destination: Patient Record
Nursing record -- ***N5*** (Chart for the assessment of respiration of children aged 2+ years)	Contents: • Patient name • Diagnosis • Date of surgery • date • hourly respiration assessment *Note: Last 2 items are placed in table format*	Destination: Patient Record

Type of encounter/Record	Record	Notes/Destination
Nursing record -- ***N6*** (Chart for Protrombine time used for valve patients)	Contents: • Patient name • Date of surgery • Type of surgery • date • control protrombine time • INR (standard protrombine ratio) • patient protrombine time • kumadin/fenilin *Note: Last 5 items are placed in table format*	Destination: Patient Record
Ward Record -- ***WR1*** (filled in by physicians and copied in N2 by nurses)	Contents: • Patient name • Physician name • Physical activity (free, in-room, in-bed) • Lab test results (creatinine, bun, glucose, electrolytes, Hct=hematocrite, Pt=protrombine time) • X-ray (posterior-anterior, lateral, and abdominal) • Vital signs by Rutin • Call physicians if ... (BP, pulse, t, SaO_2, arrhythmia) • Telemeter • Prescribed drugs	Destination: Patient Record

Table 2: Indicators of Quality Currently Monitored at NMMC

Indicator measured	**Mortality ***	**Infection ****	**Post-CABG angina *****	**Atrial fibrillation ˅**	**Paravalvular leak ˅˅**
Numerator	# of in-hospital deaths among patients undergoing CABG procedure *	# of surgical patients with wound infection	# of patients undergoing CABG procedure who experience post-CABG angina within 6 months following their surgery	# of patients with rheumatic stenosis who do not have the atrial fibrillation after LA (left atrium)-isolation surgery	# of patients undergoing aortal valve replacement who experience paravalvular leak
Denominator	# of patients undergoing CABG procedure	# of surgical procedures	# of patients undergoing CABG procedure	# of patients with rheumatic stenosis who had the atrial fibrillation before the LA-isolation surgery	# of patients undergoing aortal valve replacement
Time frame (window of observation)	Continuous assessment through discharge	Through discharge & at 2-3 day follow-up	Day of surgery through one year and onwards	Indefinite post-surgery	Continuous post-surgery
Units	Individual patient	Individual patient	Individual patient	Individual patient	Individual patient
Data source	Patient medical record	Patient medical record	Patient medical record	Patient medical record	Patient medical record completed by cardiology and cardiac surgery departments
Who collects data?	Patient care team	Patient care team	Patient care team	Patient care team	Patient care team
Cost (human time, personnel, $)	Time of patient care team; no direct monetary cost	Time of patient care team; no direct monetary cost	Time of patient care team; no direct monetary cost	Time of patient care team; no direct monetary cost	Time of patient care team; no direct monetary cost
Training needed to collect data?	Basic computer knowledge	Basic computer knowledge	Basic computer skills	Understanding of where to obtain data	Understanding of where to obtain data
+ And – for health care team to collect data	+: Health care team has more familiarity with patient -: Burden of time	+: Have medical knowledge and understanding of existing database and software; have knowledge of details of surgical procedures (operating room, use of sterile equipment, sutures, etc) -: Burden of time	+: Have medical knowledge and understanding of existing database and software -: Burden of time	+: Fellows have medical knowledge and understanding of existing medical records -: Burden of time	+: Patient care team has medical knowledge and understanding of existing sources of data -: Burden of time
How is data entered to database (written/computer or both)?	Cardiac surgery fellow enters data into computer database using patient records	Both written and computer datasheets Data entry by cardiac fellow	Both written and computer datasheets Fellow enters data into computer	No computer database; handwritten list	No computer database; data exists in patient medical record
Can data be analyzed and results used to make changes in patient care?	Yes	Yes	Yes	No	No
Is data reliability checked?	Self-assessed	Written data reliability supervised; computer database reliability self-assessed	Self-assessed	No	No

Indicator measured	**Mortality ***	**Infection ****	**Post-CABG angina *****	**Atrial fibrillation ˅**	**Paravalvular leak ˅˅**
Software used	PC Microsoft Access & Excel	PC Microsoft Access & Excel	PC Microsoft Access & Excel	None	None
Range checks and data edits	No	No	No	None	None
Inter-rater reliability: Are some cases abstracted twice by 2 people?	No	No	No	No	No

* Overall mortality is calculated = # of in-hospital deaths / # of surgeries. If necessary, it can be calculated separately for other types of surgery in the same way. In-hospital mortality is defined as the death within 30 days after the surgery regardless of whether the death occurs in the hospital or after discharge.

** The infection indicator can be calculated separately for patients undergoing CABG, CABG-mammaria, valve replacement, and open and closed heart surgery.

*** Data on post-CABG angina is gathered retrospectively and divided into 2 groups: development of post-CABG angina within 6 months and development of post-CABG angina within 12 months. Data is available starting from year 1993.

˅ This indicator is calculated for patients from 1993 to the present.

˅˅ This indicator can be calculated for mitral valve replacement separately in the same way. The presence of paravalvular leak is determined by echocardiogram or angiography.

Charts for Medical Records

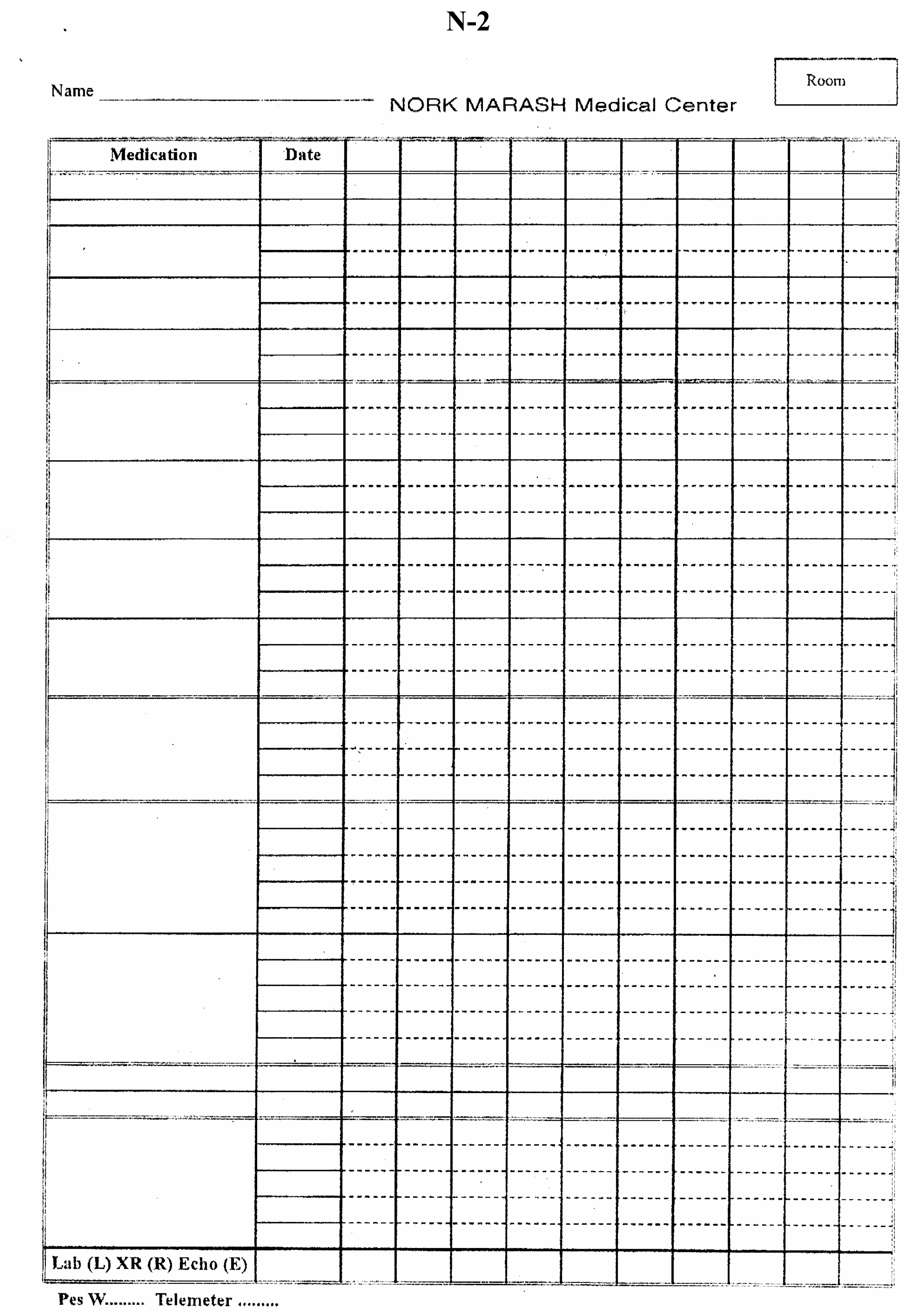
N-1

Name ______________________

NORK MARASH Medical Center

Ht(sm) __________ Adm weight ______________ Room No ________________

Date																												
Time																												
40.5	180																											
40	170																											
39.5	160																											
39	150																											
38.5	140																											
38	130																											
37.5	120																											
37	110																											
36.5	100																											
36	90																											
35.5	80																											
35	70																											
	60																											
Tem																												
Resp																												
SaO																												
SaO	O2																											
BP																												
Intake																												
Uotput																												
Weight																												
Stool																												
K																												
Na																												
Cal																												
Creat																												
BUN																												
PT. Pat																												
PT. cont																												



N-2

Name ______________________ NORK MARASH Medical Center

Room

Medication	**Date**										
Lab (L) XR (R) Echo (E)											

Pes W......... Telemeter ....

N-3

ԱՆՀԵՏԱՁԳԵԼԻ ՕԳՆՈՒԹՅԱՆ ԺԱՄԱՆԱԿ ՕԳՏԱԳՈՐԾՎՈՂ ԴԵՂԱՄԻՋՈՑՆԵՐԻ ԱՆՀԱՏԱԿԱՆ ՔԱՐՏ

Հիվանդի անուն_____ Քաշը _____

ՆՏ խողովակ

Դեղանյութ, կոնցենտրացիա	Դեղաչափ	Ներարկման ուղին, հաճախականությունը	Ներարկվող դեղորայքի դոզան, ծավալը
$NaHCO_3$ 8.4% = 1 mEq/cc	1-2 mEq/kg	ն/ե ամեն 3 - 5 րոպե	1 mEq/kg= .....mEq.....cc
Ատրոպին 0.4 mg/cc	0.01-0.03 mg/kg * min 0.1 mg * max 0.5-1.0 mg	ն/ե, է/պ ամեն 2-5 րոպ	0.01 mg/kg=.....mg.....cc 0.02 mg/kg=.....mg.....cc 0.03 mg/kg=.....mg.....cc
CaCl2 10% = 100 mq/cc	10-30 mg/kg * max 5 mg	ն/ե, ն/u ամեն 10 րոպ	10 mg/kg=.....mg.....cc 30 mg/kg=.....mg.....cc
Էպինեֆրին 1:10.000=1.8mg/cc	0.01 mg/kg * max 5 mg/kg	ն/ե, ն/u, էպ ամեն 3-5 րոպ	0.01 mg/kg=.....mg.....cc
Լիդոկային 2% = 20mg/cc	1 mg/kg * max 5 mg	ն/ե ամեն 5-10 րոպ	1 mg/kg=.....mg.....cc
Արդուան 2 mg/cc	0.04-0.1 mg/kg	ն/ե ամեն 30-60 րոպ	0.04 mg/kg=.....mg.....cc 0.1 mg/kg=.....mg.....cc
Ֆենիլեֆրին 1%=10 mg/cc	5-10 mcg/kg	ն/ե ամեն 10-15 րոպ	5 mcg/kg=.....mcg.....cc 20 mcg/kg=.....mcg.....cc
Ֆենոբարբիտալ 130 mg/cc	10-20 mg/kg, հետո 5-10mg/kg * max 40mg/kg	ն/եx1 ամեն 5-10 րոպ դանդաղ	5 mg/kg=.....mg.....cc 10 mg/kg=.....mg.....cc 20 mg/kg=.....mg.....cc
Դեֆիբրիլիացիա	1-2 wall/seconds		.....wall/seconds
Կարդիովերսիա	0.5 wall/seconds		.....wall/seconds

_____/_____/_____ Հաշվեց _____ Ստուգեց _____

N-4

ԼՐԱՑՎՈՒՄ Է ԲՈՒԺՔՐՈՋ ԿՈՂՄԻՑ ՎԻՐԱՀԱՏՈՒԹՅԱՆ ՆԱԽՕՐՅԱԿԻՆ

ՀԻՎԱՆԴԻ ՆԱԽԱՎԻՐԱՀԱՏԱԿԱՆ ԹԵՐԹԻԿ

1. Հիվանդի անունը, ազգանունը _____

2. Տարիքը _____ 3. Հասակը _____ Քաշը _____

5. Ախտորոշումը _____

6. Հետազոտության արդյունքները

Հեմոգլոբին _____

K _____

Հեմատոկրիտ _____

Na _____

Լեյկոցիտներ _____

Թրոմբոցիտներ _____ Պրոթրոմբինային ինդեքս _____

Շաքար _____

Ազոտ _____

Կրեատինին _____

Միզանյութ _____ Արյան խումբը _____

ԷՍԳ (+/-) Ռենտգեն (+/-) _____

Զոնդավորում (+/-) _____ ԷԽՈ-ՍԳ (+/-) _____

7. Ծրագրված վիրահատությունը _____

_____

8. Նախապատրաստվում է արյան քանակը _____

9. Անհատական համատեղելիության ստուգված արյան քանակը _____

10. Արյան անմիջական փոխներարկվող դոնորի անունը, ազգանունը _____

_____

Հասցեն _____ Հեռ: _____

11. Վիրահատության համաձայնագիր _____

12. Լրացման ամսաթիվ _____ Բուժքույր _____

N-5

“ՆՈՐՔ ՄԱՐԱՇ” ԲԺՇԿԱԿԱՆ ԿԵՆՏՐՈՆ
Սրտի Կլինիկա

Մինչև 2 տարեկան երեխաների շնչառության գնահատման թերթիկ

Հիվանդի անուն ազգանուն _____

Դիագնոզ_____ Վիր. ամսաթիվ ___/___/___

ամսաթիվ	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8

N-6

ՊՐՈԹՐՈՄԲԻՆԱՅԻՆ ԺԱՄԱՆԱԿԻ ՔԱՐՏ

Հիվանդի անուն, ազգանուն _____

Վիրահատության ամիս, ամսաթիվ _____

Վիրահատության անուն _____

Ամիս/ամսաթիվ	Կոնտրոլ	Հիվանդ	Կոմոռբիդ/Դեմոգրաֆ

A-R1

N 1/

Այցի ամսաթիվը _____/_____/ **2000 թ.** # _____

ՄԵԾԱՀԱՍԱԿՆԵՐԻ ՍՐՏԱԲԱՆԱԿԱՆ ԱՄԲՈՒԼԱՏՈՐ ՀԵՏԱԶՈՏՈՒԹՅԱՆ ՔԱՐՏ N __1/_____

❑ Առաջնակի քննություն ❑ կրկնակի քննություն ❑ երկրորդ կարծիք

❑ հենովիրահատ. վաղ ❑ հենովիրահատ. ուշ

❑ Խաչատրյան Շ.Ն. ❑ Սարգսյան Կ.Վ. ❑ Նազարյան Ա.Ռ. ❑ Մխիթարյան Վ.Կ. ❑ Գոջաբաշյան Ն.Մ. ❑ Պետրոսյան Կ.Վ.

Ա.Ա.Հ._____

Ծննդյան ամսաթիվը _____/_____/_____թ. տարիքը _____ տ

Հասցեն՝ Երկիրը _____ ; Մարզ _____ ; Քաղաք _____

Փողոց _____ տուն _____ բն. _____ ; հեռ. _____

❑AHD ❑ CHD ❑ IHD ❑ Arrhythmia

❑ Cardiomyopathy ❑ Hypertension ❑ NS ❑ Other

Ֆինանսավորում ❑ ՆՄԲԿ-ը ❑ Վճարովի առաջնակի ❑ Վճարովի կրկնակի

Հետազոտություն ❑ Էխո ❑ ԷՍԳ ❑ Ռենտգեն ❑ Կոնսուլտացիա ❑ Լաբ. քննություն

Վճարի չափը _____ դրամ

ԱՄՍԱԹԻՎԸ

ԿԼԻՆԻԿԱՆ

Գումարը _____ դրամ

Հիվանդի Ա.Ա.Հ.

_____

Աշխատակազմի կիրառության համար

A-R2

ՍԵԾԱՀԱՍԱԿՆԵՐԻ ՍՐՏԱԲԱՆԱԿԱՆ ԿԼԻՆԻԿԱ

*Սրտաբան*_____ *1-ին այցի ա/թ*_____/____/_____*թ.*
*Ա.Ա.Հ.*_____*Սեռը* _____
Ծննդյան ամսաթիվը _____/_____ *19*_____*թ. Տարիքը* _____*տ.*
*Պետություն*_____*Մարզ*_____*Քաղաք* _____
*Փողոց*_____*Տուն*_____*Բնակ.*_____*Հեռ.*_____
*Աշխ.վայր*_____*Հեռ.*_____
*Բարեկամ*_____*Հեռ.*_____
Ուղարկող բժիշկ

Ախտորոշում՝
_____

Ուղեկցող հիվ.
_____

SA – FC - I II III IV UA HF –FC - 0 I II III IV

Հիվ. տեսակը՝ IHD AHD//Rheumatic AHD//NonRheumatic ❒ CHD
Hypertension ❒ Arrhythmia Cardiomyopathy ❒ NS ❒ Other
_ _ _ _

ՆԵՐՍՐՏԱՅԻՆ ՀԵՏԱԶՈՏՈՒԹՅՈՒՆ
_____/_____/_____
_____/_____/_____
_____/_____/_____
_____/_____/_____

ՎԻՐԱՀԱՏԱԿԱՆ ՄԻՋԱՄՏՈՒԹՅՈՒՆ
_____/_____/_____
_____/_____/_____
_____/_____/_____

❒ Ծխախոտ ❒ Ալկոհոլ ❒ Կլիմաքս ❒ Հիպերխոլեսթերինեմիա
❒ Հիպերգլիկեմիա ❒ Այլ

Մահվան ա/թ. _____/_____/_____
Պատճառը _____

A-R3'

ԱՌԱՋՆԱԿԻ ԱՅՑԻ ՔԱՐՏ

Ա. Ա. _____ ամսաթիվը _____

Անամնեզ _____

_____

_____

_____

_____

_____ _____

_____

_____

Այլ հիվանդություններ _____

_____

ՕԲՅԵԿՏԻՎ ՔՆՆՈՒԹՅՈՒՆ

Սրտազարկերակի թիվը _____ րոպե Արյան ճնշումը վերջույթներին

	ձախ	աջ	ձախ	աջ	ձախ	աջ
SaO_2%			պուլսը			

Թոքերում ☐ վեզիկուլյար շնչառություն է երկու կողմից

_____

_____

Որովայնը Լյարդի + սմ

Պերիֆերիկ հեմոդինամիկան _____

Խոշոր անոթներ _____

Այլ առանձնահատկություններ

_____

_____

A-R3''

Սրտի աուսկուլտացիա՝ տոները՝ I _____ II _____ այլ _____, ռիթմիկ՝ այո , ոչ . ,

սիստոլիկ աղմուկ , բնույթը՝ _____ մաքսիմալ լսում է՝ _____

դիաստոլիկ աղմուկ՝ , բնույթը՝ _____ մաքսիմալ լսում է՝ _____

Ռենտգեն

ԷՍԳ՝ ռիթմը՝ _____ զարկ 1 րոպեում, ՍԷԱ՝ _____

հիպերտրոֆիա՝ _____, այլ _____

սպիական փոփոխություններ՝ _____

ԷԽՈ-ՍԳ: _____ ժապավեն # _____

LA ___; Ao ___; LV ed ___; LV s ___ ; PW d/s _/_ ; IVS ___ ; RV _____ ; RVAW ; _____
EF ___ %; PAAT _____

Նշումներ _____

Կրկին քննություն ___/ ___ / 200 թ.

Այլ հետազոտություններ

1.tredmil
2.holter
3. CT
4. MRI

Դեղորայք՝

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

A-R4

ԿՐԿՆԱԿԻ ԱՅՑԻ ՔԱՐՏ

Ամսաթիվ՝ _____

Ա.Ա.Հ. _____

Գանգատները _____

Զ/ճ _____ Սատուրացիա _____ Պուլսը _____

Թոքերում՝ _____

Սրտում՝ _____

Որովայնը՝ _____

ԷՍԳ՝ _____

ԷԽՈ-ՍԳ: _____

LA_____; Ao _____; LV ed _____; LV s_____; PW_____; IVS _____; RV_____; RVAW_____;

EF_____%; PAAT_____

Խորհուրդներ՝ _____

A-R5

ՀԵՏՎԻՐԱՀԱՏԱԿԱՆ ՇՐՋԱՆ

Ա.Ա. _____ Ամսաթիվ՝ _____

Գանգատները _____

_____

_____

_____

ՕԲՅԵԿՏԻՎ՝ _____

_____

_____

ԷԽՈ-ՍԳ: _____

_____

_____

_____

LA_____; Ao _____; LV ed _____; LV s _____; PW _____; IVS _____; RV ____; RVAW_____

EF _____ %; PAAT _____

Խորհուրդները՝

_____

_____

Դեղորայք՝

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

_____

Հաջորդ այցելությունը՝ _____

A/P-R6

ՆՈՐՔ-ՄԱՐԱՇ ԲԺՇԿԱԿԱՆ ԿԵՆՏՐՈՆ

Ստացիոնար բուժվող հիվանդի քարտ.

Ա.Ա.Հ._____

_____ Ծնվել է _____ /_____ /_____ թ, տարիքը _____

Երկիրը _____ Մարզը _____

Քաղաքը _____; հեռ. _____

փող/տուն _____

Ուղարկող բժշկի ազգանունը

_____

Հ/Պատմություն _____

Ընդունվել է _____ /_____ / 2001 թ.

1 **ԲԱԺԻՆԸ**

- ❑ սրտի վիրաբուժության
- ❑ կարդիոռևմատոլոգիա
- ❑ դիմածնոտային
- ❑ ՔԿԱ
- ❑ վերակենդանացման

Նախնական ախտորոշումը _____

Առաջարկված միջամտությունը_____

Վճարման կարգը՝ ❑ Պետ պատվեր ❑Վճարովի ❑ Անվճար

Լրացվում է ընդունարանում

Ստացիոնար բուժվող հիվանդի քարտ_____.

Ա.Ա.Հ. _____Հ/Պ_____

1 Բաժինը _____ Ընդունման ամսաթիվը _____

2 Բաժինը _____ Ընդունման ամսաթիվը _____

3 Բաժինը _____ Ընդունման ամսաթիվը _____

Բուժման Արդյունքները

Միջամտության կարգը

- ❑ Open-Radical
- ❑ Close-Radical
- ❑ First Step Paliation
- ❑ End Step Paliation
- ❑ CABG
- ❑ Valve Replacem/Plastic
- ❑ Device implantation

ՆՍՀ ժամանակ կատարված բուժումներ

- ❑ B/Valvuloplasty
- ❑ B/Angioplasty
- ❑ Stent
- ❑ Ablation

Հիվանդության տեսակը

- ❑ Բնածին դժգույն
- ❑ Բնածին կապույտ
- ❑ Ձեռքբերովի ռևմատիկ
- ❑ Ձեռքբերովի ոչ ռևմատիկ
- ❑ Կորոնար հիվանդություն
- ❑ Սեպտիկ էնդոկարդիտ
- ❑ Արիթմիաներ
- ❑ Սուր ինֆարկտ
- ❑ Սրտային անբավարարութ.
- ❑ Ոչ ռևմատիկ սրտի հիվ.
- ❑ Ակտիվ ռևմատիզմ
- ❑ Կոլլագենոզներ
- ❑ Հիպերտենզիա
- ❑ Տոնզիլիտ
- ❑ Արթրիտներ
- ❑ Դիստոնիաներ
- ❑ Շար.Հյուս.Դիֆ.Հիվ.
- ❑ Այլ

ՄԻՋԱՄՏՈՒԹՅԱՆ ՏԻՊԸ

- ❑ Վիրահատական բուժում
- ❑ ՆՍՀ
- ❑ ՆՍՀ և վիրահատություն
- ❑ ՆՍՀ միջամտությամբ
- ❑ Դեղորայքային բուժում
- ❑ Ներանոթային հետազոտություն
- ❑ ԷՖՀ
- ❑ ԷՖՀ միջամտությամբ

ԲԱՐԴՈՒԹՅՈՒՆՆԵՐԸ

- ❑ Արյունահոսություն
- ❑ Ռիթմի խանգարումներ
- ❑ Վերքի ինֆեկցիա
- ❑ Թոքաբորբ
- ❑ Ինսուլթ
- ❑ Ինֆարկտ
- ❑ Այլ

ԵԼՔԸ

- ❑ Առողջացում
- ❑ Լավացում
- ❑ Անփոփոխ
- ❑ Տեղափոխվել է այլ հիվանդանոց
- ❑ Letal

Վերջնական ախտորոշումը _____

_____ **Դուրս է գրվել** ____ /____2001 թ.

Լրացվում է բաժնի 2 կողմ

Քարտ _____ 1 **Բաժինը** _____

Ա.Ա.Հ. _____

Բուժման լրիվ արժեքը _____ *դրամ*

Վճարման ամսաթիվը _____/_____/ 2001թ.

_____
գանձապահի ստորագրությունը

Դրամարկղ

P-R1

Այցի ամսաթիվը _____/_____/ **2000 թ.** # _____

N 2/

ՄԱՆԿԱԿԱՆ ՍՐՏԱԲԱՆԱԿԱՆ ԱՄԲՈՒԼԱՏՈՐ ՀԵՏԱՁՈՏՈՒԹՅԱՆ ՔԱՐՏ N __2/_____

❒ Առաջնակի կարծիք ❒ հենովիրահ՝ վաղ ❒ Երկրորդ

❒ "Նորք" ծր.
❒ Այլ ծրագ.

❑ Քուրդով Կ.Կ. *❑ Տեր-Ոսկանյան Կ.Յա. // Ղազարյան Ն.Թ.*

❑ Զոհրաբյան Հ.Գ. *❑ Զամալյան Ս.Վ.*

Ա.Ա.Հ._____

Ծննդյան ամսաթիվը _____/_____/_____թ. տարիքը _____ տ

Հասցեն՝ Երկիրը _____ ; Մարզ _____ ; Քաղաք _____

Փողոց _____ տուն _____ բն. _____ ; հեռ. _____

❑AHD ❑ CHD ❑ Arrhythmia ❑ Hypertension

❑ Cardiomyopathy ❑ NS ❑ Other

Ֆինանսավորում ❑ ՆՄԲԿ-ը ❑ Վճարովի առաջնակի ❑ Վճարովի կրկնակի

Վճարի չափը _____ *դրամ*

ԱՄՍԱԹԻՎԸ
ԿԻԻՆԻԿԱՆ

ՀԻՎԱՆԴԻ Ա.Ա.Հ.
Գումարը _____ դրամ
Գոյացած գումարը կիսամսյակ _____

P-R2

ՄԱՆԿԱԿԱՆ ՍՐՏԱԲԱՆԱԿԱՆ ԿԼԻՆԻԿԱ

Առաջին այցը _____/ _____/ 200__ թ. # _____

☐ Զոհրաբյան ☐ Զամաղյան ☐ Տեր-Ոսկանյան / Ղազարյան ☐ Քուրդով

Ա.Ա. _____

Ծննդյան թիվը _____/_____/ _____ թ.; տարիքը _____տ. ____ամ. ____օր Արյան խումբը _____( ) Rh___

Հասցեն՝ մարզը _____; մարզը _____; քաղաք/գյուղ _____;

փողոց _____; տուն _____ բնակ. _____ հնա. _____

Մայրը՝ _____; տարիքը _____ տ. Ազգական Երևանում՝ _____ հնա. _____

Հայրը՝ _____; տարիքը _____ տ. Տվյալները վերջին անգամ նորացվել են՝

Քույր/եղբայր _____; Ծն. թիվը 19____թ. _____/ _____/ 200__ թ.

Քույր/եղբայր _____; Ծն. թիվը 19____թ _____/ _____/ 200__ թ.

Քույր/եղբայր _____; Ծն. թիվը 19____թ _____/ _____/ 200__ թ.

Ուղարկող կազմակերպությունը _____

Դիագնոզը _____

Ուղեկցող հիվանդությունները _____

Հետվիրահատական ուղղումները _____

A:

B:

☐ **NS** ☐ **CHD** ☐ **AHD** ☐ **OTHER**

Վճարովի ☐

____ / ____ / 200 ___ թ.

Heart position: ☐ **Levoposition** ☐ **Mezoposition** ☐ **Dextraposition**

Visceral situs: ☐ **solitus** ☐ **inversus** ☐ **ambiguous**

Atrial situs: ☐ **solitus** ☐ **inversus** ☐ **right isomerism** ☐ **left isomerism**

Follow-up: ☐☐ **Follow-up** ☐**Follow-up S/P** ☐☐ **Medication** ☐☐ **Surgery** ☐ **Inoperable** ☐ **Invalid.**

End Follow-up: ☐ **Stopped** ☐ **Passed to Adults'** ☐ **Death date** ____/ ____/ 200__ __/___200_

Cath ☐ #_____ տ/թ ____/_____/ 200__ թ. ☐ Diagnostic ☐ Balloon VP ☐ Rashkind ☐ Stent/Coil/Device ☐ Other

☐ #_____ տ/թ ____/_____/ 200__ թ. ☐ Diagnostic ☐ Balloon VP ☐ Rashkind ☐ Stent/Coil/Device ☐ Other

Surgery #_____ տ/թ ____/_____/ 200__ թ. _____

☐ _____ **C:**

☐ #_____ տ/թ ____/_____/ 200__ թ. _____ _____ **C:**

☐ #_____ տ/թ ____/_____/ 200__ թ. _____ _____ **C:**

P-R3'

Առաջնակի բնության քարտ

Ա. Ա. _____ ամսաթիվը _____

Պատմությունը _____

_____

_____

քաշը ծնվելիս _____ կգ. անուցումը _____

ՊԵՐԻՆԱՏԱԼ ՔՆՆՈՒԹՅՈՒՆ Այո Ոչ

ըստ հետազոտության տվյալների սիրտը առողջ է Այո Ոչ

ԺԱՌԱՆԳԱԿԱՆ ԱՆԱՄՆԵԶ

հայրը _____ մայրը _____ մոտ ազգակ. _____

դիաբետ _____ հիպերտենզիա _____

ՍԲԱ _____ մոր ընտ. _____ հոր ընտ. _____

Կորոնար հիվ _____ մոր ընտ. _____ հոր ընտ. _____

մեկնաբանություն _____

այլ _____

ՖԻԶԻԿԱԿԱՆ ՔՆՆՈՒԹՅՈՒՆ.

Քաշը _____ կգ: Հաս. _____ սմ: BSA _____ $մ^2$:

SaO_2%: Pulse (0-3): Ht _____ % Արյան ճնշումը (սիստ/դիաստ/միջին)

/	/	/	/	/	/
/	/	/	/	/	/

Թոքերում՝ _____

_____

_____

_____ ՇՇԹ _____ 1 րոպեում

Կրծքավանդակը _____

Սրտում՝ _____

_____

_____

_____

Որովայնը _____

_____

_____

Ռենտգեն _____

_____

_____

ԷՍԳ _____

P-R3''

Առաջնակի քննության քարտ

ԷԽՈ-ՍԳ: Ժապավեն #-_____: **Ամսաթիվը** _____ ☐ Normal Study

_____

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_____

ԵԶՐԱԿԱՑՈՒԹՅՈՒՆ ԵՎ ԽՈՐՀՈՒՐԴՆԵՐ

Դիագնոզը _____

_____

_____

_____

_____

այլ հետազոտություններ եւ ժամադրություններ _____

_____

_____

դեղորայք _____

_____

_____

ԲԷՊ _____

_____

_____

ակտիվությունը _____

ա) առանց սահմանափակումների _____

բ) սահմանափակում ըստ տոլերանտության _____

գ) ոչ մրցումային սպորտ _____

_____

_____

_____

P-R4

Կրկնակի քննության քարտ

Ա. Ա. _____ ամսաթիվը _____

Պատմությունը _____

_____

_____

Քաշը _____ կգ, Հասակը _____ սմ:

ՖԻԶԻԿԱԼ ՔՆՆՈՒԹՅՈՒՆ.

SaO_2%: ——|—— Pulse (0-3): ——|—— BSA _____ մ^2: Ht_____%

Արյան ճնշումը (սիստ/դիաստ/միջին) ___/___ ___/___ | ___/___ ___/___

Թոքերում՝ _____

_____ ՇՇԹ _____ 1 բոպեում

Սրտում՝ _____

_____

_____

Որովայնը _____

_____

Ռենտգեն ☐ _____

ԷՍԳ _____

_____

ԷԽՈ-ՍԳ: Ժապավեն # _____: Ամսաթիվը _____:

_____

_____

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Խորհուրդներ _____

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ԴԵՂՈՐԱՅՔԸ	ԴՈԶԱՆ

Նշում _____

_____

_____

_____

P-R5

“ՆՈՐՔ-ՄԱՐԱՇ” ԲԺՇԿԱԿԱՆ ԿԵՆՏՐՈՆ * ՄԱՆԿԱԿԱՆ ՍՐՏԱԲԱՆԱԿԱՆ ԿԼԻՆԻԿԱ
NORK MARASH MEDICAL CENTER * PEDIATRIC CARDIAC CLINIC

Nork, Armenakyan str.13
375047 Yerevan, Armenia
Phone: (3741) 65 58 20
Fax: (3741)57 83 69
E-mail: pediatric@nmmc.am

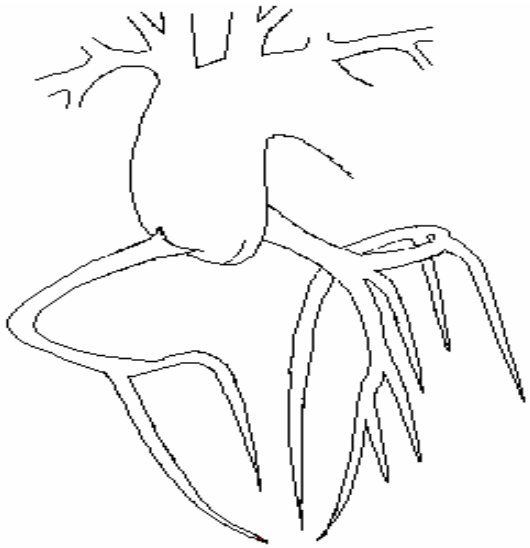
Name	Date	Sex	Age	Tape #	Hight	Weight	Cardiologist

M-MODE, 2D DIMENTION		PEDS NORMALS mm							DOPPLER DATA	
	Weight, kg	3.2-6.4	5.9-9.5	8.7-13.1	15-19.5	21-33	35-59	45-83	*Aortic Valve*	MEASURED
Aortic Root	____mm	9-12	11-14	12-15	15-19	17-21	18-24	21-28	Peak Velocity	_____m/s
Aortic cuspSeparation	____mm								Peak Gradient	_____mmHg
Comment_____									Mean Gradient	_____mmHg
Left atrium (Ant-Post)	____mm	10-15	11-17	15-21	15-23	18-23	19-28	22-33	Regurg	___m/s___^
(Inf-Sup)	____mm								Valve Area	_____sm²
Mitral D-E Amplitude	____mm								*Ao arch*	
Comment_____									Peak Gradient	_____mmHg
IV septum Diastole	____mm	3-4	3-5	4-6	4-6	5-7	5-9	6-10	*LVOT*	
Systole	____mm								Peak Velocity	_____m/s
Posterior Wall Diastole	____mm	3-4	3-5	4-6	4-6	5-7	5-9	6-10	Dimention	_____sm²
Systole	____mm								*Mitral Valve*	
LV Diameter Diastole	____mm	16-22	19-26	26-31	30-36	33-40	38-46	40-48	Peak Velocity	_____m/s
Systole	____mm								Mean Gradient	_____mmHg
Est EF% _____									Pressure Halftime	_____msec
RV Diameter Diastole	____mm	8-12	9-13	9-13	10-15	12-18	14-20	13-23	Valve Area	_____sm²
Systole	____mm								Regurg	_____
RVAW Diastole	____mm								*Pulmonary Valve*	
Systole	____mm								Peak Velocity	_____m/s
Systolic Function Comment_____									Peak Gradient	_____mmH

P-R7

Pa

NMMC



CORONARY CIRCULATION

Right ❒ Left ❒ Codominant ❒

LCM	N ❒	ST ❒	_____
LAD	N ❒	ST ❒	_____
I Diag.	N ❒	ST ❒	_____
Ram	N ❒	ST ❒	_____
LCx	N ❒	ST ❒	_____
OM I	N ❒	ST ❒	_____
OM II	N ❒	ST ❒	_____
RCA	N ❒	ST ❒	_____
PDA	N ❒	ST ❒	_____
PL	N ❒	ST ❒	_____

COLLATERAL FLOW

R → L R → R

L → R L → L

VENTRICULAGRAPHY

I AB	N❒	HK❒	AK❒	DK❒	Aneurism❒
II AL	N❒	HK❒	AK❒	DK❒	Aneurism❒
III AP	N❒	HK❒	AK❒	DK❒	Aneurism❒
IV Daifr .	N❒	HK❒	AK❒	DK❒	Aneurism❒
V PB	N❒	HK❒	AK❒	DK❒	Aneurism❒
VI PL	N❒	HK❒	AK❒	DK❒	Aneurism❒
VII Sept	N❒	HK❒	AK❒	DK❒	Aneurism❒

EF _____%

R-8

ԿԱԹԵՏԵՐԻԶԱՑԻԱՅԻ ԼԱԲՈՐԱՏՈՐԻԱՅԻ ԱՇԽԱՏԱՆՔԱՅԻՆ ՔԱՐՏ

ՀԵՏԱԶՈՏՈՒԹՅՈՒՆ #_____, Հ/Պ #_____ Օրը____/____/200__թ.

Ա.Ա.Հ.	տարիք տ ամիս

քաշը կգ	հասակը սմ	Hg գ/%	Ht /%	SaO2 %
BP / / / ( ) mmHg	pulse * 1`	T°C		
BP / / / ( ) mmHg	pulse * 1`	T°C		

ՄՆԵՄԹԵԶԻԱ

_____
_____
_____
_____
_____
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_____
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_____
_____
_____
_____ Բժիշկ՝ _____

ԲԱՐԴՈՒԹՅՈՒՆՆԵՐ

_____
_____
_____
_____
_____
_____

ՀԵՏԱԶՈՏՈՒԹՅԱՆ ՄԿԻՉԸ	ՀԵՏԱԶՈՏՈՒԹՅԱՆ ԱԿԱՐՏԸ	ՏԵՂԱՅԻՆ ԱՆՋԳԱՑՈՒՄ	ՀԵՊԱՐԻՆ
_____ _____ իմ	_____ _____ իմ	լիդոկային 1% մլ լիդոկային 2% մլ	ՍԻԱՎՈՐ _____ իմ

ԱՌԵՏԸԸ	ԻԵՏՊԱՅՈՒՄԸԸ	տարի	ՊԵՏՔԵՏԵՐԵԼԻՔ	տարի	ԺԱՄԸ
RFA					
RFV					
LFA					
ԱՅԼ					

ԿՈՆՏՐԱՍՏ (Hipaque)	ԱԲԱԳՈՒԹՅՈՒՆԸ մլ/ժամ	ՈՒՐ	Հիվանդի ԳԻՐՔԸ	Անկյունը	ԺԱՄԸ
1.					
2.					
3.					
4.					
5.					

R-9

ՍԱՏՈՒՐԱՑԻԱՅԻ ԵՎ ՀԵՄՈԴԻՆԱՄԻԿ ՏՎՅԱԼՆԵՐ

ՀԵՄՕՔՍԻՄԵՏՐ

ԲԱԺԻՆԸ	SaO_2%	SaO_2% O_2	BP	ԺԱՄԸ
SVC			/ /	
LSVC			/ /	
			/ /	
hRA			/ /	
mRA			/ /	
			/ /	
IVC			/ /	
			/ /	
RV			/ /	
RV INF.			/ /	
			/ /	
MPA			/ /	
RPA			/ /	
LPA			/ /	
			/ /	
PC wedge			/ /	
			/ /	
PV			/ /	
LA			/ /	
			/ /	
LV			/ /	
			/ /	
AO asc.			/ /	
AO desc.			/ /	
Fem art.			/ /	

CORNING

SAMPLE	pH	pCO2	pO2	HCO3-	SaO2%	BE	Ht%	ԺԱՄԸ	02
AO									
FA									
PA									
SVC									
IVC									

FICK'S CARCULATION

CO	CI	SV	SI	PVR	SVR	RVSWI	LVSWI

DIAGNOSIS:

_____

_____

_____

_____

ՍՐՏԱԲԱՆ _____ ԱՆԵՍԹԵԶԻՈԼՈԳ _____

ՏԵԽՆԻԿ _____ ՔՈՒՅՐ _____

R-10

NMMC
Med. Rec. N _____

TRANSFUSION RECORD

Patient`s name _____ Age_____ ABO/Rh_____

Procedure: CHD ☐ AHD ☐ IHD ☐ Redo ☐ Cell saver ☐ Aprotinin ☐

Date	BLOOD COMPONENT																		Depart - ment	Indication for use	Remarks
	FFP unit					ABO/Rh	RBC unit					ABO/Rh	PLT unit					ABO/Rh			

Hct			
Preoperation	Pre. CPB	Postoperation	Post ICU

R-11

CCCA II Children's Hospital, Yerevan.
Department of Anesthesiology

Anesthesia Record

NAME

Med.rec. #_____ Date ___/___/96, Wt ___ kg, Ht ___ sm, BSA ___

Preop.Diagnosis

Operation

Anesthesiologist(s) 1. 2. 3.

Surgeon(s) 1. 2. 3.

Premedication

Anesth. began | Ended

Oper. began | Ended

CPB time | Clamp time | Arrest time

ET tube: Size | Cuff | Leak | Oral / Nasal | ART | CVP | IV | S-G | N.G | Foley cath.

Agents / Time

Pulseox L Arm R Leg | Code

SAP 180 150 120 90 60 30

NIBP R L

Pulse

E. stet.

Mean AP

$ETCO_2$

T^0 N R

ECG

Medications / Total dose

Fluid balance

Rect | D5W | RL | BC | FFP | Plas | CPB | KCl | Total

Urine | Suction | Other | Total

Lab. data

Time | pH | pCO_2 | pO_2 | HCO_3 | Sat | BE | Hct | ACT | K+ | Na+

R-12'

	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	01	02	03	04	05	06
MEDICATIONS																								
TREATMENTS																								

Date: ____________________ **Name:** ______________________________

Time	FiO	PIP	PEEP/CPAP	Rate	Tidal Volume	Inhalation Therapies	TCM Reading pCO/pO	Mask, N.P. 02%/L	Time	Source	pH	pCO₂	pO₂	Actual Bicarb	SatO₂	Base Excess	Na	K	Cl	Calcium	Bun	Creat	Hct	Sugar					

CHILDRENS COMA SCALE

EYES OPENING

	> 1 YEAR		< 1 YEAR
4	Spontaneously	4	Spontaneously
3	To verbal command	3	To shout
2	To pain	2	To pain
1	No response	1	No response

BEST MOTOR RESPONSE

	> 1 YEAR		< 1 YEAR
6	Obeys		
5	Localizes pain	5	Localizes pain
4	Flexion-withdrawal	4	Flexion-withdrawal
3	Flexion-abnormal (decorticate)	3	Flexion-abnormal (decorticate)
2	Extension (decerebrate)	2	Extension (decerebrate)
1	No response	1	No response

BEST VERBAL RESPONSE

	> 5 YEAR		2-5 YEAR		0-23 MONTHS
5	Orientated and converses	5	Appropriate words	5	Smiles, coos, cries approriately
4	Disorientated and converses	4	Inappropriate words	4	Cries
3	Inappropriate words	3	Cries &/or screams	3	Inappropriate Crying
2	Incomprehensible sounds	2	Grunts	2	Grunts
1	No response	1	No response	1	No response

I & O TOTALS

In	6.2	2-10	10-6	Out	6.2	2-10	10-6
Shift Total				Shift Total			

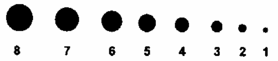
24 Hour Total

Intake ____________________ Output ____________

Vol. Exp. ____________________

IV BOTTLE CODE

PUPIL SIZE AND RESPONSE TO LIGHT



REACTION
B=Brisk S=Sluggish F=Fixed H=Hippus

IDENTIFY INITIALS BY SIGNING FULL NAME	

R-12''

ICU FLOW SHEET

NORK MARASH MEDICAL CENTER

Date: _____

Weight : adm _____

_____/_____

Name: _____

06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 01 02 03 04 05 06

210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40

VITAL SIGNS

Temp

Resp

INTAKE

OUTPUT

07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 01 02 03 04 05 06

Nurse Name: _____

R-13

Медицинский Центр "Норк-Мараш"

Лаборатория

БИОХИМИЧЕСКИЙ АНАЛИЗ КРОВИ № _____

"_____ " _____ 2001 г. _____ час _____ мин. *(Дата взятия биоматериала)*

Ф.И.О. _____ Возраст _____

Учереждение_____ Отделение _____

Палата _____ Участок _____ Мед. карта № _____

Исследуемый компонент	Результат	Норма	Единицы
Общий белок		65-85	г/л
Альбумины		42-51	г/л
Мочевина		1.7-8.3	м моль/л
Креатинин		44-115	мк моль/л
Глюкоза		4.2-6.4	м моль/л
Билирубин общий		2.0-20.5	мк моль/л
Билирубин свободный		2.0-15.4	мк моль/л
Билирубин связанный		0-5.1	мк моль/л
ALT		муж. до 42 жен. до 32	Ед/л
AST		муж. до 37 жен. до 31	Ед/л
Холестерол		до 5.7	м моль/л
Триглицериды		до 1.71	м моль/л
HDL (ЛПВП)		муж. от 0.9 жен. от 1.16	м моль/л
LDL (ЛПНП)		до 3.9	м моль/л
K^+		3.6-6.2	м моль/л
Na^+		130.0-150.0	м моль/л
Ca^{2+}		1.02-1.27	м моль/л
С – реактивный белок		до 12	мг/л
Ревматоидный фактор		до 12	МЕ/мл
Антистрептолизин – О (ASO)		до 200	МЕ/мл
Анти-н-ДНК (АНА)			
РТ КНП			
РТ больн.			
Протромбиновый индекс		80-100	%
Фибриноген		200-400	мг/ 100 мл

" ____ " _____ 2001 г. Подпись _____
(дата выдачи анализа)

R-14

R-15

PERFUSN RECORD	Date / /200	Name	Diagnosis
	Pump #		
	Chart #		

Alergies History	Blood Type	Age	Wt Kg	Ht cm	Hct %	EF %
		BSA	Immunology			
		Glucose	HB	Bun	Creatinin	PT %

Low Flow	Pre CPB	Pre CPB						ОЦК
	Na							ЭРМ
	Ca							ОЦЖ
High Flow	K							Hct

Prime Fluids and meds	Total fluids and meds in oper.		Team of operation	
	Pre CPB	CPB	Surgeons	
	Heparin	Heparin	1	
	crystalloid	crystalloid	2	
	Colloid	Collude	3	
	PBC	PBC	4	
	FFP	FFP	5	
	Lazix	A protinine	Nurses	Anestesiologist
	A protinine	KCl CaCl		
	Prednizolone	Digoxin		
Total Prime		$NaHCO_3$	Perfusiologist	Operation Room No #
		Prednizolone		

Pump on		Pump on		CPB Time		Total	Urine pre	CPB	Post
1	2	1	2	1	2		Oxigenator	A-V loop	Art Filter
3	4	3	4	3	4				

Arrest on		Arrest Off		Arrest Time		A TOTAL	Pumpc heat tiop inc	T Time On Off	Operation Time On Off
1	2	1	2	1	2				

Aortal total clamp														
	On													
	Off													
	Mine													

Meds	Time	Hct	A\V	MAP	Flow	Fio_2	Swee	T^O	PH	PCO_2	PO_2	HCO_3	SaO_2	BE	ACT
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															

Mitral	Aortal	Tricuside
	Diagonal$_1$.....mm ( )	OM_1.....mm ( )
	Diagonal$_2$.....mm ( )	OM_2.....mm ( )
	Diagonal$_3$.....mm ( )	OM_3.....mm ( )
	Ramus.....mm ( )	Distal Circ.....mm ( )
	L.Post Lat.....mm ( )	PDA.....mm ( )
	R.Post Lat.....mm ( )	LAD.....mm ( )
	Right main.....mm ( )	.....mm ( )
	L mammaria , R.mam ...	R. Radial L. Radial
	Ao → → →	L.MA → → →
	Ao → → →	R.MA →
	Ao → → →	

R-16

Nork Marash Medical Center
Բակտերիոլոգիական Լաբորատորիա

No ..... Ամսաթիվ ____/_____/200___ թ. ժամ .....

Հիվանդի Անուն, Ազգանունը .....

Տարիք ..... Սեռը ☐ Ի ☐ Ա Բաժին .....

Նմուշի տեսակը .....

Նմուշի տեղադրությունը .....

Ախտորոշումը ..... Վիրահատություն .....

Լրացուցիչ տվյալներ

ուղ. բժշ. անուն .....

No ..... Ամսաթիվ ____/_____/200___ թ. ժամ .....

Հիվանդի Անուն, Ազգանունը .....

Տարիք ..... Սեռը ☐ Ի ☐ Ա Բաժին .....

Նմուշի տեսակը .....

Նմուշի տեղադրությունը .....

Ախտորոշումը ..... Վիրահատություն .....

Պատասխանը .....

Զգայնությունը անտիբիոտիկների նկատմամբ

	Խիստ Զգայուն	Զգայուն	Թույլ Զգայուն	Կայուն	Չափսը մմ
Cefazolin (Ancef) FG					
Cephalexin (Keflex) FG					
Cefuroxime (Zinacef) SG					
Ceftazidime					
Ceftriaxone (Rocephin)					
Imipenem					
Ciprofloxacin					
Ofloxacin					
Erythrocin					
Clendamycin					
Trimethoprim					
Rifampin					
Cefotaxime (Claforan)					
Gentamicin					
Oxacilin					
Cloxacillin					
Diflucan (Floconazole)					
Amphoteracin B					
Amoxi - clav (Augmentin)					
.					
.					

WR-1

ԲԱԺԱՆՄՈՒՆՔ ԸՆԴՈՒՆԵԼՈՒԹՅԱՆ ԹԵՐԹԻԿ

Հիվանդի անուն, ազգանուն _____

Ընդունեք բժիշկ _____ ծառայության մեջ

Ակտիվություն ☐ *ազատ* ☐*սենյակային* ☐ *անկողնային*

Դիետա _____

Լաբորատորիա ☐*կրեատին, միզանյութ* ☐*շաքար* ☐*էլեկտրալիտներ* ☐*Hct* ☐*PT*

Ռենտգեն - թոք ☐*հետ-առաջային* ☐ *կողային* ☐ *որովայն*

Կենսական նշաններ ☐ *ըստ ռութինի* այլ _____

Կանչել բժշկին երբ *ճնշումը* _____ *զարկը* _____

ջերմությունը _____ SaO_2 _____ ☐*առիթմիա*

Տելեմետր ☐*այո* ☐ *ոչ*

ամսաթիվ	Նշանակումներ