



January 26, 2004

Mayo Clinic Hospital
5777 East Mayo Boulevard
Phoenix, Arizona 85054
480-515-6296

Mayo Clinic Hospital developed several specific informational discharge instructions for patients included in the 7th Scope of Work. Each set of discharge instructions can easily be inserted in the electronic discharge instructions for the patient at discharge. The patient is given a copy of the discharge instructions and a copy remains in the patient's medical record. The main points of the Heart Failure program have been summarized for the discharge instructions. It gives the patient specific instructions at a glance and serves as a reminder what they need to do most importantly.

Additionally, the 7th Scope Workgroup at Mayo Clinic Hospital developed a Medical Discharge preprinted order. The intent of the preprinted order was to increase compliance with the 7th Scope indicators for Acute Myocardial Infarction, Heart Failure, and Community Acquired Pneumonia. All indicators for each diagnosis are included in a specific section of the order. The order form also serves as a reminder to the physician prescriber of the specific indicators of care that should be addressed for this patient population.

The preprinted discharge order has only been used for the past two months. As it is used, comments will be collected and taken into consideration for revisions. One issue to be changed is the placement of the order for discharge instructions; currently it is included in each section. It will be moved to the first page as a check box for the specific discharge instruction to be included. This will make it clearer for the RN to include the e-code in the discharge instructions since the RN does not always see the order for including the discharge instructions as it is in the current draft.

If you have any questions, please contact Nancy Cisar, MSN, RN, CNS, at Mayo Clinic Hospital, 480-342-2456 or e-mail at cisar.nancy@mayo.edu.

Discharge Instructions for: Heart Failure Patients

ACTIVITY:

- You may return to your regular activities, including sexual activity, as you are able.
- If you feel exhausted, very short of breath, or experience chest discomfort, stop what you are doing and take a rest.
- You may need to pace yourself with frequent rest periods.
- Many people with heart failure can do regular exercise. Please talk to your doctor about beginning a walking program.

DIET:

- Follow a low salt (also called sodium) diet. This will help to reduce fluid buildup in your body. Some patients with congestive heart failure may need a limit on the amount of liquids (such as water, juice, ice, soup, etc.) that they consume. Please ask how much of a salt and fluid restriction your doctor has prescribed.
- In addition, you should not drink beer, wine, or liquor because alcohol can weaken heart muscle in people with congestive heart failure.

DAILY WEIGHTS:

- It is important to weigh yourself each morning while you have on the same amount of clothing.
- Gaining weight rapidly can be a sign of fluid build up in the body and may lead to ankle swelling and shortness of breath.
- Record your weight in the daily weight diary.
- If you have a weight increase of two pounds for two days in a row (four pounds total), call your physician.

SMOKING CESSATION:

- If you smoke cigarettes or cigars, you have to stop.
- Please review the smoking cessation information given to you about the Nicotine Dependence Program. Please call (480) 301-4246 for more information or ask your doctor for help.

PAIN MANAGEMENT:

- Take the pain medicines ordered to help relieve soreness and to make activity easier. Be aware that pain medication can cause constipation. You may take over-the-counter products to help relieve or prevent this. Please do not use over-the-counter NSAIDS such as ibuprofen. You may use acetaminophen.

MEDICATIONS:

- You have been given a list of your medication schedule. Medicines for congestive heart failure are designed to make you feel better, strengthen your heart, and live longer.
- Your medications are likely to have been changed while you were in the hospital. It is important that you understand your new medication regimen exactly before leaving the hospital.
- Your nurse will review all of your medications with you before discharge.
- Discuss with your doctor, nurse, or pharmacist any new feelings you think might be side effects from your medicines.
- Do not stop taking any medications on your own without calling your doctor's office first.
- Consult your pharmacist or health care provider before taking over-the-counter medicines or herbal supplements.

FOLLOW-UP:

- You should see your doctor within the next two weeks. Make an appointment before you leave the hospital, if possible.
- If your heart failure symptoms worsen, you should call your doctor.

Symptoms of heart failure include:

- Rapid weight gain—over two pounds for two days in a row (four pounds total).
- Shortness of breath (especially at night or lying flat).
- Ankle swelling or edema.
- Increasing fatigue.

Call 9 1 1 for emergencies, such as:

- Chest pain or pressure that is new or present at rest (if you have been given nitroglycerin pills, make sure that you understand how to take them).
- Severe shortness of breath or breathing problems that don't get better with rest.
- Fainting.
- Unexplained sweating, nausea, or vomiting.
- Trouble with speech, sudden weakness, or paralysis.



DRAFT Number (above) and Name

Physician's Orders
Medical Discharge Orders

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Note: Formulary drugs, including equivalent drug products approved by the Pharmacy and Therapeutics Subcommittee, will be issued except when a "no substitution" order is written for a non-formulary drug.

Discharge Patient to:

- Home
- Home with: Hospice, Home Health Services, IV Services
- Skilled Nursing Facility: MCH, Outside
- Rehabilitation: MCH, Outside
- Extended Care: Group Home, Nursing Home, Assisted Living
- Other: _____

Discharge Diet:

- Regular
- Cardiac
- Diabetic diet Calories _____
- Coumadin/Low Vit K Restriction (Consistent Vit K diet)
- Other diet: _____

Home Health Orders:

- Physical Therapy _____
- Occupational Therapy _____
- Speech Therapy _____
- Home Safety Evaluation _____
- Visiting Nurse for:
 - Medication management
 - Other _____

Nursing:

Discharge Activity:

- No Restrictions Other Activity: _____

IV/PICC line: Continue Discontinue

Foley Catheter: Continue Discontinue

- Provide patient with CHF discharge instructions (*See IDX for electronic e-code for CHF Discharge Instructions*)
- Provide patient with MI/stent discharge instructions (*See IDX for electronic e-code for MI Discharge Instructions*)
- Provide patient with Post Cath Lab discharge instructions (*See IDX for electronic e-code for Post Cath Lab Instructions*)
- Provide patient with Post Pacemaker/ICD discharge instructions (*See IDX for electronic e-code for Pacemaker/ICD Instructions*)
- Cardiac Rehab Phase II Prescription Location: _____

Patient to attend the following class(es) at Mayo Clinic in Scottsdale:

- Anticoagulant Class
- Stress Management
- Wise Heart/Healthy Exercise
- Smoking Cessation

Special Instructions: _____

Please complete an MSR for follow-up appointments

Follow-up Appointments:

1. _____
2. _____
3. _____
4. _____

Contact your outside provider Dr.: _____

Nicotine cessation

- Patient has **not** used nicotine containing products within the past year – skip to next section
- OR**
- Patient has used nicotine containing products within last year
 - Patient was counseled on tobacco cessation by health care team
 - Smoking cessation consult prior to hospital dismissal (Monday – Friday only)
 - Refer to Smoking cessation class at Mayo Clinic Scottsdale
 - Nursing to have patient complete Arizona Tobacco Education and Prevention form. FAX to phone number on the form
 - Other:

Discharge Medications: (Include medication, dose, route and frequency)

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____
- 11. _____
- 12. _____
- 13. _____
- 14. _____
- 15. _____
- 16. _____
- 17. _____
- 18. _____
- 19. _____
- 20. _____

Complete this section if the patient is to be discharged on Warfarin (Coumadin)

Date next INR to be checked _____

Location of laboratory INR to be drawn:

- Mayo Clinic Scottsdale Mayo Clinic Thunderbird Mayo Clinic Hospital Mayo Clinic Arrowhead
- Other lab (specify) _____

Anticoagulation will be followed by:

- MCS Coumadin clinic - please complete an “Anticoagulation Clinic Enrollment Form”
- Other provider (specify) _____

You must complete the following sections if any of your discharge diagnoses include heart failure, pneumonia or myocardial infarction

A. Congestive heart failure:

Assessment of left ventricular function

- Performed
- Not performed because:
 - Known poor left ventricular function
 - Terminal condition
 - Other: _____

Angiotensin Converting Enzyme Inhibitor (ACE) use for LVEF < 40%

- LVEF > 40%
- ACE inhibitor given
- ACE inhibitor not given because:
 - Patient intolerance (specify) _____
 - Renal failure
 - Other: _____

B. Pneumonia:

Antibiotics

- Patient was treated with approved antibiotic (Levofloxacin, Ceftriaxone, Azithromycin, etc)
- First antibiotic dose within 4 hours of admission.
- Patient was treated with an alternative antibiotic because:
 - Hospital or institutionally acquired infection
 - Drug allergies
 - Neutropenia
 - Other : _____

Blood cultures obtained prior to antibiotics

- Blood cultures were obtained prior to antibiotic administration
- Blood cultures were not obtained prior to antibiotic administration because:
 - Difficult laboratory drawn / venous access
 - Patient already on antibiotics
 - Other: _____

Immunization Instructions:

Pneumovax

- Patient current on Pneumovax (given within the last 5 years) Date: _____
- Pneumococcal Vaccine 0.5 ml IM once before discharge. Give Pneumovax at time of dismissal
- Pneumovax not given because:
 - Patient is unsure of their vaccination status and wished to discuss with own provider
 - Allergy / sensitivity
 - Patient refuses
 - Terminal condition
 - Other: _____



Influenza

(Note: Influenza vaccine is only given during the annual/published vaccine season, usually October – March.)

- Patient current on influenza vaccination
- Influenza Virus Vaccine 0.5 ml IM once before discharge. Give Influenza vaccine at time of dismissal
- Influenza not given because:
 - Patient is unsure of their vaccination status and wished to discuss with own provider
 - Allergy / sensitivity
 - Patient refuses
 - Terminal condition
 - Out of season
 - Other: _____



C. Acute myocardial infarction:

Anti-platelet/Anticoagulant:

Aspirin at discharge

- Given
- Not given because:
 - Known aspirin intolerance
 - Active bleeding
 - Coumadin prescribed at dismissal
 - Terminal condition
 - Other: _____

Beta blocker:

- Given
- Not given because:
 - Known poor left ventricular function
 - Prior beta blocker intolerance
 - Bradycardia
 - Heart block on EKG (*other than 1st degree heart block*)
 - Terminal condition
 - Other: _____

Nitrates :

- Given
- Not given because: _____

Hyperlipidemia :

- Lipids were checked during the hospital stay
- Lipid lowering agent given

Angiotensin Converting Enzyme Inhibitor (ACE) use for LVEF < 40%:

- LVEF > 40%
- ACE inhibitor given
- ACE inhibitor not given because:
 - Patient intolerance (specify) _____
 - Renal failure
 - Other: _____

Angiotensin Receptor Blocker (ARB):

- Given
- Not given because: _____

- Other orders (use blank Physician's Order form MCS 6935).

Date _____ Time _____

Physician's Signature _____

Pager # _____

Printed Name _____



SCOTTSDALE
HEALTHCARE™

Re: Quality Measures for Cardiac Care—Progress Notes

Scottsdale Healthcare is a multi-site facility. A common theme we identified across all patient care areas is a need to improve clinical documentation in a manner that will support the activities of the patient care team. The collaborative approach we developed had Medical and Nursing representation work on a change project that developed a new Physician Progress Note. This Physician Progress Note has a bright purple border for easy identification in the patient chart.

This Progress Note is a stock form available to all of our nursing units. The form will be placed on the chart of any patient that meets the AMI or CHF criteria. We also asked our Case Managers to assist the clinical staff in monitoring the usage and completeness of the forms.

After implementing the form we found an opportunity to further improve the form. In the next version of the form to be released to the nursing units we will be removing the horizontal lines used for additional progress notes under the Quality Measures boxes. We found the lines were used for multiple progress notes and was presenting a challenge to our Medical Records staff.

When this form is properly used, we find it is a good communication tool for all clinical staff that greatly assists our data abstractor in collecting the information for public reporting.

For additional information, contact:

Jon Chandler, RN, MBA
Consultant—Quality Outcomes
Quality Enhancement Services
480.860.3775
jchandler@shc.org



PROGRESS NOTES

NOTES SHOULD BE SIGNED BY PHYSICIAN

DATE _____

Quality Measures for Cardiac Care

Acute MI	Yes	No	If No, Reason:***
ASA upon arrival*	_____	_____	_____
ASA at discharge	_____	_____	_____
β-blocker upon arrival**	_____	_____	_____
β-blocker upon discharge	_____	_____	_____
ACE inhibitor for LVSD	_____	_____	_____
Assessment of LVF	_____	_____	_____
EF: ___ Date: _____			
(Echo) (LV Gram) (MUGA)			

* Drug given within 24 hours before or after arrival

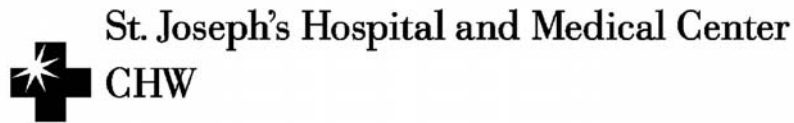
** Drug given within 24 hours after arrival

*** Document reason for not giving medication (e.g., intolerance, bleeding, hypotension, bradycardia, ARB used, etc.)

CHF	Yes	No	If No, Reason:***
ACE inhibitor for LVSD	_____	_____	_____
Assessment of LVF	_____	_____	_____
EF: ___ Date: _____			
(Echo) (LV Gram) (MUGA)			

Physician Signature: _____





Re: Orders for Patient Admitted with Congestive Heart Failure, Congestive Heart Failure Discharge Form

St. Joseph's Hospital and Medical Center in Phoenix has worked closely with HSAG over the years on several quality improvement initiatives to improve the care of cardiac patients using best practice guidelines.

St. Joe's has had a very active multidisciplinary Cardiac Quality Team (CQT) since the early 1990s that has addressed various aspects of improving the care provided to our cardiac patients. In 1999, a team developed some tools to improve the care of the heart failure (HF) patient.

Tools include:

- CHF Admission Order Sheet that includes a back page with "academic detailing" for attending physicians and residents. Please note: This order form is currently being revised. Revisions will include removal of the ARB option on line 16. The original orders have been provided as an FYI example for format.
- An illustrated Heart Failure Patient Education booklet is provided to each heart failure patient prior to discharge—with all the required education elements: information on what heart failure is and the goals of treatment, facts to know, a 10-page Cardiac Nutrition section, and a 12-page Cardiac Medication information section that discusses over-the-counter medications that should be avoided. There is also a Web site resource page, a resource Information page with room to write the physician's name and contact information, and, finally, a two-page weight and symptom log for heart failure patients to use after discharge. This information is not available electronically, but we would be happy to share with anyone interested. Since this book was developed in 1999 it will be updated prior to next printing.

Leadership approved an additional dedicated cardiac rehabilitation nurse to focus on identification of heart failure patients and provide education prior to discharge. Those nurses developed a unique way to identify HF patients through an electronically generated daily lab report of BNP's > 200. The nurses are often able to dialogue one-to-one with physicians on the nursing units to discuss the use of an ACE, if indicated.

The Cardiac Quality Team meets monthly and forms sub-teams when necessary to work on projects. Recently, our team developed a two-page Heart Failure Discharge Instruction Form modeled after the ACC Michigan AMI/GAP project. The process for initiating the DC form includes the cardiac rehabilitation nurse seeing the patient, documenting any

available information on the form, and placing the partially completed form in the patient's chart. It should be noted that we have had difficulty with attending physicians completing the forms. We have had success with completion of the DC form by Medicine and Family Practice residents. Compliance by house staff has been achieved through Noon Conference educational presentations by our Physician Champion and Cardiac Quality Team members. The presentations include goals and objectives for achieving best practice in care of cardiac patients, reviewing the various forms, and providing hospital comparative data for each of the indicators. These educational programs will be provided annually when the new residents arrive in July.

If the discharge forms are not completed by the physicians, we are relying on our staff nurses to complete the form at the time of discharge. We have seen significant increase in compliance with providing all discharge elements since implementation of this process.

We are focusing on physician education to improve documentation of contraindications to ACE. Compliance is particularly difficult when the patient is on an ARB and no contraindication to ACE can be found in the record.

Education on compliance with indicator criteria is provided at various Medical Staff meetings by the quality specialist and/or the CQT Physician Champion, at house staff orientation, and by informational letters sent to physicians whose cases have fallen out at time of review due to lack of documentation.

We also provide regular reports on our compliance with the indicators in the form of a dashboard to our Medical Staff Committees, Quality Council, and the Community and Corporate Boards of Directors. The dashboard results are either red or green, depending on whether a goal is met or not met.

We have started rewarding our house staff with such things as coffee coupons when we see good documentation of contraindications to medications in the patient record.

In addition to the Cardiac Quality Team Physician Champion who has oversight for all AMI/ACS and CHF quality initiatives, we now have a Heart Failure Physician Champion who will be working with the Heart Failure sub-team to further expedite process improvement initiatives.

For additional information, contact:

Mary Lou Korwes, BS, RN, CPHQ
Quality Improvement Department
St. Joseph's Hospital and Medical Center
Phoenix, Arizona 85013
Phone: 602-406-4973
Pager: 602-746-9248
Fax: 602-406-4115

Orders for Patient Admitted with Congestive Heart Failure

1. Admit _____
2. Telemetry Yes No
3. Diagnosis: CHF secondary to: _____ EF= _____
4. Other Diagnosis: _____
5. Allergies: _____ Height: _____ Weight: _____
6. Activity: bed rest with bathroom privileges Other: _____
7. VS q̄ 8 hours
8. Weight on admission and daily
9. Strict I's/O's
10. O₂ to keep sat >= 92%
11. Diet: Low salt (2 gm) Low salt ADA Other: _____
12. Cardiac Rehab/Education referral Yes No
13. Smoking Cessation Education Yes No
14. Case Management/Social Service Yes No
15. Cardiology consult Yes No Call: _____
16. Medications: see reverse for ACA/AHA guidelines Reason not on ACEI/ARB: _____
 ACE Inhibitor/ARB _____ EF>40% K>5.5 SBP<90
 Diuretic _____ Other _____
 Potassium Supplement _____
 Beta Blocker _____
17. Labs: CMP with Mg on admission
 CBC Add: TSH
 BMP QD BNP
 CPK-MB at time 0, 6 hours, and 12 hours after arrival at hospital; add troponin to CPK draw done
 greater than 6 hours after onset of chest pain.
 Other _____
18. Test and Procedures: CXR on admission (if not done in ED)
 ECG on admission (if not done in ED) and in a.m.
 2D Echo if indicated Indication for Echo: New onset CHF
 (including full doppler study) CHF, EF never documented
 CHF, EF not known by PCP
 CHF, Major change in status
19. Additional orders:

Anticipated Discharge Date _____

Physician Signature

Date/Time

COMMON CAUSES OF HEART FAILURE

Ischemic heart disease - Hibernating myocardium Hypertension Dilated cardiomyopathy	Valvular disease Congenital heart disease Pericardial disease Thyroid disease	Alcohol abuse Hypertrophic cardiomyopathy Restrictive cardiomyopathy Arrhythmias	Drugs: NSAIDs, Beta blockers, Diltiazem, Verapamil High-output states Hemochromatosis
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NEW YORK HEART ASSOCIATION FUNCTIONAL CLASSIFICATION

- Class I** Patients with cardiac disease but without resulting limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain.
- Class II** Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
- Class III** Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.
- Class IV** Patient with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.

ACE Inhibitors:

Indications: Patients with an EF < 40%
 Contraindications: Angioedema or acute anuric renal failure with previous ACE use; pregnancy
 Caution if: SBP <80; Cr > 2.0; bilateral RAS; K > 5.5
 Number needed to treat (symptomatic CHF) for 4 years to avoid one death = 20

Drug	Initial Dose (mg)	Target Dose (mg)	Maximum Dosage (mg)	\$AWP - Target dose/mo
enalapril	2.5 BID	10 BID	20 BID	66.22
captopril	6.25 - 12.5 TID	50 TID	100 TID	95.18
lisinopril	5 QD	10 - 20 QD	40 QD	29.74
quinapril	5 BID	20 BID	20 BID	60.99
benazepril	10 QD	40 QD	40 QD	23.71
fosinopril	10 QD	20 QD	40 QD	25.86
ramipril	1.25 - 2.5 BID	5 BID	10 BID	57.67

Beta Blockers:

Indications: Stable NYHA Class II or III with EF < 40% unless contraindication. Use with ACE and diuretics
 Number needed to treat for 9 months to prevent one death = 21 - 40

Drug	Initial Dose (mg)	Target Dose (mg)	Maximum Dosage (mg)	\$AWP - Target dose/mo
atenolol	12.5 - 25 QD	100 QD	200 QD	7.50
metoprolol	12.5 BID	50 BID	200 QD	9.00
carvedilol	3.125 BID	25 BID		96.90 184.45

Aldosterone Antagonists:

Indications: Recent or current NYHA Class IV. To be used in conjunction with other standard therapy
 Contraindications: K > 5.0; Cr > 2.5
 Number needed to treat for 2 years to prevent one death = 9

Drug	Initial Dose (mg)	Target Dose (mg)	Maximum Dosage (mg)	\$AWP - Target dose/mo
spironolactone	12.5 - 25 QD	50 QD	200 QD	12.90

Angiotension II Receptor Blockers:

Indications: Consider ARB in patients intolerant of ACE due to angioedema or intractable cough.

Drug	Initial Dose (mg)	Target Dose (mg)	Maximum Dosage (mg)	\$AWP - Target dose/mo
losartan	25 - 50 QD	50 QD	100 QD	48.50
irbesartan	75 - 150 QD	150 QD	300 QD	49.70
valsartan	80 QD	80 QD	320 QD	46.50
candesartan	8 - 16 QD	16 QD	32 QD	57.25

This protocol does not substitute for clinical judgement. Guideline recommendations represent general statements regarding appropriate care and cannot address or anticipate the specifics of every clinical situation and the unique needs of individual patients.

Team members: N. Klein, D. Sink, W. Aslany, D. Lauer, D. Zadrozny; A. Van Patten; D. Simons; L. Smyth; F. Ballard; C. Hopley; ML. Korwes; L. Unruh; S. Reisch; D. Bedker; P. Beucus; S. Morton; L. Sparling; C. Mohammed.

References: 1. Consensus Recommendations for the Management of Chronic Heart Failure. American College of Cardiology. JACC 1999;83: 1A-38A. 2. The Effect of Spironolactone on Morbidity and Mortality in Patients with Severe Heart Failure. Pitt B, Zannad F, Remme WJ, Cody R, Castaigne A, Perez A, Palensky J, Wittes J. NEJM 1999;341:709-717. 3. 2000 Drug Topics Red Book. Medical Economics Inc. 2000.

Congestive Heart Failure Discharge Form

4. Quit Smoking. I understand that smoking denies my heart of vital oxygen and increases the risk of developing an irregular heart rate and high blood pressure.

I have smoked in the past year. Yes No

I smoke and have been counseled to stop. Yes I do not smoke.

I will stop smoking by (date) _____

I have been given medication to help me stop: _____

Referral to smoking cessation classes:

Call AZ Smokers Hotline at phone: 1-800-556-6222.

5. Eat a Diet Low in Fat, Cholesterol and Sodium (Salt). I understand that sodium may elevate my blood pressure even further. (Refer to Congestive Heart Failure Home Management guide).

I have received counseling about a low salt diet. Yes No Does not apply to me because _____

Nutrition Services Contact: Call the American Heart Association at 1800-242-8721

6. Exercise Regularly. I understand I must follow my doctor's guidelines.

7. Learn about Congestive Heart Failure.

I have received the St. Joseph's Congestive Heart Failure Home Management guide, which includes: Yes No
 • diet • signs/symptoms • activity
 • weight monitoring • when to call my doctor

I know the warning signs & symptoms of congestive heart failure and what actions to take if they occur. Yes No

I have received instructions on my discharge medications. Yes No

8. Follow-Up with my physician.

I will make a follow-up appointment made with my physician. Yes No Does not apply

The number to call for a follow-up appointment by _____ is _____ - _____.
 (date)

Name _____

9. Other: Home Care/Treatments

Nurse or Physician Signature/Date/Time:	Patient Signature/Date:
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