EXIT PREVIEW

Cardiac Care on the Web

## Welcome to

# Nursing Health Assessment of the Cardiac Client

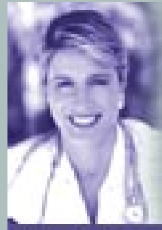
This module called Nursing Health Assessment of the Cardiac Patient was prepared by Theresa Mirka. Special content contributions were made by Gloria Viverais-Dresler. The module through readings and activities (personal and interactive) examines key elements of the nursing health assessment process as it involves the cardiac patient.

Remember that if you need assistance at a technological level, you are always welcome to return to the *Cardiac Care Orientation Module* for General Background Information and Technical Information. Also, you can email your questions and comments to webctsupport@laurentian.ca.

*[Click the ENTER button to preview the content pages.]*

email | bulletin board
chat room | calendar

pre-test | post-test



## Gloria Viverais-Dresler

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# Theresa Mirka

Theresa Mirka is a faculty member of Laurentian University's School of Nursing. She coordinates and tutors in the Primary Health Care Nurse Practitioner Programme at Laurentian. Theresa has extensive background as an ICU nurse having worked in the critical care unit of Memorial Hospital in Sudbury, Ontario for many years. Through her clincial work as well as academic studies, Theresa has developed comprehensive expertise in the assessment of cardiac patients and intervention on behalf of cardiac patients and their families.

Theresa holds a Master of Health Sciences degree from McMaster University. She obtained a Post Masters Acute Care Nurse Practitioner (ACNP) Diploma from the University of Toronto in 2001 and was the first ACNP employed at the Sudbury Regional Hospital. At McMaster, Theresa worked with one of Canada's top Nurse Researchers as well as in a clinical setting with one of Canada's best known Cardiologists.

Nursing Health Assessment of the Cardiac Patient

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Nursing Health Assessment of the Cardiac Patient

# Introduction

This module explores the how and why of nursing health assessment of the cardiac client. It will challenge you to incorporate a holistic view of the client by utilizing traditional methods of health assessment as well as some of the newer theoretical concepts.

Now work through a few reflections presented in question and answer format to get you going.

*Why nursing health assessment?*

Nursing health assessment and the subsequent development of the nursing data base are the first steps in the nursing process.

*Why can't I just use the medical history?*

Because medicine is an allopathic, linear model focused on illness, it does not always take into consideration the factors that may influence the holistic health of the client. Utilizing a nursing model facilitates the identification of client and family strengths and/or weaknesses which are amendable to nursing practice or multidisciplinary care. The identification of client and family strengths are helpful because these strengths can be utilized when facilitating movement towards higher levels of holistic health.

*Can't I do nursing process in my head?*

Many of you will be familiar with nursing process. For most nurses, this means care planning. Care planning conjures up a variety of experiences and personal meanings. We remember the care planning experience when we were students as a long and painful process that was mainly a demonstration of clinical reasoning and critical thinking. Carefully executed and written care planning is a valuable tool because it ensures consistent, goal-directed, and relationship/family-centered nursing care.

Clinical pathways are often presented as variations on this theme. However, the theoretical underpinning of most clinical pathways is allopathy. Further, the holistic and family-centered approach is often absent. Therefore, the nursing process continues to be the best vehicle for sustaining holistic nursing care as its focus is truly relationship-centered care of the client and family.

Given these reflections, this module begins with a review of the components of nursing health and physical assessment. Then, it moves to health assessment of the cardiac client. You are encouraged to pay particular attention to the section on psychosocial assessment of the client and family as this section highlights certain recognizable concepts present in cardiac clients.

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In other modules, you may study one or more case studies. However, in this module, because there is much important content to review, the approach taken is different. Also, at different points in this module and others, you will see the acronyms PLA and ILA. A PLA is a personal learning activity that you are encouraged to complete as an independent learner. In other words, it is like personal homework. An ILA is an interactive learning activity where you are invited to chat in real time or discuss in asynchronous time with other nurses who are studying this module.

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course content

Nursing Health Assessment of the Cardiac Patient

# Learning Outcomes / Ends in View

Upon successful completion of this module, you will be able to do the following:

1. demonstrate understanding of the various components of health assessment as they pertain to cardiac nursing
2. conduct a full cardiac assessment
3. articulate understanding of the relationship between psychosocial assessment of the client and his or her family and other more traditional elements of cardiac assessment.

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Nursing Health Assessment of the Cardiac Patient

# Pre-Test

This Pre-Test is a measure of what you already know about the content in this module as you enter it. Given that there are fifteen (15) questions in this Pre-Test, keep in mind the following:

- 12 and higher -- represents a solid knowledge base; proceed with your studies.
- 10 to 11 -- may represent a need to do some review before you proceed with the module; you are recommended to do review work in Jarvis' *Physical Examination and Health Assessment, 3rd edition* and at the following web sites: http://www.nurse-beat.com and http://allnurses.com
- 8 to 9 -- means that you must do the review work recommended above before proceeding with the module; you will be allowed one re-write of the Pre-Test.
- less than 8 -- means that you probably require one or more full courses in anatomy and physiology and health assessment before you can take this module; please consult the Cardiac Care on the Web supervisor.

Use the following link to go to the **quiz tool**, then click the **Pre-Test** link found there:

**QUIZ TOOL**

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## Resources

Each module in Cardiac Care on the Web includes a list of resources for your reading enjoyment. At first, these reading lists may feel overwhelming. Because it is difficult for the developers to know what your learning needs are, you will need to choose what is relevant to your practice and experience and what you feel you need to learn. Indeed, there will be students who will have to read ALL of these suggested readings in order to obtain a comprehensive understanding of the material. However, some learners entering a new module may find that their knowledge already has some depth and that they will have to read only SOME of the resources.

For those of you who have not worked with cardiac clients before, you may wish to review the following: anatomy and physiology of the cardiovascular system, blood flow through the heart, and electrical conduction of cardiac impulses. The Jarvis text as noted below gives an excellent review of these elements at the beginning of each chapter.

The readings found in the Selected Reading Package that accompanies this module will give you a broad picture of the material covered in this module:

Barry, P.D. (1996). *Psychosocial nursing care of physically ill patients and their families* (pp. 171-173). Philadelphia: J.B. Lippincott.

Daly-Nee, C., Brunt, H., & Jairath, N. (1999). Risk and coronary heart disease. In N. Jairath (Ed.), *Coronary heart disease and risk factor management: A nursing perspective* (pp. 3-19). Philadelphia: W.B. Saunders.

Huang, C. (1995). Hardiness and stress: A critical review. *Maternal-Child Nursing Journal, 23*(3), 82-89.

Jacelon, C.S. (1997). The trait and process of resilience. *Journal of Advanced Nursing, 25*(1), 123-129.

Jarvis, C. (2000). *Physical examination and health assessment* (3rd ed.) (pp. 456-473, 498-505, 512-532). Philadelphia: W.B. Saunders.

Wurzbach, M.E. (1992). Assessment and intervention for certainty and uncertainty. *Nursing Forum, 27*(2), 29-35.

Yacone-Morton, L. (1991). Perfecting the art: Cardiac assessment. *RN, 54*(12), 28-34.

Woods, S.L., Sivarajan-Froelicher, E.S., & Underhill-Motzer, S. (2000). *Cardiac nursing* (4th ed.). Philadelphia: Lippincott.

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Some web resources focussing on topics related to health assessment are

- http://www.nurse-beat.com -- Cardiac Nursing Electronic Journal
- http://allnurses.com -- has a search engine for nurses and nursing information

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Nursing Health Assessment of the Cardiac Patient

# Important Components of The Interview and Physical Examination

The key to effective care of any patient and in particular the cardiac patient is to interview and, subsequently, conduct the physical exam in a comprehensive and professional way.

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Nursing Health Assessment of the Cardiac Patient

# Important Components of the Interview and Physical Examination

## Interview

Since the overall focus of this module and other modules in Cardiac Care on the Web is cardiovascular health and wellness, these areas are the focus of the interview portion of the health assessment. At the same time, keep in mind that holistic health is the goal of all nursing care. Therefore, in all situations, be careful to attend to the nonverbal and verbal cues that your client might give you. These flags can be helpful in identifying areas that may need further investigation.

Some general interviewing tips to keep in mind during history taking include the following.

As a nurse, you should aim to

- establish a private and quiet environment;
- introduce yourself appropriately and clarify your role and status;
- determine how the client would like to be addressed;
- clarify the purpose of the interview and any limitations (yours and the client's) such as time which may affect the interaction;
- convey an interested, attentive, unhurried, and empathic attitude;
- use your therapeutic helping relationship skills;
- use vocabulary consistent with the client's background and avoid words which convey inappropriate connotations;
- use appropriate types of questions to assure that the client relates his or her history fully and accurately (i.e., open-ended questions, appropriate direct questions for clarification and validation, occasional appropriate leading questions);
- listen carefully and nonjudgmentally and reflect this in both your verbal and nonverbal behaviour;
- direct the interview in such a manner that the client provides all relevant details;
- pick up both verbal and nonverbal cues from the client by using gentle confrontation;
- summarize the key points at the end of the interview and discuss with the client any plans for action resulting from the interview.

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# Nursing Health Assessment of the Cardiac Patient

## Important Components of the Interview and Physical Examination

### Collecting Data Through History Taking

While physical examination involves identification of signs and other observable phenomena (this type of data is described as objective), history taking, on the other hand, involves subjective data. Symptoms described by the client and other information provided by the client about his or her situation are subjective. Although the history is often obtained before the detailed physical examination is begun, the astute nurse is continuously collecting both subjective and objective data. Nonverbal behaviour during an interview may give valuable clues about such things as affect, discomfort, fatigue, restlessness, attention span, and intelligence. Careful observation is an important component of any client encounter.

Few clients will relate their histories spontaneously in a highly organized fashion. Nor should you even try to control an interview so tightly that the information is obtained in a patterned or organized way. It is important, however, to begin with the chief complaint, cover all the designated areas at different points in the interview, and record your findings under the appropriate headings.

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Nursing Health Assessment of the Cardiac Patient

# Important Components of the Interview and Physical Examination

## Identifying Data

The context within which the bulk of the history should be interpreted is provided by the identifying data recorded at the beginning of the history. Information such as the date, the source(s) of the history, the age and sex of the client, and previous contact between the client and the clinical setting is essential. Depending on their significance in relation to the particular situation, facts such as marital status, race, ethnic origin, birthplace, place of residence, and occupation may be included in the introductory identifying data or incorporated within the personal social history at the end of a report. For example, information about occupation should appear in the identifying data at the beginning of your report if you suspect that the client's problem is related to an occupational hazard. In some clinical settings where client records are used for research purposes, these details may be quite extensive.

Always refer to available chart data before you see a client. Then, if needed, review and update the identifying data. Asking for identifying data that has already been provided to the secretary by the client can add unnecessary time to the history taking and can be very irritating to the client. For some clients, this may also evoke fear and uncertainty toward you as the health care professional.

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# Important Components of the Interview and Physical Examination

## Presenting Concern(s)

Presenting concern is the term utilized in Laurentian University's nursing health assessment course. We will also utilize this term in Cardiac Care on the Web as it is a positive and health-oriented term.

Equivalent and commonly used terms are presenting concern, reason for seeking care, and chief complaint.

Unless the client is being seen for a routine checkup, he or she will have a presenting concern(s). The presenting concern can usually be elicited by asking the client what has prompted the person to seek help, consultation, or advice at this time. When recording the presenting concern(s), always record in the client's own words. Do so briefly and note down the duration of the concern. Remember this is a symptom(s), not a medical diagnosis. In some cases, the client may have multiple unrelated problems and may volunteer a long list of symptoms/concerns when asked what has prompted the person to seek attention. If this happens, it may be helpful to ask the client which symptom/concern (limit the client's response to a maximum of three symptoms) troubles the person most. List these symptoms as the presenting concern. They will provide a focus to the history taking. At the same time, it is important, of course, to explore other concerns and to investigate the possibility of relationship among the concerns. The duration of the chief complaint should also be noted here. For example, "I've been having chest pain for the past two days" is appropriate.

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# Important Components of the Interview and Physical Examination

## Present Health and History of Present Illness

In nursing practice, you will often see the terms present illness, present health, and history of present illness used interchangeably. In this module, we will use the term present health, again because of its emphasis on the positive.

The history of present illness should be described in detail with symptom(s) noted in chronological order as they developed. A situation of a symptom analysis, it should contain all information relevant to the client's reason for seeking care. The same basic information is required for any symptom and is noted below.

### Onset:

- time of onset (date)
- what the patient was doing before and/or at the time of onset of the symptoms (precipitating factors)
- how the symptoms started (suddenly or gradually)

### Features of the symptom:

- location
- point of maximum intensity and radiation when the symptom is pain
- quality or type
- intensity or severity (often best described by how it affects the patient)
- influence on activities of daily living (e.g., sleep, eating, grooming, household activities, etc.)
- duration
- frequency
- aggravating and relieving factors and the effects (e.g., positional and temporal factors, medications, treatments, etc.)
- any accompanying symptom(s)
- past experience with a similar symptom
- occurrence of a similar symptom in family member(s) or close associate(s)

### Changes since onset of the symptom(s):

- intermittent or constant
- better, worse, or unchanged

### Client's hunch about what might be causing the symptom(s)

Determining the client's perception of the events is important as it helps in delineating an unusual or uncommon symptom experience.

There are a number of symptoms that cardiac clients typically endure. For instance, Jarvis (2000) offers some sample questions for assessing a variety of symptoms that the client might be experiencing.

Jarvis breaks the cardiovascular assessment process into two main sections: "heart and neck vessels" and the "peripheral vascular and lymphatic systems." As you collect information regarding the patient's present health in these areas, you might say something like this, "I would like to determine the pattern of symptoms that you experience. In order to do this, I need to ask you some questions about a variety of symptoms that you may or may have not suffered."

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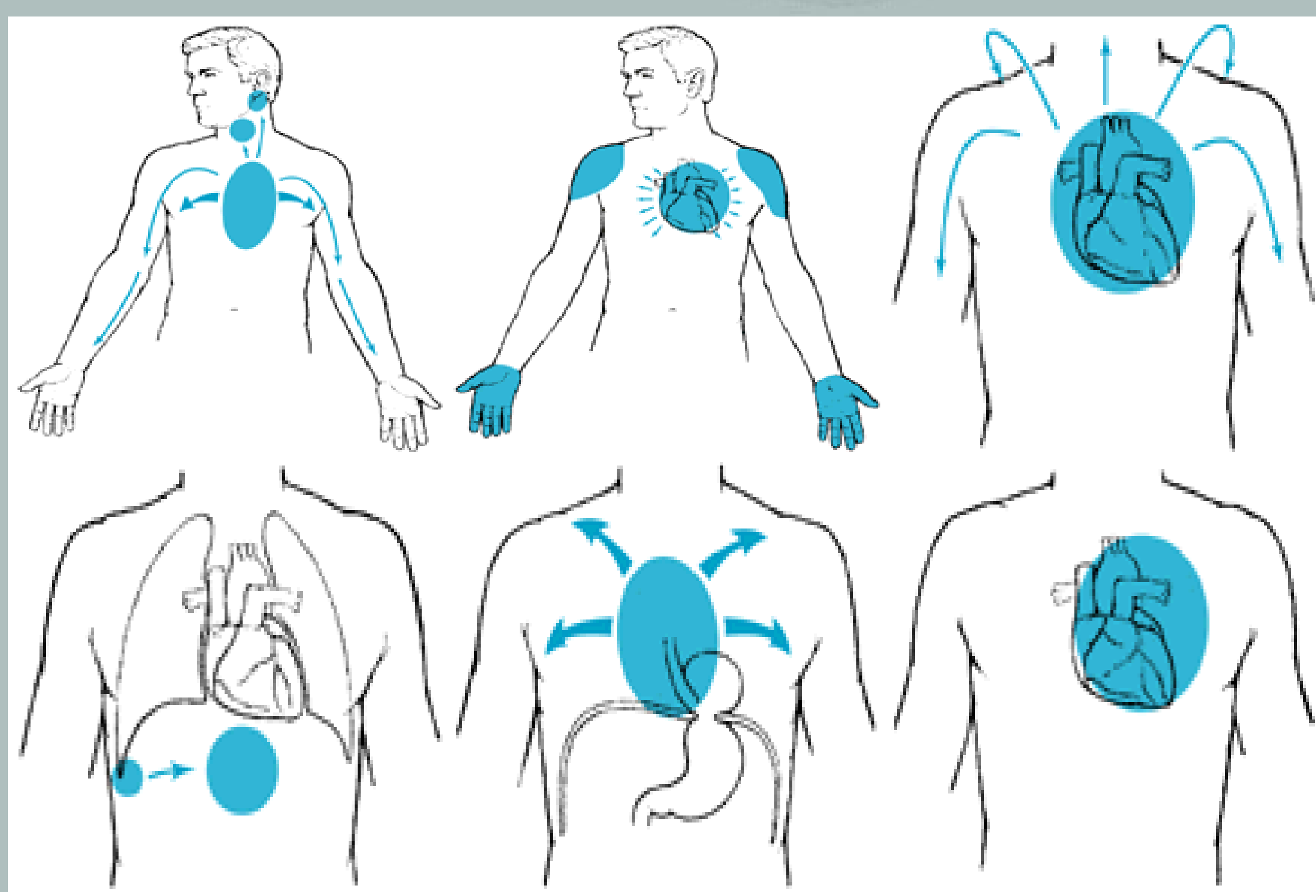
## Heart and Neck Vessels

At this point, we are ready to look at the specific elements of present health as they involve the cardiac patient. As previously noted, if we follow the Jarvis approach, the heart and neck vessels comprise the first area of questioning. Specific areas of inquiry are presented in close detail in Jarvis, p. 512.

**1. Chest Discomfort**

Cardiac clients almost never refer to chest pain as pain (Rukholm E. & Bailey, P., 1989). Common descriptions include discomfort, pressure, burning, pressure or tightness. Because chest pain can have many other origins, it is important to determine the exact nature of the experience of this symptom. See Jarvis for associated symptoms that will need to be assessed with respect to chest discomfort.



**2. Dyspnea**

Many clients experience difficult breathing or shortness of breath. The exact experience of this symptom is critical as there are different types of shortness of breath. Dyspnea on exertion (DOE) must be assessed for its relation to the duration of the activity (i.e., after walking half a block). An appropriate question could be "If we were to go for a walk right now, how far could you go before this symptom appeared?" By comparison, paroxysmal nocturnal dyspnea is very distinct. It typically occurs at night (hence, nocturnal) after a few hours of sleep. Jarvis discusses how the recumbent position increases the volume of intra-thoracic blood that a weakened heart cannot accommodate. The client typically awakens with the need to sit on the side of the bed or open the window for fresh air. In addition to these distinctions, it is important to determine the frequency of the symptom as constant in termittent or paroxysmal and the body position in which the symptom is experienced.

**3. Orthopnea**

This symptom is different than dyspnea in that it refers to the need for position change relative to breathing. In particular, clients with this symptom will want to assume a more upright position for breathing. Jarvis stresses the importance of noting the number of pillows that the client uses. It should also be noted how long the client has utilized the identified number of pillows and how this has changed over time.

**4. Cough**

Cough is a symptom that many cardiac clients experience. Determination of the exact nature of this cough is important in helping the practitioner determine whether or not this is related to the client's other cardiac symptoms or to another health problem (i.e., side effect of a medication, viral, or chronic lung disease). Specific questions should be directed to the client to discern the exact nature of sputum if it is produced.

**5. Fatigue**

Fatigue is one of the most frustrating symptoms for cardiac clients. The literature often describes fatigue as a wall. Determining the client's perception of this fatigue and the nature of it (acute or chronic) is essential. Jarvis indicates that cardiac fatigue is worse in the evening. Notably, this type of fatigue may have a very different impact upon the usual activities of the cardiac client. Fatigue related to depression or anxiety frequently occurs in clients with cardiovascular disease. It is important to recognize that this type of fatigue differs from other kinds of fatigue in that it occurs all day and/or is worst in the morning.

**6. Cyanosis or Pallor**

Situations of low cardiac output create poor tissue perfusion. This results in pallor or cyanosis.

**7. Edema**

It is important to ensure that the client identifies whether or not the edema is dependent as this type of edema is related to congestive heart failure. Further, cardiac edema worsens as the client is up during the day and is usually "not as bad" in the morning. Skin changes (especially the intact quality of the skin) associated with edema are also important to determine.

**8. Nocturia**

Jarvis hightlights that the recumbent position at night promotes renal excretion of fluid. Thus, some cardiac patients may complain of frequent trips to the bathroom at night despite fluid restrictions in the evening.

**9, 10, 11. History (Past and Family) and Habit (Personal)**

In addition to assessing the client's actual experience of specific symptoms, the nurse needs to collect data regarding past personal and family cardiac history as well as personal habits. Remember, this health assessment is particular to the cardiovascular system and the line of inquiry should reflect this.

These final three components (9, 10, 11) help assess risk factors for cardiovascular disease. They help practitioners to see patterns in both clients and families. Daly-Lee et.al. (1999) provide a current discussion of relevant cardiovascular risk factors. Data collection here reflects the threads of ways of knowing, time/transitions, and context/culture.

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Nursing Health Assessment of the Cardiac Patient

## PLA: Heart and Neck Vessels

Take time to review the additional history items for the aging adult on p. 515 of Jarvis. In particular, take note of the reasons for noncompliance in this group. Polypharmacy in the elderly and recent changes in the type and number of long acting medications covered by the Ontario Drug Plan are also reasons clients often do not take their medications. The literature on compliance clearly states that the number of medications and the number of dosages are directly related to compliance. Quite simply, if clients require multiple doses of numerous medications, the more likely it is that one or more medications will be forgotten.

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# Peripheral Vascular System

Still utilizing Jarvis' approach, the next general area of inquiry is the peripheral vascular system. Specific areas of the peripheral vascular system are discussed in detail in Jarvis.

### 1. Leg Pain or Cramps

Just as it is vital to consider dyspnea on exertion, it is important to determine the distance that clients can traverse prior to the development of pain. It may be helpful to utilize as many activity examples as possible (i.e., how many stairs or how many blocks). It is also crucial to determine if the pain is the result of a recent change in exercise program and thus musculoskeletal in origin rather than because of vascular insufficiency. At this time too, it would be appropriate to ask about a sudden change in sexual functioning as aortoiliac occulsion is associated with impotence (Jarvis, 2000).

### 2. Skin Changes on Arms or Legs

Coolness is associated with arterial disease. Chronic arterial and venous disease results in leg ulcers. These areas need to be assessed for presence as well as home management techniques.

### 3. Swelling

Jarvis highlights that bilateral edema is likely related to a systemic problem like heart failure while unilateral edema is more likely related to a local inflammation or obstruction.

### 4. Lymph Node Enlargement

While it might seem difficult to link this area to cardiovascular assessment, consider the relevance of the presence of ulcers in chronic arterial and venous insufficiency. Enlarged nodes can occur in the presence of infection or may be indicative of immunologic or malignant disease.

### 5. Medications

A clear understanding of the medications that the client takes including prescribed, over the counter (OTC), and elicit (cocaine, heroine, LSD, ecstasy, angel dust, and so forth) drugs, as well as herbal remedies, helps practitioners determine clients at risk for drug interactions and reactions. Some medications can put clients at risk for cardiovascular disease and events.

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Nursing Health Assessment of the Cardiac Patient

## PLA: Peripheral Vascular System

Which herbal remedies are cardiovascular patients most likely to take? Do they adversely interact with common cardiovascular medications?

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Go to http://www.nurse-beat.com. Click on "Links for Cardiac Nurses," then click the link for "Alternative Medicine" and explore the information on herbal remedies you find there.

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# Nursing Health Assessment of the Cardiac Patient

## Psychosocial Assessment

Several of the readings suggested to you at the beginning of this module address the concepts of locus of control, uncertainty, hardiness, resilience, and family responsibility. Nursing process must address these concepts as assessment and subsequent analysis of these elements help identify clients' strengths as well as areas amendable to nursing practice. The application of these concepts can be challenging. If you have not already done so, read the articles on these concepts now.

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Nursing Health Assessment of the Cardiac Patient

## ILA: Psychosocial Assessment

If you are able to organize a chat session with a few other nurses taking this module, you might want to discuss the following questions:

- How is locus of control related to hardiness?
- Can hardiness and resilience be learned? If not, why assess them? How can their presence be helpful? If absent, what can the nurse do?
- What is meant by family responsiblity as it pertains to the psychosocial assessment? How is this concept related to your practice?
- Discuss uncertainty in light of the current post MI teaching protocols in your institution.

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# Nursing Health Assessment of the Cardiac Patient

## The Physical Examination: Cardiac Focus

In order to ensure that we utilize a consistent approach with respect to cardiac assessment, it is a good idea to review common assessment techniques. While you no doubt utilize most of these techniques, we all tend to fall into comfortable routines with our assessments. Let's challenge those boundaries and incorporate some new areas.

Try hard to build into your practice those elements and strategies we have discussed previously in this module under Important Components of the Interview and Physical Assessment. With a cardiac patient, it is especially important to document carefully past and family history and to record all relevant psychosocial information.

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# The Physical Examination: Cardiac Focus

## Past History

A past history should always include the following information:

- the client's assessment of his or her general health status
- history of major weight gain or loss and whether this was intentional
- childhood diseases such as measles, mumps, chicken pox, whooping cough, polio, diphtheria, scarlet fever, meningitis, strep throat, nephritis, and rheumatic fever (inquire about occurrence, age at onset, and any complications or sequelae); many examiners record only those diseases which might be related to present problems or which may have resulted in sequelae and which are currently affecting the client
- immunization status, details of which may vary with the age of the client and circumstances
- serious injuries including fractures, dislocations, severe burns, severe wounds, and head injuries resulting in concussion or loss of consciousness
- major illnesses occurring at any time (e.g., influenza, pneumonia, tuberculosis, typhoid fever, and chronic illnesses) as well as complications and sequelae experienced
- operations including the name of the specific surgery, the approximate date, and the reason for its performance
- allergies (e.g., sensitivities resulting in asthma, hay fever, hives, and dermatitis)
- obstetrical history (when appropriate) including number of pregnancies, number of live births, complications, spontaneous or induced abortions
- current and recent medications and treatments including details about the nature of the medication/treatment, its purpose, how long it has been taken, and its effects, as well as any medications or treatments received during the six month period prior to history taking; be sure to inquire about over-the counter medications and herbal remedies

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Nursing Health Assessment of the Cardiac Patient

# The Physical Examination: Cardiac Focus

## Family History

Family history includes information about the presence of inherited diseases, familial diseases, high risk conditions, and contagious diseases. Specifically, consider the following:

| diabetes | cancer |
|---|---|
| heart disease | glaucoma |
| hypertension | kidney disease |
| arthritis | allergies |
| bleeding disorders | sickle cell anaemia |
| migraine | epilepsy |
| psychiatric problems | mental retardation problems |

The family history includes information about occurrence of symptoms or illnesses similar to the client’s among other family members as well as information related to the age and health status of grandparents, parents, siblings, and offspring. If a grandparent, parent, sibling, son, or daughter has died, the person’s age at time of death and the cause of death (if known) is noted. A three generation genogram is most often used to record findings. In cases of suspected hereditary disease, a more complete family tree would be constructed.

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## The Physical Examination: Cardiac Focus

## Personal and Social History/Psychosocial History/Functional Assessment

Before you go any further, note the three interchangeable headings we have used above. This is important as you need to recognize that the terms vary from one clinical setting to the next.

As you talk with the client during the health history, your nursing role may include activities involving health restoration, illness prevention (also referred to as health protection), and health promotion or health maintenance. To help your client identify appropriate actions to take to regain health status, it is important not only to explore physical health status but to become appropriately familiar with the person's psychosocial level of functioning.

Barry (1984) states that "data collection is the assembling of all information about the patient's physiological, psychological and social functioning" (p. 157). If you are committed to this holistic approach to care, then a psychosocial assessment is naturally a part of any health assessment you do (Barry, 1984). However, you will have to make decisions about appropriate, relevant areas to assess in each client's situation. You will need to explore with the client his or her life situation, health beliefs and habits, daily activities and the purposes they serve, perceptions of the client's life situation, personal satisfaction and satisfaction in his or her relationships with others, and resources available to help meet the person's physical and emotional needs. Only then can you help a client make meaningful decisions that will restore health, prevent illness, and ensure a healthier lifestyle.

Even though much of the data collected in a psychosocial assessment is private and sensitive, it is important information if you hope to gain understanding of the person and his or her level of adaptation or maladaptation. Also, keep in mind that you proceed from least threatening to more threatening data collection as you proceed through history taking. Consequently, by the time you reach the psychosocial history component, you have, in all likelihood, established a comfortable working relationship with the client. Data collection and analysis is a deliberate process, one in which you consider the relationship between the verbal and the nonverbal information provided by the client. These cues give direction to the interview so that problem-solving actions will be appropriately initiated. Depth of data collection is determined by your processing of the leads given by the client and by the observations you have made while interacting with the client.

Since psychosocial assessment may be threatening to the client, always indicate the topic to be explored and its possible relationship to the client's health. Generally, you start this area of data collection after you have established rapport with the client. Naturally, it is appropriate to start with the least threatening areas in the major categories, for example, sleep patterns and diet in personal habit and lifestyle. Since inquiries about religion and financial situation may be more threatening to the client, they should be explored near the end of the interaction. Use open ended questions and explore the leads offered by the client to enhance your data base about his or her environment and the person. Sometimes, because of the client's particular worry, he or she may give leads about a concern in the psychosocial area very early in the interview. You should explore such leads since the client is probably telling you that he or she wants to discuss this concern and, in fact, probably needs to do so in order to relieve anxiety before proceeding comfortably with the rest of the history.

As you know, assessment involves not only data collection but also analysis of information collected; the latter includes identification of the client's strengths and concerns, drawing of conclusions about the client's health status, and labelling of his or her health concerns. For more on this idea, Barry (1996) identifies the nursing diagnostic categories that have a psychosocial component.

In summary, the primary focus of psychosocial assessment is assessment of relevant areas in the client's life situation as well as behaviours which relate primarily to illness prevention and health promoting activities. The focus furthermore relates to an apparently well individual. When you have completed a psychosocial assessment, you will have an understanding of changes in the client's life situation, needs, feelings, health strengths, and concerns which are either facilitating or interfering with usual adaptation.

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# The Cardiovascular Assessment

For a solid overview of the cardiovascular assessment, you are strongly encouraged to refer to Jarvis, pp. 515-532.

A few tips about cardiac assessments include the following:

- Ensure that the room is private. If you need to displace a woman's breast or expose a person's body, prepare the person for this by asking the client to move the breast or by warning the person ahead of time that exposure may be necessary.
- Stand on the right side of the person. This will help in your assessment, especially in the auscultation of the precordium.
- Always use a systematic approach. Consistency will help you to pick up abnormals and cues.

In the Jarvis material noted above (pp. 515-532), the following approach is suggested:

- Vital Signs
- Neck Vessels
- Precordium
- The Lungs and Thorax
- Extremities/The Peripheral and Lymphatic Systems

Picking up on the Jarvis approach, this next section looks at these various components in some detail.

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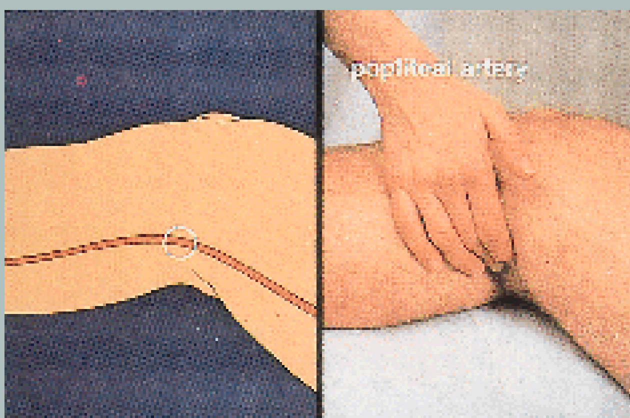
Nursing Health Assessment of the Cardiac Patient

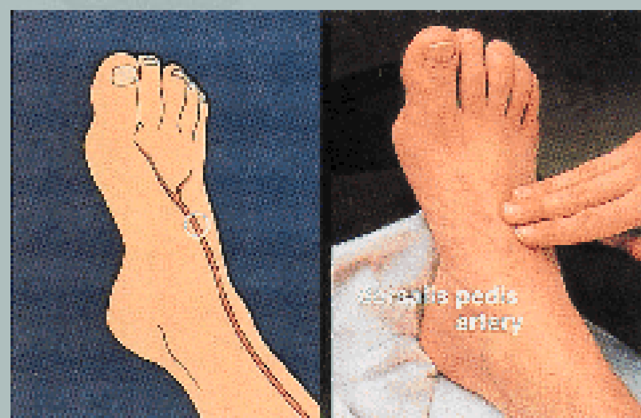
# The Cardiovascular Assessment: The Details

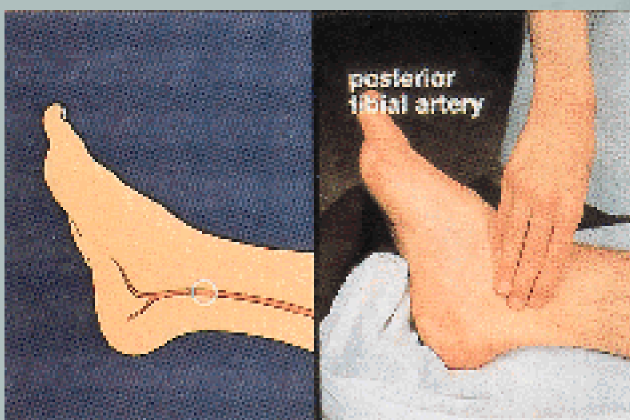
## Vital Signs

The nurse should obtain temperature, pulse, respirations, and blood pressure. At this point, you might want to review the proper technique for assessing pulse and blood pressure. Although this is a basic nursing skill, sometimes we fall into comfortable patterns. For example, how many of us actually use the technique suggested in Jarvis? In this technique, the brachial artery is palpated and the cuff inflated until the arterial pulsation disappears. When taking blood pressure, the nurse then inflates the cuff 20-30 mm Hg beyond this point. Not only is this a comfortable experience for the client; it also avoids missing the ausculatory gap which occurs in about 5% of people (Jarvis, 2000).

Abnormal pulse rhythms are well explained in Jarvis.




Breathing Patterns

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# The Cardiovascular Assessment: The Details

## The Neck Vessels

### a) The Carotid Artery

This artery gives vital information about cardiac function. It is located medial to the sternomastoid muscle in the neck (see Figure 17-16 in Jarvis). Each artery should be palpated. Palpate only one at a time to avoid compromising blood flow to the brain (see Jarvis p. 516). Avoid excessive pressure on the artery. Note the contour and amplitude of the pulse. Findings should be the same bilaterally (see Jarvis p. 516). The artery should be auscultated for a bruit, especially in persons "middle-aged or older, or who show symptoms or signs of cardiovascular disease" (Jarvis, 2000, p. 516). A bruit is a soft sound with a blowing quality occurring in situations where blood flow is typically turbulent. It is not present under normal circumstances. Refer to Jarvis, p. 517 for a review of the technique.

### b) The Jugular Veins

Most often, assessment of these veins is used to determine the central venous pressure (CVP). Although the external jugular is easier to see, the internal is more accurate as it is directly attached to the superior vena cava (Jarvis, 2000). It is best to position the person on a 30-45 degree angle and to remove the pillow to avoid flexing the neck. Ask your client to turn his or her head slightly away from the examined side, and to direct a light tangentially in order to illuminate the venous pulsations (Jarvis, 2000). The external jugular overlies the sternomastoid muscle. As the client sits up, the external pulsations will flatten out and disappear. The internal jugular pulsations are located in the area of the suprasternal notch about the origin of the sternomastoid muscle in the region of the clavicle. Table 17-1 (p. 518) from Jarvis summarizes the differences between the carotid pulsations and the venous pulsations.

In order to estimate the CVP, utilize the angle of Louis. See Jarvis for a pictoral explanation. If you are unable to find the internal jugular, you may use the external. Remember that this is an estimation of CVP and that consistency between examiners is variable.

### c) Hepatojugular Reflux

This test is done if the CVP is elevated or if you suspect congestive heart failure. The client should be positioned supine and instructed to breathe quietly through an open mouth. See Jarvis p. 519 for an overview of the technique. Note that "if no elevated CVP is present, the jugular veins will rise for a few seconds and then recede back to previous levels" (Jarvis, 2000).

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Nursing Health Assessment of the Cardiac Patient

# The Cardiovascular Assessment: The Details

## The Lungs and Thorax

The functions of the heart and lungs are intimately related. Therefore, a dysfunction of the lungs ultimately affects the heart and vice versa. It is critical that cardiac nurses have the theory and practice necessary to complete assessment of the lungs and thorax, and you might want to review the process in Jarvis (2000) or another assessment text that provides a comprehensive overview of the lungs and thorax.

The following are specific areas related to the lungs and thorax that Jarvis suggests be assessed when completing a cardiac assessment:

- cough
- shortness of breath
- chest pain with breathing
- past history of respiratory infections
- smoking history
- environmental exposure
- self-care behaviours

Jarvis outlines each of the above areas, suggests relevant questions, and provides additional information about the histories of infants, children, and the aging adult.

Three final points to keep in mind concern objective assessment, the order in which the assessment occurs, and abnormal findings.

The Respiratory System

The Lungs

The Thorax

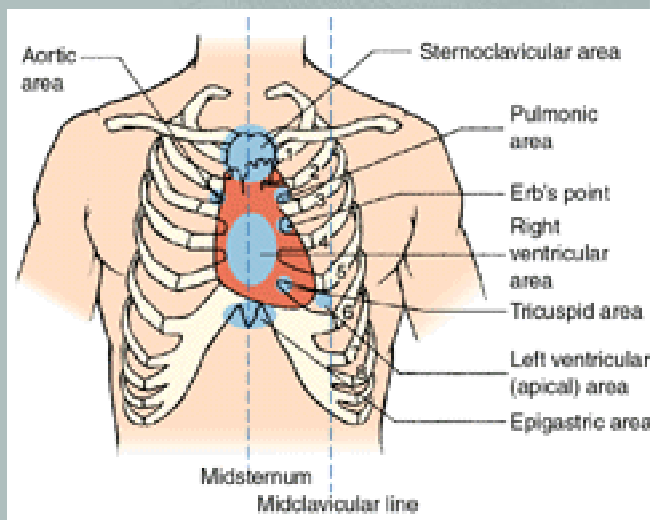
---

## The Cardiovascular Assessment: The Details

## The Precordium

### a) Inspection

Note any movement or pulsations (it is best to use tangential lighting). Observation of the apical impulse is variable from individual to individual. If present, it will be located in the 4th or 5th intercostal space, at or inside the midclavicular line (Jarvis, 2000). Jarvis points out that it is easier to see this impulse in children and in those with thinner chest walls.




### b) Palpation

Palpation of the apical impulse or PMI (point of maximum impulse) may be done with the patient supine or rolled to the left (this position will displace it slightly). You should be able to localize this impulse with one finger pad. Jarvis suggests asking the client to exhale and hold his or her breath as a method to assist in location of the apical impulse.

Jarvis also states, "Using the palmar aspects of your four fingers, gently palpate the apex, the left sternal border, and the base, searching for any other pulsations" (p. 520, see Figure 17-21).

### c) Percussion

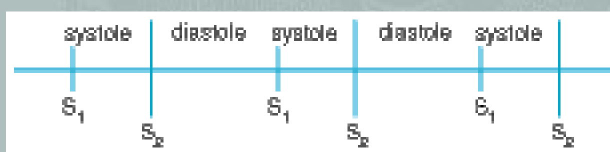
This technique is utilized to outline the heart’s border. This can also be determined by a chest x-ray. See Jarvis, p. 521 for a full explanation of the technique. Note the abnormal findings.

### d) Auscultation

Table 17-22 on p. 522 of Jarvis outlines the ausculatory sites. Identify the areas you will be auscultating. Remember that the sound follows the path of blood flow. You need to prepare your patient for this procedure, especially if you are a novice and will be listening for long periods in each area. Jarvis suggests the saying the following to the patient, "I always listen to the heart in a number of places on the chest. Just because I am listening a long time, it does not necessarily mean that something is wrong" (Jarvis, 2000, p. 522). The following breakdown will help you approach the process in the best way:

- Second right intercostal space--aortic valve area
- Second left intercostal space--pulmonic valve area
- Left lower sternal border--tricuspid valve area
- Fifth interspace at around left midclavicular line--mitral valve area

Remember to consult Jarvis, pp. 523, if you wish to review technique and to practise, practise, practise. Tables 17-2 to 17-9 in Jarvis provide information about abnormal findings. See Jarvis, pp. 523 for technique.




Structure of the Heart

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Go to http://www.nurse-beat.com. Click on "Links for Cardiac Nurses," then click "Heart and Lung Sounds." Here you will find a variety of heart sounds and murmurs.

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# The Cardiovascular Assessment: The Details

## The Peripheral Vascular and Lymphatic Systems

### a) Inspection

Inspect and palpate the arms. Hold the client's hands in yours, and note the colour of the skin and nail beds, temperature (check for symmetry), texture and turgor of the skin. Note lesions, edema, or clubbing. Check capillary refill.

Assess the radial pulses and determine the rate, rhythm, elasticity of the vessel wall. Note symmetry (Jarvis calls this equal force). Pulses are graded for amplitude or force according to a four point scale noted below:

4+ = bounding
3+ = increased
2+ = normal
1+ = weak
0 = absent

Ulnar pulses are often not readily palpable in normal persons. At this time, you may wish to perform the Allen's test.

Assess the brachial pulses. Ensure that their amplitude is equal bilaterally. The epitrochlear lymph node in the depression above the medial condyle of the humerus.

### b) The Legs

Being careful to protect the privacy of the client, inspect the legs for skin colour, hair distribution, venous pattern, size, skin lesions, and ulcers.

The venous pattern should be flat and barely visible. Varicosities are best noted when the patient is standing. The legs should normally be free from varicosities and swelling and should be symmetric. Jarvis explains how to measure the calf if a deep vein thrombosis is suspected.

Other items to be aware of include the following:

- If ulcers or lesions are present, describe their exact size and location.
- Compare legs for temperature by palpating along down to the feet.
- Review the maneuvers for testing for Homan's sign.
- Locate and palpate all of the peripheral pulses and inguinal nodes.

Check for pretibial edema by firmly pressing the skin over the tibia or medial malleolus for five seconds. Then, release. Pitting edema is not a normal finding in most persons. Individuals who stand for long periods or who are pregnant often have pitting edema. Remember that the most accurate measure of edema is a change in daily weight (1kg weight gain/loss = 1 litre gain/loss). However, many nurses use a grading scale for edema when weight cannot be used. This scale is as follows:

1+ = mild pitting (slight indentation)
2+ = moderate pitting (indentation subsides rapidly)
3+ = deep pitting (indentation remains for a short time), leg appears swollen.
4+ = very deep pitting (indentation lasts a long time), leg very swollen

Perform the colour test if arterial deficit is suspected. When you lift the legs 30 cm off of the table, a light skinned person's feet will normally be a little pale but will still be pink. To evaluate a dark skinned person, view the soles of the feet. Then, have the person sit up and watch for the return of normal colour (normally less than 10 seconds). The lower legs should be tested for strength and sensation.

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## PLA: Vital Signs

1. What is/are the difference(s) between pulsus paradox and pulsus alterans?
2. What is/are the difference(s) between pulsus bigeminus and pulsus bisferiens?

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# PLA: The Neck Vessels

1. What are the three areas on the carotid that should be auscultated?

2. What sounds are often incorrectly identified as bruits?

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## PLA: The Precordium

1. Under what client conditions might you not be able to palpate the apical impulse?
2. What conditions increase the amplitude and duration of the apical impulse?
3. What is a thrill?

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Nursing Health Assessment of the Cardiac Patient

## PLA: The Lungs and Thorax

To increase your recognition of adventitious breath sounds, go to the web site http://www.nurse-beat.com. Click on Links for Nurses. Here you will find the rale repository. This site provides helpful samples of adventitious sounds.

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# PLA: The Peripheral and Lymphatic Systems

1. What are reasons why capillary refill might be sluggish?
2. Imagine that you have noted the presence of scars, needle tracks in the antecubitar fossae, and linear scars in the wrist area on a patient. What would you say to a client who presented with these signs?
3. What could bilateral coolness reflect? Unilateral coolness?
4. What could be the significance of a positive test?
5. What are the problems with the grading scale used for edema by some health practitioners?
6. Describe how the manual compression test measures valve competency.
7. Describe the relevancy of the Trendelenburg.
8. When is the colour test appropriate?
9. What is the relevance of the ankle-brachial index?
10. What additional techniques should be utilized on infants and the elderly?

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Nursing Health Assessment of the Cardiac Patient

# Review of the Cardiovascular Assessment

A short summary of the process of performing the cardiovascular assessment involves three points:

- Collect all interview data first.
- Take your time to complete and correct the information.
- Remember the order for a cardiovascular assessment: vital signs, the neck vessels, the lungs and thorax, precordium, and extremities.

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# Application to Practice

Now that we have studied an ideal assessment, let's make this approach more realistic and workable for you. Consider the following questions and note down your reflections:

1. What areas of the assessment process are most practical and realistic for you given your workplace? Why?
2. What new areas as discussed in this module could you incorporate into your practice?
3. How does the method of documentation in your area support the type of assessment described in this module? How could it be adapted to support a holistic assessment?
4. How do you see yourself incorporating new elements and areas into your practice?

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Nursing Health Assessment of the Cardiac Patient

## Final Learning Activities (PLA/ILA)

1. Find a volunteer and conduct a complete cardiovascular assessment as outlined in this module. Organize your data and group "patterns."
2. Design a mini-version of the cardiovascular assessment you have been studying in this module that you could use for emergency or critical situations.
3. After carefully reading the case study that follows, create a nursing care plan for John. Follow the steps outlined in the module called Philosophy of Cardiac Nursing.

John Peters is an 86-year-old male who arrived at the emergency department an hour ago. He was playing cards with his friends when he began to cough. After the second game of poker, he complained that he could not breathe and his friends called 911.

On admission to the emergency department, John was diaphoretic, restless, and confused. His lips were bluish, and capillary refill was sluggish and 4 seconds. O2 saturations were 84%. He had brown stains on the first and second fingers of his right hand. Oxygen was applied at 30%. He was connected to a cardiac monitor which revealed sinus rhythm with multifocal, premature ventricular contractions. An IV was started in the right hand.

Vital signs on admission were as follows: T-36.7 P-110 (Apical) R-28/min BP 100/60. His chest revealed bilateral crackles to 1/2 of the lung fields. A CXR was done and blood work was taken. John was given lasix 40 mg via IV.

Currently, John's O2 saturations are 88%. He has voided 200 cc of clear urine. He is confused as to place and time. Crackles persist to the bases bilaterally. The monitor is unchanged. Lab results are not yet available.

John's wife, Hilary, arrives and gives you his medical history. John has suffered four heart attacks in the past ten years. The last one was in January of this year. John was a smoker. He smoked two large packages of cigarettes every day for 55 years. He quit after his last heart attack. He has chronic bronchitis. Last year, he was diagnosed with prostate cancer. Hilary tells you that "Even though he has all of these problems, he keeps going. His philosophy is to do what you have to do to keep alive." John completed his chemotherapy treatments and takes all prescribed medications. His meds include

Furosemide 60 mg bid
Nitrodur 0.8 mg od off at hs
Nitrospray 0.4 mg prn
Vasotec 5 mg bid
Slow K 1 tab q 2 days
Combivent puffer 2 puffs qid
Flovent diskus 100 mcg 1 puff bid
EC ASA 80 mg od

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# Final Thoughts

At this point, you have reviewed in detail the health assessment process as it involves a cardiac patient. This is a tremendously important step in the nurse's care of a cardiac patient. It is the step that when completed carefully sets the stage for the patient's course of treatment and eventual return to good health.

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Nursing Health Assessment of the Cardiac Patient

## Post-test

Given that there are thirty-five (35) questions in this Post-Test, keep in mind the following:

- 28 and higher -- represents a pass
- less than 28 -- represents a need for you to return to the module; you are allowed one re-write of the Post-Test

Use the following link to go to the **quiz tool**, then click the **Post-Test** link found there:

**QUIZ TOOL**

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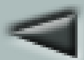
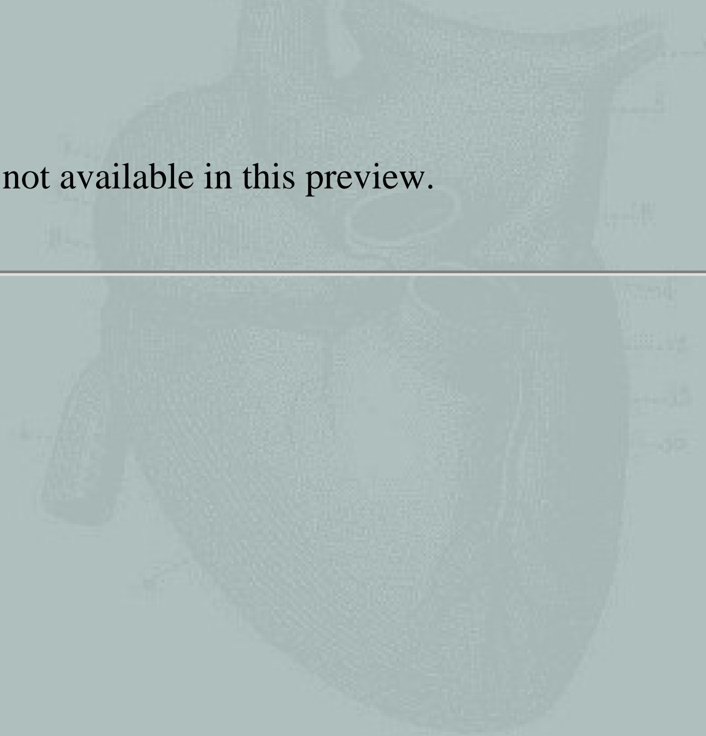
 course content



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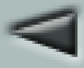

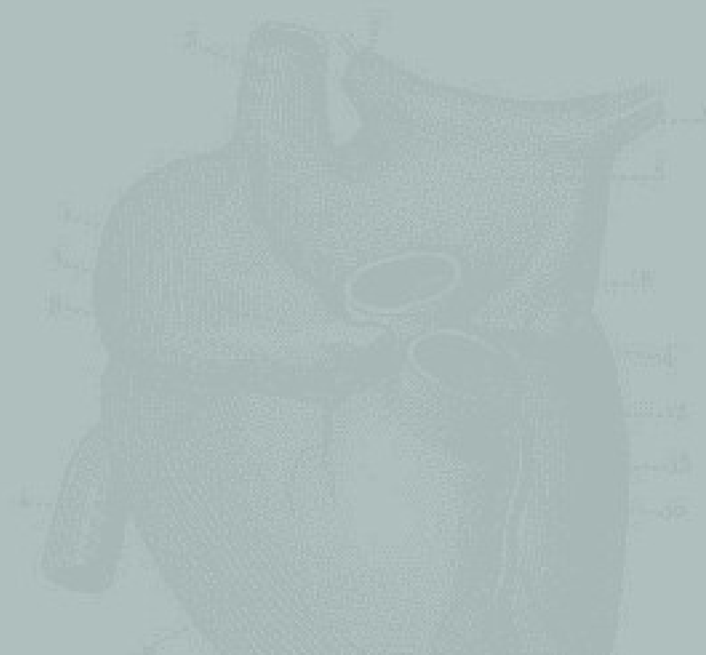

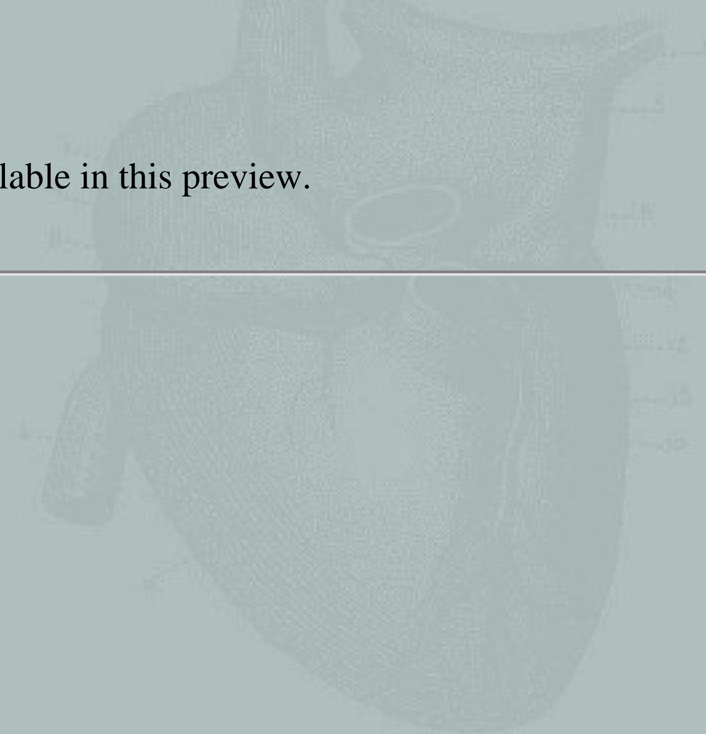

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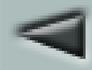

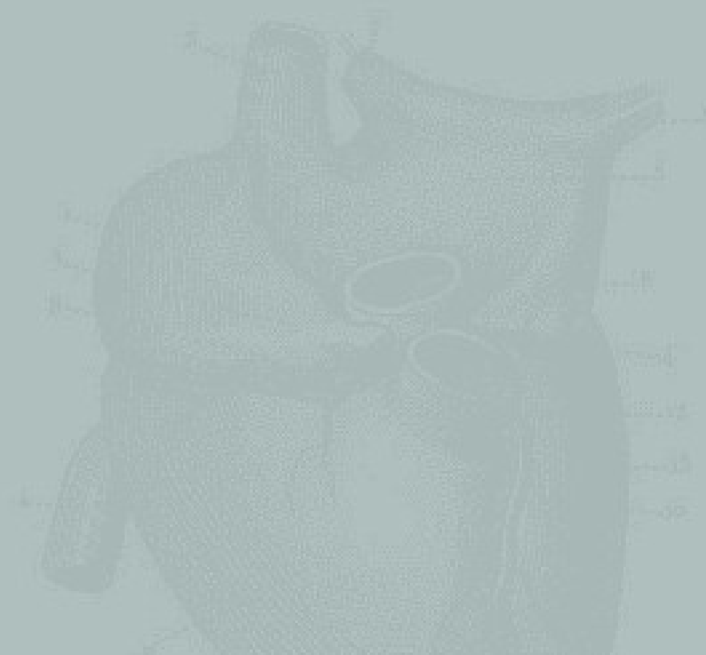

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