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Pathology and Laboratory Medicine
VA Medical Center, Salem, VA
Written: June 17, 1999

COMPUTER PROCEDURE MANUAL
Approved by: _____
Chief, P&LMS

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04/04/05	Beatrice Wilkinson	06/15/10	Aaron Ibarra		
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OVERVIEW OF LABORATORY COMPUTER SERVICES

The Laboratory Information System is part of a larger shared in-house Hospital Information System. As of August 22nd, 2015 VistA servers were migrated to the Defense Enterprise Computing Center (DECC) that is physically located at the Warner Robbins Region 3 Data processing Center. The new operating system is Linux based. Access to the laboratory portion of the system is gained through an access authorization process in order to protect the programs, files and patient data. The Veterans Health Information Systems and Technology Architecture (VISTA) software is not a commercial package. It was written and is periodically upgraded by the Department of Veterans Affairs. The laboratory is using Version 5.2 of VistA LAB, installed in March 1995. This software system is used nationwide by 23 Veterans Integrated Service Networks (VISN), including 163 Veteran Affairs (VA) Medical Centers and more than 800 Outpatient Clinics. Because the system is shared, the laboratory is not responsible for all aspects of data storage and retrieval, hardware, software, system maintenance, security, or personnel. Specific laboratory responsibilities in these areas are addressed in sub-sections of this manual. As necessary, references are made to services with whom responsibility is shared or delegated by the hospital. Chief, Pathology and Laboratory Medicine Service (P&LMS) has delegated the responsibility of bi-annual review of laboratory computer procedures to the Laboratory Information Manager.

The laboratory uses the computer system for accessioning, processing, reporting, and storing data in Chemistry, Blood Gas, Hematology, Coagulation, Urinalysis, Serology, Microbiology, Mycology, Mycobacteriology, Parasitology, Cytology, Surgical Pathology, Autopsy and Blood Bank. Accessioning, review and data entry of referral tests started on April 01, 1996. The Laboratory Electronic Data Interchange (LEDI) II software that provides a VA to VA interface was implemented with the first referral site in May 2004. LEDI III that provides a VA to Department of Defense (DOD) or commercial lab interface was installed on January 13, 2005. A Virtual Private Network (VPN) and a national solution/agreement for protection of privacy and security followed. Implementation of LEDI III with an automated HL7 interface between Salem and its Referral Laboratory started in October 2007.

Providers of care enter electronic orders for all sections of the lab except Anatomic Pathology. Requests for this section are submitted on standard VA forms which are completed by ward personnel.

Implementation of physician electronic order entry began in March 1995, and was expanded to include most areas of the hospital prior to the implementation of the Computerized Patient Record System (CPRS) on October 30, 1998. During down times, manual request forms are completed by ward personnel and submitted to the laboratory for all sections.

The computer generates an interim report (work copy) of all test results for each ward or clinic as the tests are completed and verified, if requested. The interim report prints all the ordering locations subject to urgency cut-off as requested by the Automated Data Processing Applications Coordinator (ADPAC) for that location. Reports ordered with an urgency of STAT or Life Threatening Emergency (LTE) print at all locations. Printing of cumulative patient reports was discontinued on December 18, 2000, and was replaced by the electronic record in CPRS. The cumulative report format that consolidates test results to enhance the clinician review process is available in CPRS but has been eliminated from display in the lab software. Blood product allocations are available on-line to ward personnel upon completion of crossmatch or unit selection. After verification, Clinical and Anatomic Pathology results are available on-line to appropriate users. An electronic signature was added to the verification/release process for Anatomic Pathology starting in June 2004.

Written by: Beatrice W. Wilkinson, MT

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ADP SECTION
VA Medical Center, Salem, VA
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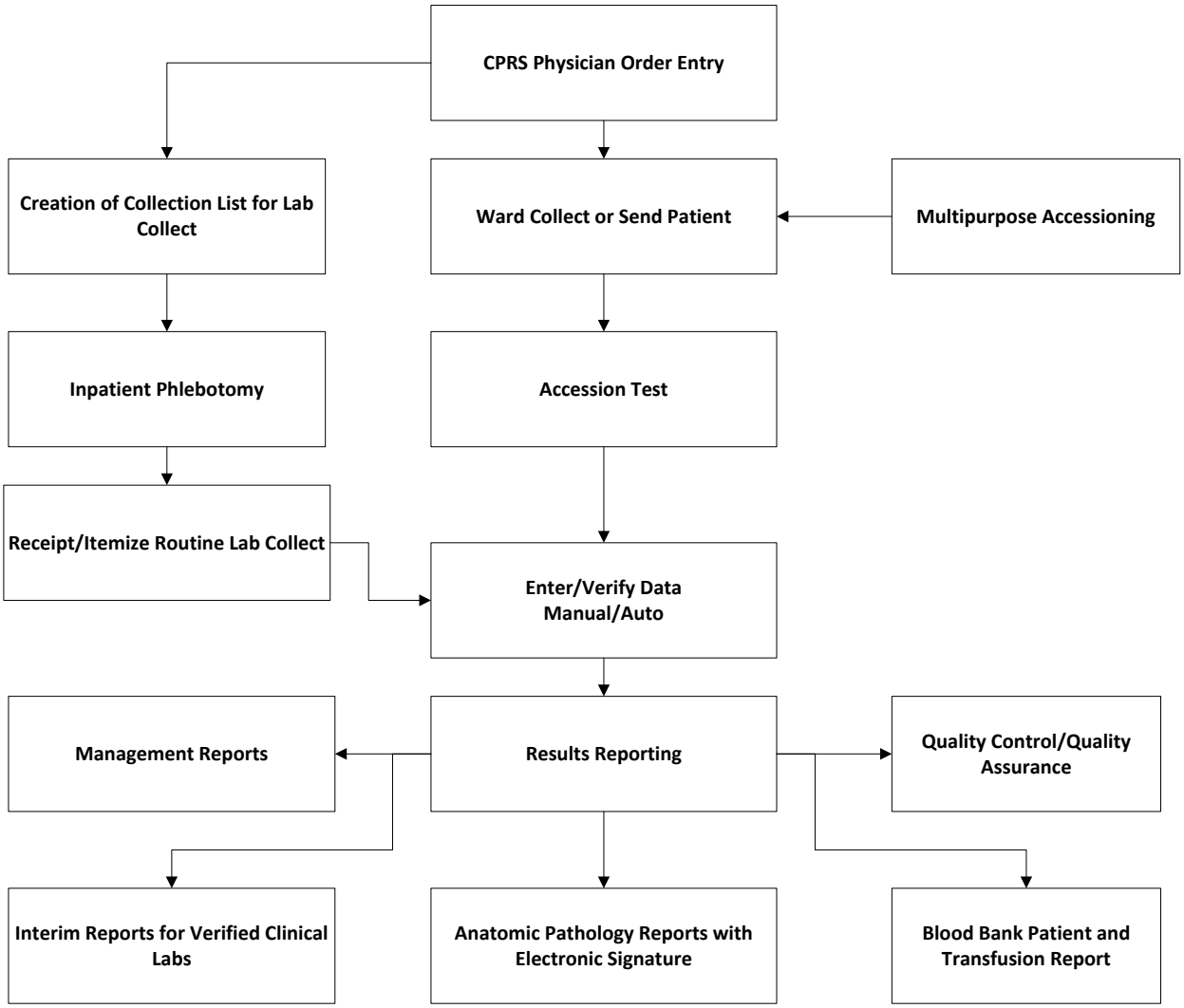
PROCEDURE MANUAL
Approved by: _____
Chief, P&LMS

LABORATORY MODULE WORKFLOW



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HOW TO USE THIS MANUAL

This manual is designed to serve as a laboratory VistA applications training guide for laboratory personnel. The user will first learn about:

- The VA computer system
- Sign on and sign off procedures
- Special commands, keys and conventions
- Basic communications with the computer

Next, the user will learn about specific laboratory policies concerning:

- Environment and security
- Data management – entry, retrieval and storage
- Maintenance
- Back-up contingency protocols

The user will learn about laboratory menu options, workflow, and basic troubleshooting. An alphabetical listing of option documentation, a glossary of terms and pertinent references are included at the end of this manual.

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INTRODUCTION TO VA COMPUTER SYSTEM

A computer system is composed of hardware and software.

I. Hardware

A. The main computer servers and processors are located in Warner Robbins, GA (DECC) and are connected to the lab via a main computer network.

B. Computer workstations in the lab are Personal Computers (PCs). Each PC has a CENTRAL PROCESSING UNIT (CPU), MONITOR, KEYBOARD, and MOUSE. A PC has a processor and contains a hard drive, local memory, and disk drives.

II. Software

Lab software is a package within the Veterans Health Information Systems and Technology Architecture (VistA) software that runs our Hospital Information Systems. The software consists of the computer programs that allow you, your network workstation, and the main computer to interact. VistA contains a set of instructions that control what you see on your monitor screen, what instructions you may enter on your keyboard, and what the main computer will do with the instructions you have entered. VistA uses an interactive language, meaning that a dialogue takes

place in which you give the computer information and the computer asks for more information or further instructions.

A. VistA Prompts and the Cursor

A computer prompt is followed by the colon ":" or a question mark "?" and a cursor (usually a flashing rectangle). The prompt is an instruction the computer gives you or a question the computer asks on your monitor. The prompt tells you what kind of information the computer is seeking (such as, **Select NAME:**), and the cursor indicates that the computer is ready for you to type the information on your keyboard. Press the Enter or Return keys to send your response to the computer.

B. General VistA Conventions and Keys

The following are a list of General Actions you can use throughout VistA's many applications. Try to keep them mentally handy as many of them can get you out of trouble:

? Provides general information about what the system expects to receive at a given prompt.

?? Provides more detail concerning what the system expects to receive at a given prompt.

??? Provides the maximum information concerning what the system expects to receive at a given prompt.

// A prompt followed by a "//" indicates a default. When entering orders for an outpatient in OE/RR, the patient location defaults to the last location the patient was checked in to. It appears as follows:
Patient Location: Portsmouth// The "//" lets you know that Portsmouth is the default answer to the prompt Patient Location. You can change the answer if you want.

Date At any date prompt, you can enter T for today's date, T-1 for yesterday's date, T+2 for two days into the future, T+3 for three days into the future, etc. The system will accept up to +/- 999 days. It will also accept a number of numeric date formats. Examples would be 082298, 08/22/98, 8/22/98, 8-22-98, etc.

^ The up-arrow "^" stands for "exit" and allows you to exit an option or prompt.

^(Option) The up-arrow "^" followed by an option name or option synonym exits from the current option to the newly designated option.

^(Prompt) If you are in an option that has many prompts, and you want to skip some (allowing that they are not required fields), you can use the "^" followed by the title of the prompt (or field) you want to jump to.

^^(Prompt) The "^^" command is commonly referred to as the "Rubber Band Jump". This is because you can jump to a prompt or option, complete or use it, and be returned back to where you entered "^^".

@ This is the delete command. Enter it at a default entry to remove a default answer you wish to erase but not necessarily replace.

- The minus or hyphen is used to delete names from a mailing list. For example, if you are sending a message to a group of people but don't want Smith, John to see it, type **–SMITH,JOHN** at the **and to** prompt.

<Space><Enter> On a select question or prompt, if you wish to enter the same answer just previously used for that question, you may respond with a space and the enter key. The computer will insert the most recent response to that question.

DEVICE When you are prompted for a device, it generally refers to a printer. Simply type in the name of the printer you would like to send the message to. Entering **HOME** here will print the message to your computer screen. Entering **P-Message** will convert a report into a mail message.

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10/13/04	Beatrice Wilkinson	03/27/13	Suzanne Stoneman		

ENVIRONMENTAL AND SECURITY CONTROLS IN THE LABORATORY

I. ENVIRONMENTAL SECURITY

A. Physical Security: The laboratory is a secure area of the hospital. All doors are secured and locked and/or the areas are maintained by laboratory personnel. Other house staff and visitors may enter only under supervision. All video display terminals and printers are located in secured areas and are not readily viewed or accessible by passers-by. Equipment will be placed such that the wires and cabling are protected from traffic.

B. Electrical and Fire Protection:

1. Electrical power interruptions and surges: The systems contained in the computer room are protected by a Power Distribution System. The systems have a central processing unit (CPU) battery back-up providing ten minute memory retention and are located in the computer room. Remote peripheral areas (i.e. lab) have surge protectors installed on all equipment.

2. Fire: The computer room is equipped with an Integen fire extinguishing system. The computer training room, supply storage area, Automated Data Processing (ADP) staff offices, and remote peripheral areas (i.e. lab) are protected with a water sprinkler system and hand held fire extinguishers. Fire training is required yearly as part of the safety program.

3. Personal Activities/Behavior: No eating, drinking, or smoking is allowed near computer equipment.

4. Equipment and Data preservation: Information Resources Management (IRM) has preservation procedures which are followed in regard to fire and software/hardware failure.

II. PERSONNEL SECURITY

A. Data Security: Access to the laboratory database is controlled through authority levels of menu management utilizing access codes, verify codes, and security keys. All laboratory personnel have access necessary to perform their job functions. Specific security keys, controlling menu options, and access are assigned for specific positions. Different menus

exist for the following basic positions within the laboratory: Phlebotomist/Technician, Phlebotomy Supervisor, Secretary, Pathology Program Assistant, Medical Technologist (MT), Lead MT, Supervisor MT, Blood Bank Lead Technologist, Chief MT/Lab Manager, Anatomic Pathology Tech, Cytotechnologist/AP Supervisor, Pathologist, Service Chief, Lab Information Manager (LIM), MT Technical Specialist/Back-up LIM and Ancillary Testing Coordinator.

1. Access: It is the responsibility of the Service Chief, in cooperation with the LIM, to assess an employee's level of access based on what is required for proper job performance. Access is limited to a "need to know" and an "ability to perform" basis. Refer to Salem OIT Standard Operatory Procedure (SOP) 51 R3200 VistA Access Review Menu. This SOP establishes procedures and responsibilities for recurring review (every 180 days) of VistA accounts to ensure appropriate level of access or continued need.

2. Access Codes: Assigned by the local IT Specialist on an individual basis after clearance by the LIM or Service Chief. A verify code, which is created by the user, is used in the sign-on process. Verify codes must be changed every 90 days as prompted by the system.

B. Training:

1. Responsibility: The LIM is responsible for introducing Pathology and Laboratory Medicine Service (PALMS) personnel to VistA. Training in the detailed use of the system will take place in the individual sections. The LIM also serves as a liaison and reference to other services involved with utilization of the package (Community Based Outpatient Clinics (CBOCs), Quality Management, Nursing, Infection Control, and Pulmonary).

2. Supervisors will ensure that their employees comply with both the letter and spirit of the Health Insurance Portability and Accountability Act of 1966 (HIPAA) and security regulations as well as security control procedures. A security statement has been added to all laboratory position descriptions, and the Veteran Affairs National Rules of Behavior are reviewed and signed annually. Annual mandatory training modules for Privacy and for Computer Security are completed VISN-wide and monitored by the facility Privacy Officer and the facility ISO.

3. Training checklist: A training checklist will be given to each new lab employee. The end of the computer training, the new user and LIM will sign the checklist. The number of hours training will also be recorded. Prior to the employee's start date they will complete all required training and sign the hospital security agreement, VA National Rules of Behavior.

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LABORATORY ADP TRAINING OBJECTIVES

(Employee will date and initial each section after reviewing with the Laboratory Information Manager)

_____: (Initials/date) 1.) **NETWORK ACCESS**

User name: VHASAMxxxxx
Password: requires 8 or more characters, alphanumeric with punctuation, lower case
Do not use "^" or ";"
Use same password for Network login and Vista login
Must change password every 90 days (will prompt you of upcoming change)
Must sign in every 90 days or lose access to the network
Always lock your computer or log off when you leave your workstation.
To lock computer, press CONTROL ALT DELETE keys and click on LOCK THIS COMPUTER or click the WINDOWS key + L.
To log off computer, click on LOG OFF
PIV card pin log-in. Remember to renew your PIV card a month before it expires with your LIM.

_____: (Initials/date) 2.) **VISTA ACCESS**

Access code: assigned by IT; this code will never change
Verify code: use Network password as your Verify Code
Tool box (^TBOX) for user characteristics and Password change
Electronic Signature: use same as PIV pin
Review VistA Training Guide
Review Computer User Manual
Vista Email: read/send/save/delete
Vista special functions and commands:
(?, ??, ???)
(^ # * keys)
HALT: will halt your vista session

_____: (Initials/date) 3.) **OUTLOOK MAIL**

Outlook sign in
Read/delete/send messages
Empty deleted items folder
Encrypt emails containing sensitive or confidential information

_____: (Initials/date) 4.) **INTERNET EXPLORER**

VA SALEM home page, news, links
VA TMS continuing education

_____: (Initials/date) 5.) **MY COMPUTER**

Public P:\drive (public drive, lab folder, everyone in lab can see this file)
Public N:\drive (personal folder, no one else can see but you)

_____: 6.) **COMPUTER ASSISTANCE**
(Initials/date)

Contact Laboratory Information Manager/ADPAC at ext 1424
Call the National Service Desk at ext. 2057, option 2, option 3

_____: 7.) **CPRS**
(Initials/date)

Log into CPRS and check access
Review lab results and lab orders

_____: 9.) **VistA RO**
(Initials/date)

"READ ONLY" patient database for downtime—Search VistA RO, click VA Health Care Network, click Salem, VA; Log-on is same as VistA.

_____: 10.) **VATAS**
(Initials/date)

"VA TIME AND ATTENDANCE SYSTEM" – where you enter your leave request and review your timesheet

Attachment: "Laboratory Day to Day Computer Operator Guide"

I understand and have completed the basic Lab ADP training objectives:

Employee (Printed name)	Employee Signature	Date

ADP Coordinator

Contact hours _____

Written by: Suzanne Stoneman, MT

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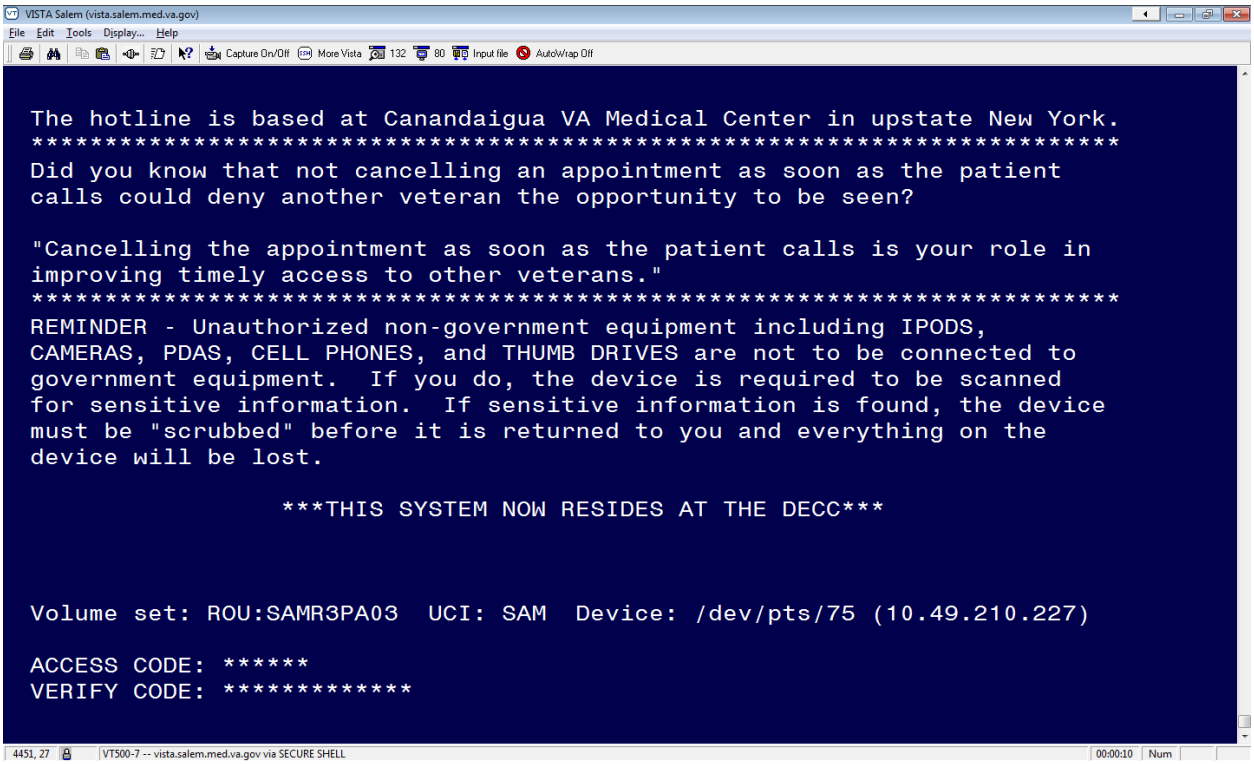
Laboratory Day-to-Day Computer Operator Guide



Vista Quick Tips:

- **<u>Access Code and Verify Code:</u>**
  - Should have received this during computer training

- **<u>Special Keys</u>**:
  - ^ - will allow you to quickly jump to any menu if typed prior to a command
  - @ - is used to “pend” items or delete comments
  - # - is inserted in a result field to indicate there is a comment for that result
  - * - is used to cancel a test or show something has been canceled
  - ? – can be entered anywhere in VISTA to show you allowable entries
  - Space bar enter – this will allow the last patient or info you placed in a given field to automatically be typed as data input without having to type it all out again
  - Enter – will bring you back to previous screen and once you get to main menu screen will exit you out of VISTA
  - ^halt – will exit you from VISTA without entering through all the menus

❖ Commonly Seen Terms:

- **Pending** – an order exists but has not been collected or processed yet
- **Active** – order has been collected but not complete
- **Collected** – order has been collected but not complete
- **Completed** – order has been collected and completed
- **Merged** – two lab orders have been combined
- **On Collection List** – order has been set up for morning or afternoon routine lab draw but not collected yet
- **Not in Lab** – order was supposed to be collected that day but lab did not receive blood on patient
- **Accession #**- Is the number that starts back at 1 each day for each in house laboratory section. Listed with lab bench first, then date and then specimen number for that day ie) CH 0925 15 – indicates this is a specimen in the chemistry department from the date of September 25th and it was the 15th chemistry that came in that day.
- **UID #**: A unique identification number given to each specimen ie)1192650002 the first three digits indicate the testing location (chemistry, heme, coag etc) the second set of three digits indicates the day of the calendar year and the last four digits indicates the specimen number in that location on that day.
- **Order #**: number generated by the computer when a doctor electronically signs off an order in CPRS. This is the number we use to accept specimen into the laboratory
- **Accession** – term used for accepting orders

❖ Main Menu:

- This will be a little different depending on what kind of access you have to certain menus. For training purposes we will just show you how to navigate around in the computer and what options you are looking for.

```
1       Phlebotomy menu ...
2       Accessioning menu ...
3       Process data in lab menu ...
4       Quality control menu ...
5       Results menu ...
6       Information-help menu ...
7       Ward lab menu ...
8       Anatomic pathology ...
9       Blood bank ...
10      Microbiology menu ...
11      Supervisor menu ...
20      Laboratory ...
LSM     Lab Shipping Menu ...
        Print future collection labels
        Print single future collection label
           **> Out of order:  OUT OF ORDER PER ADPAC 6-6-14
```

- **Technologist additional Menu options**

```
1       Phlebotomy ...
2       Accessioning ...
3       Process ...
5       Results ...
9       Blood Bank ...
10      Microbiology ...
LSM     Lab Shipping Menu ...
```

- **Cytology/Histology additional Menu option**

```
Laboratory ...
Anatomic pathology ...
Schedule of Operations
```

- **Supervisor additional Menu option**

```
11      Supervisor menu ...
```

❖ **Phlebotomy Menu**:

```
1       Phlebotomy ...
2       Accessioning ...
10      Micro Accession Menu ...
LSM     Lab Shipping Menu ...
        HOWDY MAIN MENU ...
        Print future collection labels
```

- **Add tests to a given accession**
  - When there is reflex testing needed per laboratory protocol Examples: adding FT4 to TSH, DIFF (manual diff) to CBC, Direct LDL to TRIG >400, CKMB to TROP >0.08

- **Add tests to a given accession**
  - Use this option to add URINE CULTURES to URINE (Reflex) when urine reflexes to culture.

- **Delete entire order or individual tests**
  - This option can be used when discontinuing a test in VistA.

- **Itemized routine lab collection**
  - This option is used to receive specimens in VistA from AM & PM collections drawn from wards as LAB COLLECT (LC)

- **List of lab orders not collected**
  - This option is used to see if any inpatients lab order was missed from morning lab collect

- **Order/test status**
  - This option is used to look up pending orders (orders that still need to be processed)
  - Review older orders – status (complete, active or pending)
  - Can use this menu to find accession number for blood already received if a doctor calls for add on tests.
  - Can also use this menu to view at what time a test was resulted
  - Can use this menu to look up the doctor who ordered the test.
  - In order to look up patient orders in, manually type ^ORD

  - `Select Patient Name:` **Search can be done as below**

I. **Patient Full Name**
II. **Patient SSN**
III. **Patient First letter of last name and last four SSN**

```
Order/test status  [LROS]
```

```
Select Patient Name: Z9999
```

- **Print collection list/labels**
  - This option is used by the third shift to print up the labels that will be collected by the lab on our inpatient wards

- **Print future collection labels**
  - This option is used before downtime so the third shift can print up the labels that will be collected by the lab on our inpatient wards

- **Receipt of routine lab collection from wards**
  - This option is used Monday –Friday after blood has been collected from the impatient wards.
  - This option is also used to cancel orders due to patient refusal
  - Also can be used to "pend" collections that will be drawn later due to difficult sticks or patient not available.

- **Test description information**
  - Will provide reference ranges
  - Critical values for test
  - Specimen collection types
  - Tube type
  - Minimum volume required

❖ **Accessioning Menu**:

```
Accessioning tests ordered by ward order entry
Accessioning, standard (Microbiology)
Add tests to a given accession.
Bypass normal data entry
Delete entire order or individual tests
Delete test from an accession
Fast lab test order (IMMEDIATE COLLECT)
Fast lab test order (ROUTINE)
Fast lab test order (SEND PATIENT)
Inquiry to LAB TEST file
Lab add test(s) to an existing order
Lab orders by collection type
Lookup accession
Manually accession QC, Environmental, etc.
Merge Accessions
Multipurpose accessioning
Order/test status
Print accession list(s) ...
Print future collection labels
Print single future collection label
Referral Patient Multi-purpose Accession [LRLEDI]
Remove an accession [LRDELOG]
Reprint accession label(s) [LRLABXT]
Reprint order accession label(s) [LRLABXOL]
Review by order number [LRCENLKUP]
Show list of accessions for a patient [LRUPT]
Special test accessioning [LRNONCOM]
Test description information [LREV]
```

- **Accessioning tests ordered by ward order entry**
  - This option is used to accept blood into the lab

```
Select Order number: 340018


ZZVETERAN,JANE                000-00-9999    Requesting location: BACCHUS
Date/Time Ordered: 03/31/2017 13:55          By: STONEMAN,SUZANNE T
  -Lab Order # 340018                        Provider: STONEMAN,SUZANNE T
  BLOOD (SST)  SERUM
  BASIC METABOLIC PANEL
                   ROUTINE Requested (SEND PATIENT) for:  03/31/2017
Is this the correct order? Yes//   YES
Collection Date@Time: //N  (APR 12, 2017@16:05:05)
Print labels on: LABLABEL// B127  LAB, BLDG 143 2A/1A-1004



ACCESSION:  CH 0412 549  <1171020549>
BASIC METABOLIC PANEL         BLOOD (SST)  SERUM
```

- **Delete test from an accession**
  - This option is used when there is a duplicate order
  - The test is accessioned in error
  - There is QNS for test to be performed
  - Patient could not provide specimen
  - There are canned comments that are entered and will expand for each of these.

```
Select Accession or UID: CH 0412 549
CHEMISTRY  (APR 12, 2017)  549
ZZVETERAN,JANE                000-00-9999
Order  Test         Urgency   Status                          Accession
  -Lab Order # 340018                        Provider: STONEMAN,SUZANNE T
  BLOOD (SST)  SERUM
  BASIC METABOLIC PANEL
                    ROUTINE  Collected      04/12/2017@16:05 CH 0412 549
Type <Enter> to continue or '^' to exit:
ZZVETERAN,JANE                                      000-00-9999
TESTS ON ACCESSION: CH 0412 549         UID: 1171020549
     BASIC METABOLIC PANEL

Change which LABORATORY TEST: bmp  BASIC METABOLIC PANEL
Select another test:
```

```
     Change Accession : CH 0412 549     UID: 1171020549
          BASIC METABOLIC PANEL
Cancellation Reason: SERVICE CORRECTION//

Select NP comment Lab Description screen:

Not Perform Reason: QUANTITIY NOT SUFFICIENT NOT'D DR. KARAGEORGE
  (QUANTITIY NOT SUFFICIENT NOT'D DR. KARAGEORGE)
Satisfactory Comment? Yes//
```

- **Fast lab test order (WARD COLLECT)**
  - This option is used when re-ordering in-patient stat tests canceled by lab, to be recollected.

- **Fast lab test order (ROUTINE)**
  - This option is used when re-ordering in-patient tests canceled by lab, to be collected by lab on the next routine collection.

- **Fast lab test order (SEND PATIENT)**
  - This option is used when re-ordering out-patient tests canceled by lab, to be collected at a future date.

- **Inquiry to LAB TEST file**
  - This option is used to look up test information and the panel members

- **Lab add test(s) to an existing order**
  - Can be used to add Urine Culture to a URINE (Reflex)

- **Lab orders by collection type**
  - Prints the lab orders by location, patient, collected, uncollected and partially collected

- **Lookup accession**
  - This will provide all information about an accession including:
    - Order #, Date & Time received, collection time, provider, UID, patient location, patient info, specimen type, all test ordered and time each test was reported, and specimen priority.

```
ACCESSION: CH 0323 86                    PATIENT: ZZVETERAN,JANE
  ORDER #: 332539                         SSN/ID: 000-00-9999
      UID: 1170820086                        DOB: Jan 01, 1988
 LOCATION: L-FAX                    DATE ORDERED: Mar 23, 2017
                                       COLLECTED: Mar 23, 2017@07:32
 PROVIDER: KARAGEORGE,LAMPROS S     LAB ARRIVAL: Mar 23, 2017@07:33

  SAMPLE: SERUM  BLOOD (SST)
  TEST: GLUCOSE
  COMPLETED: Mar 23, 2017@08:07
```

- **Order/test status**
  - This option is used to look up pending orders (orders that still need to be processed)
  - Review older orders – status (complete, active or pending)
  - Can use this menu to find accession number for blood already received if a doctor calls for add on tests.
  - Can also use this menu to view at what time a test was resulted
  - Can use this menu to look up the doctor who ordered the test.

- **Print future collection labels**
- **Reprint accession label(s)**
  - This option is used to reprint from a single accession location
  - When you need more labels for labeling pour offs

- **Reprint order accession label(s)**
  - This option is to reprint an entire order for a patient

- **Review by order number**
  - Will show who accepted the orders and what time they came in
  - Will show the status of a given order
  - Patient information
  - Accession numbers for each test ordered
  - Test ordered for each accession

```
ORDER #: 332539     PAT: ZZVETERAN,JANE    SSN: 000-00-9999
_

WHO ENTERED: STONEMAN,SUZANNE T          TYPE OF COLLECTION: SP
                                         COLLECTION STATUS: C
  DRAW TIME:   Mar 23, 2017@07:32        ORDERING LOCATION: LAB FAX-X
  LAB ARRIVAL: Mar 23, 2017@07:32
  SPECIMEN: BLOOD (SST)                  PROVIDER: KARAGEORGE,LAMPROS S
     Visit Number(s): 22042748
  TEST: BASIC METABOLIC PANEL  ROUTINE  CHEMISTRY   86   <1170820086>
  TEST: VIT D, 25-HYDROXY      ROUTINE  CHEMISTRY   86   <1170820086>
  TEST: LIPID PROFILE          ROUTINE  CHEMISTRY   86   <1170820086>
  TEST: TESTOSTERONE           ROUTINE  CHEMISTRY   86   <1170820086>
  TEST: HEPATIC FUNCTION PANEL  ROUTINE  CHEMISTRY  86   <1170820086>
Order has already been accessioned.
```

❖ **Process data in Lab Menu**:

```
3       Process data in lab menu ...
```

```
EA      Enter/verify data (auto instrument)
EL      Enter/verify data (Load list)
EM      Enter/verify/modify data (manual)
EW      Enter/verify data (Work list)
GA      Group verify (EA, EL, EW)
MP      Misc. Processing Menu ...
        Accession order then immediately enter data
        Batch data entry (chem, hem, tox, etc.)
        Build a load/work list
        Bypass normal data entry
        Download a load list to an Instrument.
        Fast Bypass Data Entry/Verify
        Lookup accession
        Order/test status
        Print a load/work list
        Std/QC/Reps Manual Workload count
        Unload Load/Work List
```

- **EA Enter/verify data (auto instrument)**
  - This option is used to verify results that automatically transmit from the instrument into VISTA via DI
  - There are different Load/Work Lists and Profiles that need to be entered depending on the instrument/bench you are working on. ie) Select Load/Work List Name: "EASYLINK" and Profile: "EASYLINK" are typed in for the Dimension Vista 1500 and Centaur analyzers.
  - Results are verified by accession number with the exception of Immunology test on the Centaur. VISTA will prompt you to put in the accession number you want to verify
  - Results are then reviewed by the tech and are verified and released by entering in their initials

- **EM Enter/verify/modify data (manual)**
  - This option is used to verify results manually (results do NOT automatically transmit from instrument). Each result needs to be typed in by the tech for all tests ordered on that accession and verified by entering in their initials
  - VISTA will prompt for the accession number you need to enter results for
    (Note: the accession area followed by the accession number needs to be entered. i.e.: "CH 15" or "UR 54" or "HE 31".

- VISTA will then prompt for the Work Load Area ie) “SPEC” needs to be typed in for the work load area to manually enter an OSMO result.

```
Select Accessioning menu Option: ^EM   Enter/verify/modify data (manual)

Do you want to review the data before and after you edit? YES//
Do you wish to see all previously verified results? NO//

     Select one of the following:

          1         Accession Number
          2         Unique Identifier (UID)

Verify by: 1//   Accession Number
Select Accession: CH 0420 84
CHEMISTRY  (APR 20, 2017)  84
Select Performing Laboratory: SALEM VA MEDICAL CENTER//     VA  VAMC  658


Work Load Area: SPECIAL CHEMISTRY
ZZVETERAN,JANE                000-00-9999   LOC:L-FAX


Sample: BLOOD (SST)
Specimen: SERUM
1  OSMOLALITY (Serum)
```

```
ZZVETERAN,JANE  SSN: 000-00-9999      LOC: L-FAX
Pat Info:                          Sex: FEMALE   Age: 29yr as of Apr 20, 2017
Provider: KARAGEORGE,LAMPROS S           Voice pager:
   Phone: 2293                         Digital pager: 1075

ACCESSION:                                  CH 0420 84 [1171100084]
                                            4/20 07:39d
OSMOLALITY //150
Select COMMENT:

ZZVETERAN,JANE  SSN: 000-00-9999      LOC: L-FAX
Pat Info:                          Sex: FEMALE   Age: 29yr as of Apr 20, 2017
Provider: KARAGEORGE,LAMPROS S           Voice pager:
   Phone: 2293                         Digital pager: 1075

ACCESSION:                                  CH 0420 84 [1171100084]
                                            4/20 07:39d
OSMOLALITY                                       150 L  mOsm/kg
SELECT ('E' to Edit, 'C' for Comments, 'W' Workload):
Approve for release by entering your initials: STS
```

- **<u>Build a load/work list</u>**
  - This option is used to build and print a work list which includes all the specimens that need to be completed for that specific test.
  - VISTA will prompt for Load/Work List name, here is where you would type in, for example: SPECIAL CHEMISTRY

- It will go thru multiple questions one of which asks if you would like to unload the work list first. Type YES. Then you can continue thru and print your work list

- **Unload Load/Work List**
  - This option will remove entries from the specified tray(s) and make the accession(s) available again for adding to a work list or load list.
  - This is used for Osmo, Acetone, Bup/Oxy screens, Preg, Body Fluids, Urine Eos, Crystals, etc…when you want to build a new list
  - Unloading the work list can also be done during the process of building a new work list (see Build a Load/Work List)

❖ Result Menu:

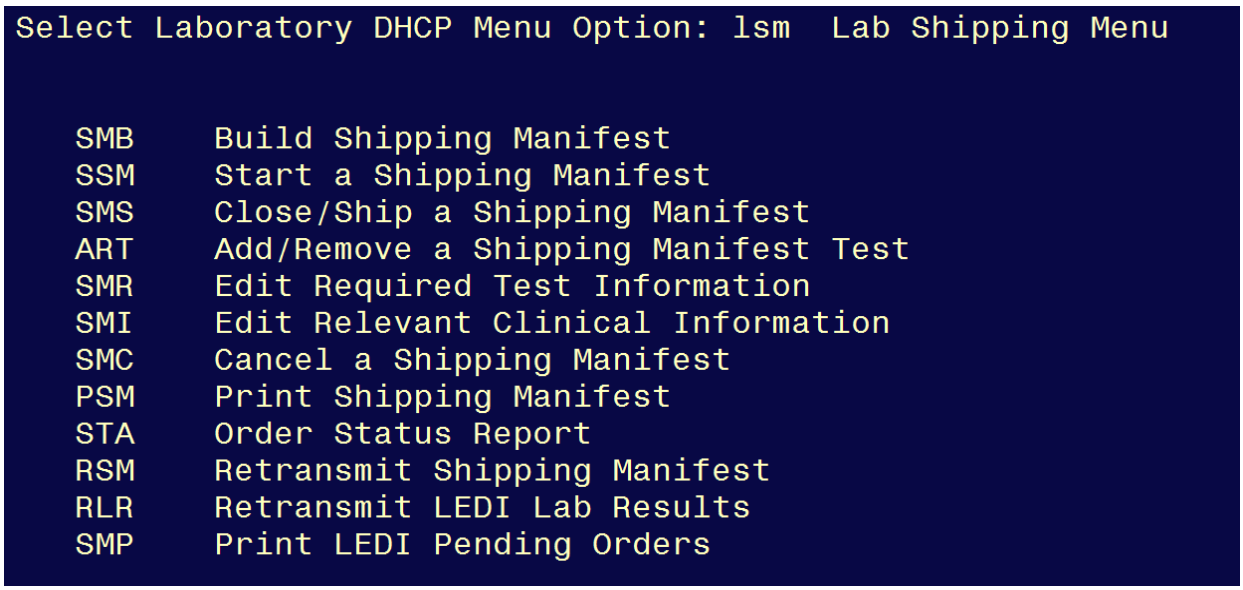
- **Main Menu option 5**

```
Edit/print/display preselected lab tests ...
General report for selected tests
Graph results
Interim report
Interim report by provider
Interim report for an accession
Interim report for chosen tests
Interim report for selected tests as ordered
Interim reports by location (manual queue)
Interim reports for 1 location (manual queue)
Interim reports for 1 provider (manual queue)
Order/test status
Print a full patient summary
Review by order number
```

- **Interim Report**
  - This option is used to look up patient report/results by name for specific start and end date.

❖ Lab Shipping Menu :

- **Main Menu LSM**
  - **See processing guidelines for detailed shipping instructions.**


Select Laboratory DHCP Menu Option: lsm Lab Shipping Menu
SMB Build Shipping Manifest
SSM Start a Shipping Manifest
SMS Close/Ship a Shipping Manifest
ART Add/Remove a Shipping Manifest Test
SMR Edit Required Test Information
SMI Edit Relevant Clinical Information
SMC Cancel a Shipping Manifest
PSM Print Shipping Manifest
STA Order Status Report
RSM Retransmit Shipping Manifest
RLR Retransmit LEDI Lab Results
SMP Print LEDI Pending Orders

Pathology and Laboratory Medicine
VA Medical Center, Salem, VA
Written: May 1991

COMPUTER PROCEDURE MANUAL
Approved by: _____
Chief, P&LMS

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06/18/99	Beatrice Wilkinson	02/04/09	Beatrice Wilkinson	01/17/18	Suzanne Stoneman
08/15/03	Beatrice Wilkinson	08/11/10	Aaron Ibarra		
09/08/06	Beatrice Wilkinson	07/25/12	Suzanne Stoneman		

DATA ENTRY, VERIFICATION AND REPORTS

I. Specimen Request/Specimen Verification

Prior to accessioning patient requests (orders) into the computer, lab personnel will check the printed order and the labeled specimen for discrepancies. Problems will be resolved before accessioning.

II. Verification of Results and Patient Reports

A. Clinical Lab

1. Manual and automated result entries are verified before final acceptance and reporting. Verification is performed by the technologist performing the test or by a second technologist. The technologist performing the test is responsible for the correctness of the data. Ordinarily, the testing technologist will correct errors. In the absence of the testing technologist, the corrective action will be given to an appropriate supervisor or designee.
2. Instrument printouts are compared to worklists and/or transmitted data prior to verification. Result entries are checked against defined error limits, e.g. Quality Control (QC) and delta checks, comments on specimen quality are noted, and any data errors are corrected in the computer before verification and reporting.
3. After results are verified, the reports are available immediately for review by authorized personnel in the Computerized Patient Record System (CPRS). CPRS, the electronic chart, is the permanent patient record.
    a. Verified results with an urgency of STAT or Life Threatening Emergency (LTE) are automatically printed on the appropriate ward printer. An option to print all reports is available to each location by request of ward personnel.
    b. All critical reports must be telephoned to and read back by the ordering physician or other provider on the patient's treatment team and documented under comments in the computer for the specified test. Documentation must include the called to and read back by statement, physician's name, date and time of notification, and the technologist's initials.

B. Anatomic Pathology (AP)

AP techs enter appropriate data for their sections and the pathologist utilizes Voicebrook dictation system to dictate directly into VistA. The printed final reports are reviewed for

accuracy and completeness by the pathologist. Anatomic Pathology reports (Cytopathology, Surgical Pathology, and Autopsy) are electronically signed in the computer system by the pathologists or the cytotechnologist in the case of negative PAP smears. All signed reports are available for electronic display in CPRS. Final reports are printed and retained in the lab for reference during computer downtimes.

III. "Corrected" or "Modified" Reports

A. The computer automatically flags modified reports.

For CH subscripted tests (example: Chemistry, A1C, Hematology, Urinalysis, Coagulation, Serology, and Molecular Diagnostics), the system will automatically populate "(name of test) reported incorrectly as (value)" in the comments section of the report. For MICRO subscripted tests (Microbiology, Blood Culture, Urine Culture, Parasitology, Mycology, and AFB), any change will cause the report to again show on the list for supervisory review. When a correction is made in these areas, it is also documented in the Bacteriology remarks section of the report. Corrections are permanently documented on the patient reports.

B. The physician is verbally notified of the correction.

The call, recipient, technologist, date and time of the call are noted as comments.

C. Correction of Erroneous Results

When the technologist initiates a corrected report, a "Corrective Action Report" form must be completed and given to the appropriate supervisor.

D. Anatomic Pathology Modified Report

When an AP report is modified, the report clearly prints "Modified Report" and gives the name of the modifier and date. Only pathologists are allowed to modify and electronically sign reports in Surgical Pathology. The Cytotechnologist is allowed to modify Cytology reports under the direction of the verifying Pathologist.

IV. Internal Reports

A. Incomplete Status Reports

Sections performing CH subscripted tests pull incomplete status reports at designated intervals. This report allows the section to verify timely test performance and catch errors that may have been made during the ordering/accessioning process. The Anatomic Pathology version of the Incomplete Status Report is the List of Unverified Reports.

B. Print Corrected Lab Results

Biweekly, the LIM will generate a report of the preceding two week's corrected reports. The report searches CH subscripted tests for the comment "reported incorrectly as" and prints a report for a specified date range. Evidence of corrected results will be permanently reflected in the patient record. The corrected lab report is routed through the supervisors. Printouts are filed electronically with the ADP Coordinator for two years.

C. Search for Critical Value Flagged Tests

A report of critical CH subscripted test results as part of the QA program.

D. Significant Culture Report

Utilized by the Infectious Disease nurse.

V. Audit Trails

Several options exist for identifying individuals who enter or modify patient data.

A. Security bulletins

An electronic bulletin is issued from IRM when an individual accesses an employee record. These messages are checked against employee responsibilities and authorized access. If an employee enters an employee record, even his/her own, and the entry is unauthorized or inappropriate, then appropriate action will be taken. The message is forwarded to the individual and the LIM, who then forwards the message to the appropriate supervisor. The Service Chief is notified of a second occurrence. Employee access is disabled after the third occurrence until remedial rules of behavior training is completed.

B. Print of Corrected Lab Results

Captures the initials of the person verifying the change and reports the test value changed.

C. Audit of Deleted/edited Comments

Shows comments deleted/edited from a specified patient report. Note: comment may only be deleted by personnel with the LRSUPER key.

D. Accession List by Date

Captures the initials of the tech performing the test in accession areas where CH subscripted tests are performed.

E. Supervisor Summary Reports

Various options print information pertaining to testing, workload, and technologist verification.

VI. Report Checks

As changes (reference ranges, test additions) are made, patient reports will be checked for proper format and reference range accuracy. Changes will be documented in the site notes field for the specific test in the Laboratory Test file in VistA. Section Supervisors sample reports monthly across all interfaces as compared to analyzer hard copy or worksheet as part of the Quality Assurance (QA) program. We do not have multiple instruments performing the same tests with different reference ranges. Reference ranges are printed on each test report, so there are no manual overlays or reference tables.

Written by: Yvette Spangler

Review Date:	Reviewed by:	Review Date:	Reviewed by:	Review Date:	Reviewed by:
02/05/09	Beatrice Wilkinson	02/04/13	Suzanne Stoneman	12/21/16	Suzanne Stoneman
04/14/10	Penny Gooch	03/27/14	Suzanne Stoneman		
01/10/12	Suzanne Stoneman	02/04/15	Dr. Ulirsch		

Revision Date:	Approved by:	Revision Date:	Approved by:	Revision Date:	Approved by:
01/09/18	Suzanne Stoneman				

REVIEW OF REPORTABLE CALCULATIONS

Every two years or when a system change that may affect calculations is made, the calculations that are based on user-modifiable formulas performed by the Laboratory Information Systems (LIS), middleware and analyzers will be checked against manual methods to verify that that the calculation routines are performing correctly. This will ensure the accuracy of reportable patient results and detect error that may have been inadvertently entered into the calculation program.

I. Calculations performed by VistA (Laboratory Information System)

The calculation routines for the following assays are stored in VistA under the DELTA CHECKS file (62.1): Creat Cl., Creat 24 hr, PO_4 24hr, Protein 24hr, Gluc 24hr, Mg 24hr, Calcium 24hr, Uric Acid 24hr, Na 24hr, K 24hr, Cl 24hr, TRP, FENA, FEUN, and estimated GFR.

1. In VistA, order the tests containing the calculations to be verified.
2. Manually enter the assay values using "Enter/verify data (auto instrument)".
3. Compare the calculated results generated against the expected results using the "Yearly Calculations.xlsx" worksheet.

II. Calculations performed by Middleware

A. CentraLink

The calculation routines for the following assays are stored in CentraLink as result management rules: A/G ratio, Anion Gap, LDL/HDL ratio, Calculated LDL, TIBC, and Random Urine Microalbumin.

1. In VistA, order the tests/parent tests and/or panels that contain the calculated tests to be verified.
2. Manually enter the assay values into CentraLink.
3. The CentraLink will calculate the values based on the manual results.
4. Compare the calculated results generated against the expected results using the "Yearly Calculations.xlsx" worksheet.

III. Calculations performed by Analyzers

A. INR

Refer to the Central Laboratory Manual for the procedure on INR calculation verification.

Written by: Aaron Ibarra 8/11/10

Review Date:	Reviewed by:	Review Date:	Reviewed by:	Review Date:	Reviewed by:
01/10/12	Suzanne Stoneman	02/04/15	Dr. Karageorge		
02/04/13	Suzanne Stoneman	12/21/16	Suzanne Stoneman		
03/27/14	Suzanne Stoneman	01/31/17	Suzanne Stoneman		

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12/29/2010	Aaron Ibarra				

CALCULATIONS/DELTA CHECK WORKSHEET
(See Excel worksheet for year 2017 forward)

A. VISTA-CALCULATED RESULTS

TEST	EQUATION	MANUAL VALUE	COMPUTER VALUE
Creat CL	(UCr x vol) / (1440 x SCr) Creat values in mg/dL ; Vol in mL	150 x 1200 = 125 1440 x 1	
Creat / 24 hr	(Analyte x vol) / 100 Analyte in mg/dL ; Vol in mL	150 x 1200 = 1800 100	
PO_4 / 24 hr		100 x 1200 = 1200 100	
Prot / 24 hr		200 x 1200 = 2400 100	
Gluc / 24 hr		100 x 1200 = 1200 100	
Mg / 24 hr		3.7 x 1200 = 44.4 100	
Ca / 24 hr		10 x 1200 = 120 100	
UA / 24 hr		3.5 x 1200 = 42 100	
Na / 24 hr Or K / 24 hr	(Ion x vol) / 1000 Ion in mmol Vol in mL	150 x 1200 = 180 1000	
TRP	(1 – [(UP x SC) / (SP x UC)]) x 100 UP = urine phos in mg/dL UC = urine creat in mg/dL SC = serum creat in mg/dL SP = serum phos in mg/dL	1 – (100 x 1)= 0.833 4 x 150 0.833 x 100 = 83.3	
FENA	(Ur Na / Ser Na) x (SC / UC) x 100	(150 / 125) x (1 / 150) x 100 = 0.8	
FEUN	(Urea N_2 / BUN) x (SC / UC) x 100	(100 / 15) x (1 / 150) x 100 = 4.4	
GFR, estimated	Estimated GFR (ml/min/1.73m^2) =175 x $(SCr)^{-1.154}$ x $(Age)^{-0.203}$ x (0.742 if female) x (1.210 if African American)	**GFR Calculator at:** http://nkdep.nih.gov/professionals/gfr_calculators/idms_con.htm (note: SCr = 1, age is dynamic, check	

		VistA calculation against website)	

B. EASYLINK-CALCULATED RESULTS

TEST	RULE ACTION	MANUAL VALUE	COMPUTER VALUE
Anion Gap	AGAP :=round(((val(NA))-(val(CL)+val(TCO2))) in "mmol/L",0)	(140) – (100 + 30) = 10	
LDL/HDL Ratio	LDL_HDL := ((CHOL-((TRIG/5)+HDLC))/HDLC)	$\frac{100 - ((120/5) + 60)}{60} = 0.267$	
Calculated LDL	LDLCALC := (CHOL-((TRIG/5)+HDLC))	100 – ((120/5) + 60) = 16	
Microalbumin/ Creatinine Ratio	MA_RANDOM := (MALB/ECRE)*1000	$\frac{1.5 * 1000}{200} = 7.5$	
TIBC	TIBC_CALC := TRF*1.49	200 * 1.49 = 298	

Written by: Beatrice Wilkinson, MT

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02/05/09	Beatrice Wilkinson	03/27/14	Suzanne Stoneman	01/24/18	Suzanne Stoneman
04/14/10	Penny Gooch	02/04/15	Dr. Ulirsch		
01/10/12	Suzanne Stoneman	12/21/16	Suzanne Stoneman		
02/04/13	Suzanne Stoneman	12/20/17	Suzanne Stoneman		

Pathology and Laboratory Medicine
VA Medical Center, Salem, VA
Written: May 2006

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Chief, P&LMS

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01/29/09	Beatrice Wilkinson	08/02/2012	Suzanne Stoneman		
06/15/10	Aaron Ibarra	03/18/2014	Suzanne Stoneman		

DOCUMENTATION OF REVIEW OF PATIENT REPORTS

CAP: GEN.41067 Revised:**

Does an individual meeting CAP laboratory director qualifications review and approve the content and format of paper and electronic patient reports at least every two years?

Note: The laboratory director (or a designee who meets CAP qualifications for laboratory director) must review and, at least every two years, approve the content and format of laboratory patient reports (whether paper or computer screen images) to ensure that they effectively communicate patient test results, and that they meet the needs of the medical staff. Further details on review of electronic reports are given in GEN.485000.

REPORT	2018	2019	2020	2021
SURGICAL PATH				
CYTOPATHOLOGY				
AUTOPSY				
PATIENT INTERIM				

Written by: Beatrice Wilkinson, MT

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02/05/09	Beatrice Wilkinson	02/04/2015	Dr. Ulirsch		
04/14/10	Penny Gooch	12/21/16	Suzanne Stoneman		
01/10/12	Suzanne Stoneman	12/20/17	Suzanne Stoneman		
03/18/2014	Suzanne Stoneman	01/24/18	Suzanne Stoneman		

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02/03/09	Beatrice Wilkinson				

DATA RETRIEVAL AND STORAGE

I. Data Retrieval

Archiving data from the Lab Data file #63 was discontinued in 1997. Patient reports after December 1988 are available on the live system. The most recent archive date is available to authorized users in the Laboratory Site file #69.9 using FileMan. The VistA Site Manager will determine the timing and method of data retrieval for archived reports.

II. Data Storage

A. Information Management Service (IMS) located in building 74, is responsible for maintaining the database and ensuring adequate storage capacity and response time. IMS is also responsible for all VistA data storage media and for monitoring and testing the automatic alarms and warnings associated with the mainframe system. Testing schedules and records will be found in IMS.

B. In the event of hardware or software failure, IMS has a failsoft system in place to prevent the loss of data. In the laboratory, worklists and instrument printouts from at least two months are held for reference in the sections.

Written by: Beatrice Wilkinson, MT

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02/05/09	Beatrice Wilkinson	12/20/17	Suzanne Stoneman		
04/14/10	Penny Gooch	04/16/18	Suzanne Stoneman		
01/10/12	Suzanne Stoneman				
02/04/13	Suzanne Stoneman				
12/21/16	Suzanne Stoneman				

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01/13/2011	Aaron Ibarra				
07/25/12	Suzanne Stoneman				

HARDWARE, SOFTWARE, AND SYSTEM MAINTENANCE

I. Hardware

Information Management Service (IMS) is responsible for all maintenance and repair of network computer workstations and printers.

A. The Lab Information Manager (LIM) or back-up will report equipment problems to the IMS help desk by phone, through the National Service Desk: Ext. 2057 or by the "YourIT" Ticketing System: https://yourit.va.gov/va
B. Hardware modifications are recorded in the Server room on the Downtime Log and vendor-specific hardware maintenance for Hewlett-Packard (HP) is recorded on a HP Web Document. (IRM)

II. Software

A. IMS is largely responsible for software maintenance after alpha and beta testing is completed by the Information Resource Management Facility Officers and documentation is filed in IMS.
B. The LIM or designee is responsible for evaluating and testing new or revised laboratory software released by the Medical Information Resources Management Office of the Department of Veterans Affairs. New software is tested in the TEST account before going into the LIVE system. Any problems or discrepancies are noted and reported to IMS and/or the developers. Verified patches are tested, and copies of the patch routines are filed in IMS. Any local modifications are documented by the LIM and by IMS. The LIM maintains the integrity of lab files and obtains approval from the Chief, Pathology and Laboratory Medicine Service for all changes, additions, and deletions in programs, test library, and major computer functions.

III. System Maintenance

A. IMS is responsible for scheduling maintenance with digital equipment. System hardware maintenance and 24-hour emergency service are on contract, and these records are available in IMS. Procedures are available in IMS regarding partial/complete downtime and

recovery. An error log and a written record of unscheduled downtime, which includes reasons for failure and corrective action, are also available in IMS.

B. The LIM also maintains a record of scheduled and unscheduled downtime. A laboratory computer contingency protocol exists to assure prompt processing and useful patient reporting. (See back-up protocols)

C. The system performs an integrity check of restored databases during system downtime recovery.

Written by: Beatrice Wilkinson, MT

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04/14/10(draft)	Penny Gooch	02/04/15	Suzanne Stoneman		
01/10/12	Suzanne Stoneman	12/21/16	Suzanne Stoneman		
02/04/13	Suzanne Stoneman	12/20/17	Suzanne Stoneman		
03/27/14	Suzanne Stoneman				

Pathology and Laboratory Medicine
VA Medical Center, Salem, VA
Written: February 2009

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Chief, P&LMS

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07/25/12	Suzanne Stoneman				

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Information Management Service (IMS) is responsible for all maintenance and repair of network computer workstations and printers.

A. The Lab Information Manager (LIM) or back-up will report equipment problems to the IMS help desk by phone, through the National Service Desk: 1-855-673-4357, option 4, option 2 or by the National Service Desk Ticketing System.
B. The LIM will print a configuration sheet for each networked printer and file as a troubleshooting tool. It includes the printer name, IP address and printer serial number. Date and printer location will be added for quick reference.
C. Hardware modifications are recorded in the Server room on the Downtime Log and vendor-specific hardware maintenance for Hewlett-Packard (HP) is recorded on a HP Web Document. (IRM)

II. Software

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Pathology and Laboratory Medicine
VA Medical Center, Salem, VA
Written: February 2009

COMPUTER PROCEDURE MANUAL
Approved by: _____
Chief, P&LMS

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HOWDY: Computerized Laboratory Check-in Application.

PURPOSE:
The HOWDY patient phlebotomy log-in option (named for its welcome) is an automated computerized phlebotomy login process. This option was developed to automate laboratory check-in, accessioning of orders, and printing of specimens in the outpatient phlebotomy area – decreasing patient wait times.

PRINCIPLE:
By keying in the social security number, the HOWDY software queries the database for pending laboratory orders based on a date range of +3 to -30 days and status of SEND PATIENT. The orders are then processed and labels are printed. This process streamlines the accessioning procedure bypassing multiple manual steps.

RESPONSIBILITY:
Daily use: Phlebotomy personnel and Medical Technologists
Database Maintenance: LIM and Technical Support MT

PROCEDURE:

HOWDY LOG-ON	
COMPUTER PROMPTS	**ENTER**
^HOWDY (HOWDY MAIN MENU)	TYPE: **SCAN**
Select HOWDY SITE FILE NAME:	TYPE YOUR SITE NAME: (DANVILLE CBOC, LYNCHBURG CBOC, SALEM, STAUNTON CBOC,WYTHEVILLE CBOC, TAZEWELL)
Choose a label printer:	1. SAM_INTRMC_LAB1$PRT **-B107** *(SALEM)* 2. SAM_INTRMC_LAB2$PRT **-B117** *(SALEM)* 3. SAM_INTRMC_LAB3$PRT **-B127** *(SALEM)* 4. SAM_INTRMC_LAB4$PRT **-B128** *(SALEM)* 5. SAM_INTRMEC_1000$PRT **PHLEB** *(SALEM)* 6. SAM_INTRMC_DAN$PRT **DANLAB** *(DANVILLE)* 7. SAM_INTRMC_LYN$PRT **LYNLAB** *(LYNCHBURG)* 8. SAM_INTRMC_STANLAB$PRT **STANL** *(STAUNTON)* 9. SAM_INTRMC_WLAB$PRT **WLAB** *(WYTHEVILLE)* *10.*SAM_TAZ_ZEBRA$PRT **-TAZLAB** (TAZEWELL)

Please swipe your ID CARD or Type SSN:	Scan VIC Card or Type full SS#
EXPECTED SCREEN DISPLAYS	**ACTION**
Searching the database for orders……..	n/a
HOWDY<Patient's Name> THE SALEM VA MEDICAL CENTER YOUR HOST IS: <CHIEF PATHOLOGIST NAME> CHIEF PATHOLOGIST, LABORATORY SERVICE ORDERS FOR DATE: <DATE OF ORDERS> PLEASE HAVE A SEAT. WE WILL BE WITH YOU SHORTLY.	n/a bar code labels will print
No Orders found. Please check with clerk at the desk	Use ^ORD-ORDER TEST STATUS to search for lab orders. ^ACC-Accession by ward order entry and print labels.
Didn't read that Partner, try again. Please ask the clerk for assistance. Please check with clerk at the Desk. No record for patient.	VIC card is faulty OR Wrong SS# has been entered. Type again. (SS# will not be displayed on the screen for security reasons). Verify SS# with the veteran and try again if different.
No Orders	Use ORDER TEST STATUS to search for lab orders. If no orders are present, contact provider.
MULTIPLE DAYS WITH ORDERS, please check with clerk at desk	Use ^ORD-ORDER TEST STATUS to search for lab orders. ^ACC-Accession by ward order entry and print labels.

ORDER LABELS: These are occasions when the lab needs to be alerted of ordered tests, but DOES NOT want to accession the test(s) at this time. One example of this would be a 24-hour urine. Use the order label to prepare a labeled container to give to the patient. The order will not be accessioned until the patient returns with the specimen. ORDER LABELS have no ACC# and no bar-code. The order number will be displayed on the left side of the label in a vertical direction. Some tests may generate duplicate ORDER LABELS, due to the test having extra labels defined for print. If you have duplicate ORDER LABELS that are not needed, place in the shredder bin.

WHEN ORDER LABELS PRINT

1. In VistA, use ORDER TEST STATUS to lookup and confirm tests ordered.
2. Determine specimen containers and preservatives needed.

LOG-OFF: Exiting Howdy: ^Halt

TROUBLESHOOTING: If accession labels (or order labels) do not print may be due to:

- No orders for patient (using defined parameters)
- Multiple orders present
- Collection type **is not** SEND PATIENT
- Test is excluded by HOWDY (example, most Microbiology)
- Printer problem: Proper printer not selected at log-in or printer malfunction
- Be sure Num Lock on keyboard is "ON".

Notify LIM or Technical Support MT of any issues which cannot be resolved.

LIMITATIONS:

- HOWDY will delete duplicate orders requested for the same date.
- HOWDY **will not** accession status of WARD COLLECT or LAB COLLECT.
- HOWDY **will not** accession 24 hour urines, blood gas, blood cultures, stool specimens, sputum, or miscellaneous send out. Order labels will print.
- HOWDY **will not** accession most Microbiology specimens.
  Exception: Urine Culture and Sensitivity
- HOWDY **will not** combine multiple orders placed for various dates.

KNOWN PROBLEMS:

- Howdy adds the comment duplicate, but does not actually cancel the accession – then prints barcode with accession number.
- Howdy cancels same day duplicates, adds the comment duplicate – and then prints barcode w/ accession number (even though it has been canceled).

REFERENCES:

VistA Howdy User Manual: United States Department of Veterans Affairs

For any issues/concerns with Howdy, Class I contact your Laboratory Information Manager.

Written by: Lynn Stamps

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LABORATORY COMPUTER CONTIGENCY PROTOCOL

This protocol is designed to serve as a guide for the support of the computer system during times when the VistA system is non-functional or partially functional. The following topics will be addressed: Hospital Personnel Notification, Central Accessioning, Decision Factors, Descriptive Scenarios, Section Instructions, and Worksheets.

I. HOSPITAL PERSONNEL NOTIFICATION

A. The laboratory is responsible for reporting non-functional equipment or major component failure to the Information Management Service (IMS) staff. The Lab Information Manager (LIM), back-up LIM, supervisor, or tech (in that order) will call the National Service Desk (1-855-673-4357, option 4, option 2), or log a ticket through the "YourIT" ticketing system on-line. In the event of a major component failure, the IMS staff will notify the Associate Director's Office. If IMS discovers the failure, the hospital public address system will be used to notify all personnel by announcing a **Code 10**, including a time estimate for the return of normal operations. IMS may also use the hospital public address system to announce status updates.

B. During the downtime, technologists will call LTE, STAT, and critical test results to the ordering physician. In addition, Emergency Department (ED) "non-chartable copies" will be faxed to the ED. At the start of downtime call the ED and obtain the correct fax number and post at the fax machine. Routine results will be held in the lab for review. During prolonged downtimes, laboratory staff will make copies of instrument printouts and manual reports. The Nurse Manager on each ward will designate staff to retrieve the reports from the lab and deliver them to the ward. On irregular tours, the Nurse on Duty (NOD) will designate staff to retrieve and deliver the lab reports. The copies are intended for downtime use only and will not become part of the patient's chart. Laboratory personnel will stamp "non-chartable PHYSICIAN copy" on each downtime report.*
The "PHYSICIAN" stamp along with the downtime forms are located in the Hematology department

C. When the system recovers, all results will be entered into VistA as time and workload permit. Manual or instrument-generated reports will not be sent to the patients' charts without approval of the Chief, P&LMS. Lab ADPAC will review one patient report from each department from before and after the downtime recovery to verify interface/patient date integrity.

NOTE: To ensure privacy, all patient reports must be kept face down or in a folder.

II. CENTRAL ACCESSIONING DURING DOWNTIME

A. 7:00am – 3:30pm, there will be a designated central accessioning area within the working realm of the phlebotomy and processing areas. All laboratory-collected and ward-collected specimens will be written in the "Downtime Accession Log" and a temporary manual accession number will be assigned. All samples and requisition slips will be labeled with this corresponding number. LTE and STATs will be processed in this way and distributed to the sections without delay. Depending upon system status, routines may be held in order, (but processed to a steady state or processed manually and delivered to sections – see descriptive scenarios Lead Techs or Management will be available to assist, organizing and directing workflow into different sections. Microbiology (including blood cultures), Histology, Cytology, and Blood Bank specimens will be picked up and processed separately by technologists assigned to those sections.

B. From 3:30pm – 7:00am, central accessioning will be moved to Central Lab where manual processing will occur.

Note: Processing includes: record on the specimen the following information – ward/clinic location, urgency, tests ordered for the particular specimen. This will make the process for the techs running the tests easier.

III. DECISION FACTORS

A. Circumstances will vary with each downtime, and professional judgment will be used to determine which course of action to take, depending on the scenarios described in Section IV.

B. During normal business hours, contact:

1. Lab Information Manager
2. Back-up LIM, Medical Technologist Support
3. Section Supervisor
4. IMS, 1-855-673-4357, option 4, option 2.
5. The AOD, ext. 2177

C. During irregular tours, call the National Service Desk (1-855-673-4357, opt 4, opt 2). (Note: No one is scheduled to work evenings or weekends in IMS. After placing NSD ticket, call AOD and give them the ticket number and what issues you are having).

Note: Emergency contact numbers are located in Central Lab's Phone Book.

IV. DESCRIPTIVE SCENARIOS

A. INCOMPLETE BACK-UP: NO COLLECTION LIST

1. If the system back-ups are incomplete, the collection list will not print. Just prior to system back-up, a report headed "LIST OF PATIENT LAB ORDERS NOT DRAWN --/--/-- (Date)" is

tasked to print automatically in Central Lab on printer B98. Technically, the tasked Option Name is LRZWARD COLLECTION LIST, Menu Text = Task of Ward Collection List, queued to run each day at 00:20 with a rescheduling frequency = 1D. Technical task information may be useful when communicating with IMS or AOD if the contingency list of patient Lab orders fails to print. This printed list can be used for the 6AM collection. It contains all orders for the specified date that have not yet been collected, sorted by location. Both inpatient and outpatient locations will be included on the list, however, for the AM collection, outpatient locations are ignored. This list will be fairly accurate, however, check with the ward clerk before beginning phlebotomy. Collect only the LAB COLLECTs unless instructed otherwise for WARD COLLECTs, manually labeling all specimens, and return to Lab.

2. When system back-ups finally complete, the collection list will build and print. You may have to wait a few minutes as other scheduled background jobs complete. Accept orders using either the "itemized" or "receipt of routine labs collected" option. Print labels in the usual manner and apply to the specimens.

3. If the system is still down, neither collection list nor labels will be available. Organize specimens in racks in the designated accessioning area in the order in which they appear on the contingency list of patient Lab orders. Follow instructions of supervisors and LIM, who will decide when to accession these samples based on workload and VistA status.

4. If the system is still down for subsequent LAB COLLECTS, Phlebotomy Supervisor (or designee) will phone wards to organize those collections. These samples will be handled as above.

B. DATA NOT TRANSMITTING OR TRANSMISSION IS DELAYED

1. If data transmission is delayed for more than 5 minutes, immediately contact the appropriate individual as discussed under Decision Factors, section III above.

2. During irregular tours, one must first determine the extent of transmission failure to select the appropriate course of action. Failure on a single analyzer cannot be solved by IMS. Troubleshoot the auto instrument. If the failure cannot be solved, send out a priority message to the LIM and section supervisor so that the problem is documented for follow up.
   a. Delays of 5-15 minutes are most likely due to system problems with TaskManager that would best be resolved by IMS during normal business hours.
   b. Longer delays and failures can be reported to the NSD and AOD, who will contact IMS. IMS is aware that the HL7 background job must be re-started after any system downtime.
      They can determine whether the background job is running or has failed by reviewing the running tasks for LAB INTERFACE2. This task must be running at all times for data transmission to occur.

C. MANUAL ORDERS

Clerks have been instructed to use manual lab requisition downtime form for clinical lab orders during downtime. The requisition forms are kept in the laboratory downtime drawer, and each patient location is responsible for keeping enough stock on hand for its needs. **Laboratory personnel are responsible for Multipurpose Accessioning any manual orders that are received during the downtime**. If the system is operational before the collection list builds (4:30am), you may use the FAST LAB TEST ORDER (ROUTINE) in order to have the routine lab collect orders build on the collection list. You may also use the FAST BYPASS (^BYPASS) option to order and result tests in a single option. For batch accessioning, however, Multipurpose Accessioning is the preferred option.
Note: Use ONLY blue or black ball point pen when filling out the downtime forms.

D. SYSTEM SHORT PLANNED DOWN (≤ 2 HRS)

1. IMS will attempt to schedule downtimes during periods that will have the least impact on patient care. In most cases downtimes are scheduled after 4:30pm, however, that may not always be possible. All downtimes are announced via electronic mail and displayed in the system sign-on message.

2. When the computer system is scheduled to be down for a period of two hours or less, process only LTEs and STATs. All routines will be processed to a steady state, ready to be tested when the computer systems is fully functional. Keep all specimens in order, in a rack, so accessioning and labeling will be easier when the computer system is fully functional. Laboratory samples will be manually logged in the **"Downtime Accession Log**" and be given a temporary manual accession number. All samples and requisition slips will be labeled with this corresponding number. When the system recovers, use the manual log sheet to multipurpose accession the requests. Process the pending samples and enter results as soon as workload and staffing permit.

E. SYSTEM LONG PLANNED DOWN (>2 HRS)

IRM will publicize a planned extended down in advance in the sign-on message and with electronic mail. The Lab Information Manger will send a message to the appropriate hospital personnel asking for cooperation in limiting orders to LTEs and STATs.

1. **If this is an early morning down, 5:00am – 7:00am, then the midnight tech will:**
   a. Print the collection list and labels promptly at 4:40am.
   b. Using the "**Receipt of routine labs collected**" option on the phlebotomy menu, **accept the collection list by ward**, enter the ward as it is printed on the collection list, skip the next two prompts and enter "yes" at the prompt that asks if you are ready to accept the rest of the orders. This process will be followed for each ward on the list. **You**

must accept the collection list in order to download accessions to the analyzers or to build worklists.

c. Print a Downtime Outpatient List for today -10 through today +4 date range. ^DOWTIME OUTPATIENT LIST, -10, +4, B98.
d. Print an incomplete status for Chemistry, Hematology, Coagulation, and Urinalysis. Queue your lists and utilize as many printers as you wish to expedite the process. Steps a-d, above, should take less than 30 minutes.
e. Before leaving at 7 a.m., advise dayshift personnel of status of all processes and tasks.

2. **For downtimes scheduled at 8:00am or later**, each section will evaluate workload at 7:00am then accept collection lists, build worklists, print long form accession lists and incomplete test status reports as needed prior to downtime. Additional techs may be scheduled to collect, run, and report as much of the workload as possible. The midnight tech may be asked to perform steps a-b, early morning downtime, to expedite the work. In addition, an incomplete status for each department and a downtime outpatient list will be printed shortly before downtime as designated by section supervisors or LIM. **While the system is down:**
   a. Manually log the specimens on the "Downtime Accession Log" and assign a temporary manual accession number. All specimens and requisition slips will be labeled with the corresponding number. **Note: When processing samples label tubes with urgency, tests ordered for the specific tube type, ward location. Then deliver to central lab, notifying techs if the sample is STAT, LTE or routine.**
   b. Perform testing, call and document LTEs, STATs, and critical values
   c. File results alphabetically, with Sort-All Sorter. Routine results will be available in the lab for physician review.
   d. Stamp "non-chartable PHYSICIAN copy" on appropriate copies of results and place them in designated area for Nursing Service designee to pick up and distribute to wards.
   e. When the system recovers, the "Downtime Accession Log" will be used for accessioning. Write the Accession numbers in the "Accession #'s" column of the logsheet and on all corresponding patient result printouts. Follow section guidelines to enter results in VistA as time and workload permit.

F. SYSTEM SHORT UNPLANNED DOWN (≤2 HRS)

Print an incomplete status report and a downtime outpatient list if time permits. Contact the appropriate individual and follow the guidelines for a short planned down. Reassess at 15-30 minute intervals by communicating with the appropriate individuals.

G. SYSTEM UNPLANNED EXTENDED DOWN (>2 HRS)

Examples of this would be a natural disaster or a sudden unexplained power failure. Contact the appropriate individuals and follow the guide starting with "While the System is Down" from above(Sec. IV, E.,2).

V. SECTIONAL INSTRUCTIONS

Refer to sectional contingency guidelines and worksheets for instructions on re-transmitting instrument data.

VI. WORKSHEETS

The "Downtime Accession Log" sheets will be found in phlebotomy central accessioning area and in the Central Lab.

Note: Use only black or blue ball point ink pen when filling out downtime form and downtime logs.

VII. VistA Read Only (VistARO)

VistARO provides a way to access patient information when a CPRS GUI or VistA system failure occurs. (see VistARO GUIDE).

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TECH'S QUICK REFERENCE GUIDE

I. APPROPRIATE CONTACTS – MAJOR COMPUTER PROBLEM

A. Monday – Friday, 7:30am – 4:00pm
   1. ADPAC/BCEC/LIM ext. 1424
   2. ADPAC back-up/technical support MT, ext. 3574
   3. Section Supervisor
   4. National Service Desk (NSD) **2057.**

B. Other hours/Holidays & Weekends:
   1. National Service Desk (NSD) **2057**

   AND

   2. Call AOD, ext 2177 and notify them on the "YourIT" ticket number.

II. APPROPRIATE CONTACTS – MINOR PROBLEM

Monday- Friday 7:30am – 4:00pm
LIM/ADPAC – ext 1424, or by outlook mail.

III. WHAT TO DO WHEN:

A. INCOMPLETE BACK-UP/NO COLLECTION LIST
   1. Use 12:30am LIST OF PATIENT LAB ORDERS NOT DRAWN for AM collection.
   2. Check list with ward clerk or charge nurse before beginning collection.
   3. Collect LAB COLLECT specimens, and may draw WARD COLLECT orders after checking.
   4. If system is operational after AM collection:
      a. Wait for collection lists/labels to build/print.
      b. Accept your collection list using "ITEMIZED" or "RECEIPT" option.
      c. Label specimens with VistA-generated collection labels.
      d. Deliver specimens to sections in the usual manner.
   5. If system is still down after AM collection:
      a. Leave specimens in rack according to order on list.
      b. Supervisors and LIM will issue instructions on when to accession.

B. DATA TRANSMISSION FAILURE
   1. Regular hours: call LIM/ADPAC ext.1424
   2. Irregular hours:
      a. Check lines.
      b. Evaluate extent of transmission failure.
      c. Troubleshoot auto instrument.
      d. Make appropriate contact.

C. PLANNED SYSTEM DOWN
   1. Begin manual accessioning promptly.
   2. Process LTEs and STATs immediately.
   3. Completely fill in "Downtime Accession Log". Use manual numbers for requests and specimens.
   4. Take specimens and requests to triage area. Supervisors, LIM will decide when to process routines based on VistA status and workload.
   5. Call and document LTE, STAT, and critical results to requesting physician and file alphabetically. For extended downtimes, place copies of reports in designated area for Nursing Service retrieval.
   6. For **early AM down**, the midnight tech will:
      a. Take off collection list and print collection labels.
      b. Accept each ward using "Receipt" option.
      c. Print Incomplete Status for Chem, Hemo, Coag, and Urines.
      d. Print a Downtime Outpatient List for Today-10 through Today+4 date range.
      e. Communicate status to incoming shift.
   7. When system comes up, accession, number, and enter results into VistA.

D. SYSTEM UNPLANNED DOWN
   1. Print a Downtime Outpatient List for Today-10 through Today+4 date range.
   2. If time permits, print incomplete status for each work area.
   3. Make appropriate contact.
   4. Begin manual accession and remove specimens and manual requests to triage area.
   5. Process LTEs and STATs immediately.
   6. Call and document all LTEs, STATs, and critical.
   7. Supervisors and LIM will determine when to process routines.
   8. Reassess at 15-30 min. intervals.

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VistA READ-ONLY (VistARO) GUIDE

VistARO provides a way to access patient information when a CPRS GUI or VistA system failure occurs. This guide is designed to provide a brief overview of VistARO and a description of the steps performed in for searching for patient information.

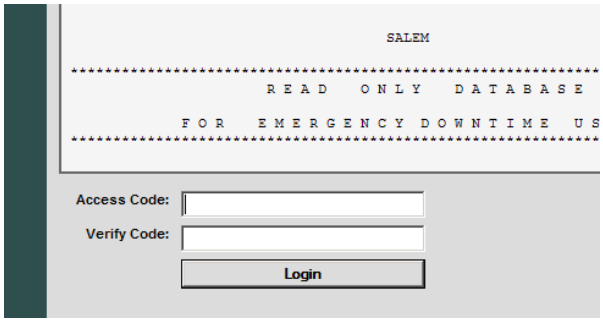
A. OVERVIEW

1. VistARO is a READ ONLY copy of the electronic medical record.
2. It provides only local information. Remote data from other VA/DOD facilities will not be available.
3. The information available in VistARO is current up to a brief period (generally a few minutes) before the system failure occurred. Information that was entered into the "LIVE" system just before the system failure may not be available in VistARO.
4. VistARO uses the VistAWeb interface. Users without CPRS access will be unable to access VistARO.

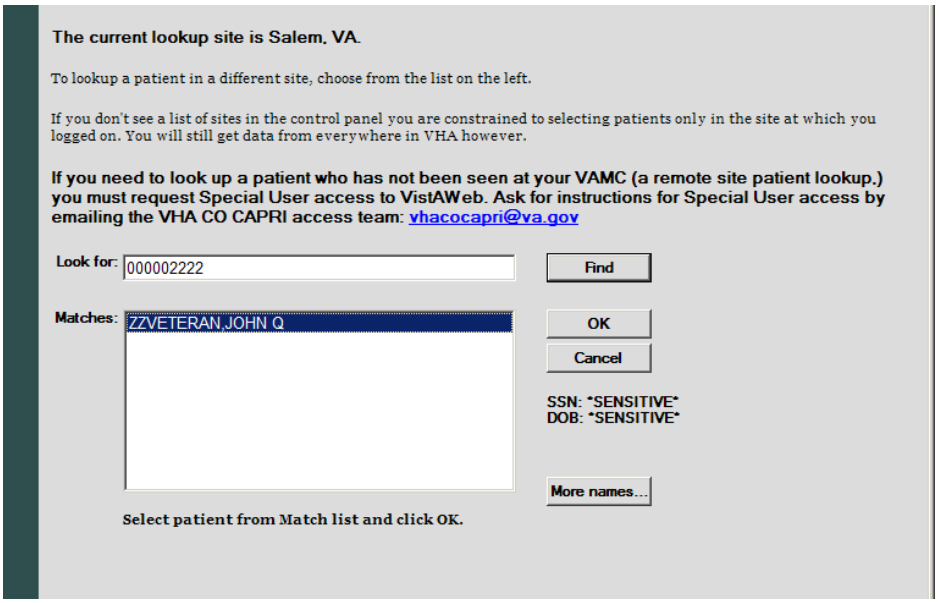
B. PROCEDURE

1. Access the "Salem Icons" folder on the desktop. 

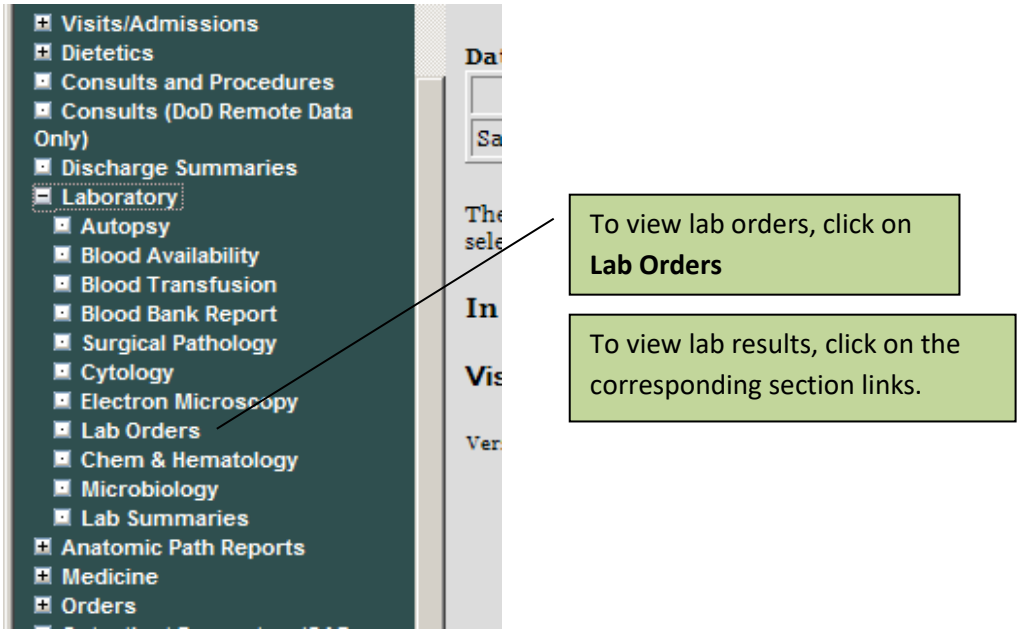
2. Click on the VistARO shortcut. This will open the Log in screen of the application.
3. In the upper left corner, click on the **VA Mid-Atlantic Health Care Network** link. Click on **Salem VA.**
4. Enter VistA ACCESS and VERIFY codes. Click Login.



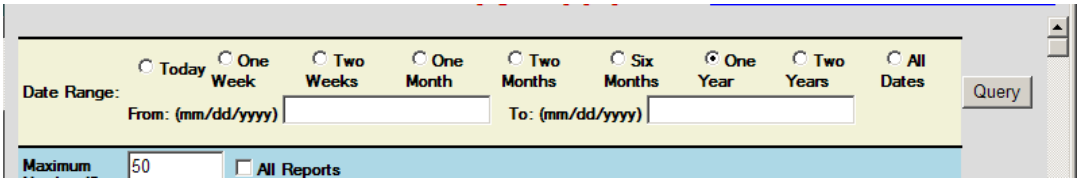
5. Enter the patient's SSN and click FIND. Select the patient from the match list and click OK.



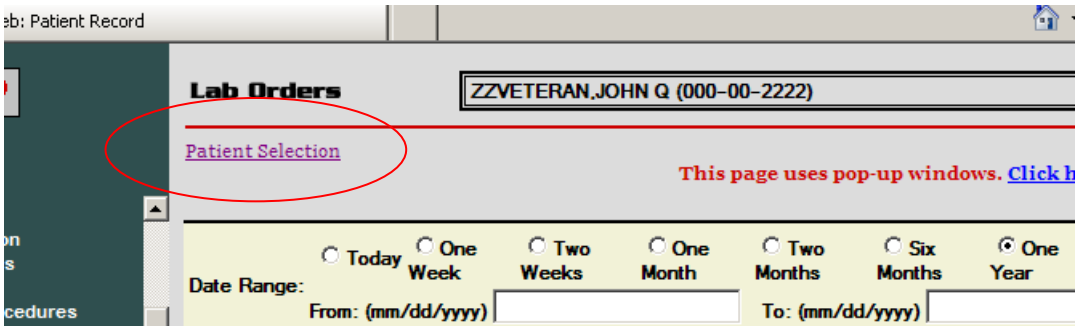
6. Click on **Laboratory** to expand the selection into the different areas.



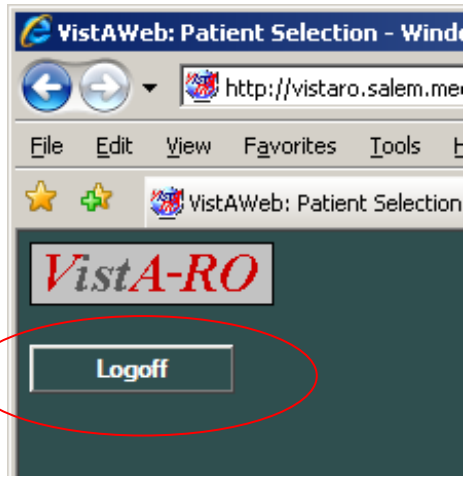
7. Users can assign a date range to the query. For example, when looking up orders for a patient, a user can enter a "FROM" date that is T-10 and a "TO" date that is T+4 using the correct date format (mm/dd/yyyy). Click **Query**. The list will be filtered to match the search criteria.



8. Click on **Patient Selection** to return to Patient Selection/Lookup screen.



9. To end the VistARO session, click **Logoff** in the upper left corner of the screen.



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ADP SECTION PROCEDURE MANUAL
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06/16/10	Aaron Ibarra				
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MENU MANAGEMENT

After consultation with the Lab Manager and the Chief, PALMS, the Laboratory Information Manager will request Information Management Service (IMS) Service to delegate appropriate Lab options and security keys to employees so that they may efficiently perform their duties. Access is given on a "need to know" and "competently perform" basis. Several main menus exist for certain positions such as Phlebotomist/Technician, Phlebotomy Supervisor, Transcriptionist, Program Assistant, Medical Technologist (MT), Lead MT, Supervisor MT, Blood Bank Lead Technologist, Chief MT/Lab Manager, Anatomic Pathology Tech, Cytotechnologist/AP Supervisor, Pathologist, Service Chief, Lab Information Manager (LIM)/Bar Code Expansion Coordinator, Technical Support Technologist/Backup LIM, and Ancillary Testing Coordinator. Sample menus follow.

Laboratory VistA Menu [LRMENU
The Laboratory VistA Menu is the Laboratory package main menu. This menu includes all the options that is used by the Lab package. It is locked with the LRLAB key.

1 Phlebotomy menu ... [LR GET]
2 Accessioning menu ... [LR IN]
3 Process data in lab menu ... [LR DO!]
4 Quality control menu ... [LRQCM]
5 Results menu ... [LR OUT]
6 Information-help menu ... [LRHELP]
7 Ward lab menu ... [LRWARDM]
8 Anatomic pathology ... [LRAP]
**> Locked with LRANAT
9 Blood bank ... [LRBL]
**> Locked with LRBLOODBANK
10 Microbiology menu ... [LRMI]
**> Locked with LRMICRO
11 Supervisor menu ... [LRSUPERVISOR]
**> Locked with LRSUPER

Phlebotomy Menu [LR GET]
This menu contains options that the lab uses to **get** (collect) the test orders and specimens.

Add tests to a given accession. [LRADD TO ACC]
**> Locked with LRLAB
Add tests to an already existing order number. [LRADD TO ORDER]
Add to collection list [LRPHMAN]
**> Locked with LRPHSUPER
Delete entire order or individual tests [LRCENDEL]
Itemized routine lab collection [LRPHITEM]
Lab orders by collection type [LRRP5]

Lab test order [LROW]
List of lab orders not collected [LRNODRAW]
List of orders not collected (Long form) [LRNDLST]
Order/test status [LROS]
Print collection list/labels [LRPHLIST]
Print Future Collection Labels [LRUFCL]
**> Locked with LRLAB
Print Single Future Collection Label [LRUFCLS]
**> Locked with LRLAB
Receipt of routine lab collection from wards [LRPHEXCPT]
Test description information [LREV]
Ward lab menu ... [LRWARDM]
PA Interim report [LRRP2]
PO Interim report for selected tests as ordered [LRRSP]
Add tests to an already existing order number. [LRADD TO ORDER]
Delete entire order or individual tests [LRCENDEL]
Fast lab test order (IMMEDIATE COLLECT) [LROW IMMED COLLECT]
Fast lab test order (ROUTINE) [LROW ROUTINE]
Fast lab test order (SEND PATIENT) [LROW SEND PAT]
Fast lab test order (WARD COLLECT) [LROW WARD COL]
General report for selected tests [LRGEN]
Graph results [LRDIST]
Interim report by provider [LRRD]
Interim report for selected tests [LRRP3]
Interim reports for 1 location (manual queue) [LRRS BY LOC]
Lab test order [LROW]
List of lab orders not collected [LRNODRAW]
Order/test status [LROS]
Reprint a Ward Collect Order [LROWRP]
Review by order number [LRCENLKUP]
Show list of accessions for a patient [LRUPT]
Test description information [LREV]
Ward collection summary for lab orders [LRDRAW]

Accessioning Menu [LR IN]

This menu contains the options used to order laboratory tests for the Laboratory V. 5.2 software package.

Accessioning tests ordered by ward order entry [LROE]
Accessioning, standard (Microbiology) [LRMICROLOGIN]
Add tests to a given accession. [LRADD TO ACC]
**> Locked with LRLAB
Bypass normal data entry [LRFAST]
Delete entire order or individual tests [LRCENDEL]
Delete test from an accession [LRTSTOUT]
Fast lab test order (IMMEDIATE COLLECT) [LROW IMMED COLLECT]
Fast lab test order (ROUTINE) [LROW ROUTINE]
Fast lab test order (SEND PATIENT) [LROW SEND PAT]
Inquiry to LAB TEST file [LRTESTDIQ]
**> Locked with LRSUPER
Lab add test(s) to an existing order [LRADDTST]
**> Locked with LRLAB
Lab orders by collection type [LRRP5]
Lookup accession [LR LOOKUP ACCESSION]
Manual Enter Clinic Stop Codes [LRSTOPC]
**> Locked with LRLAB

Manually accession QC, Environmental, etc. [LRQCLOG]
Multipurpose accessioning [LRQUICK]
Order/test status [LROS]
Print accession list(s) ... [LRUAC]
Accession and test counts by shift [LRUPACS]
Accession list by date [LRUPAD]
Accession list by number [LRUPA]
Lab accession and test counts [LRUPAC]
Test counts by treating specialty [LRUPACT]
Print future collection labels [LRUFCL]
**> Locked with LRLAB
Print single future collection label [LRUFCLS]
**> Locked with LRLAB
Remove an accession [LRDELOG]
Reprint accession label(s) [LRLABXT]
Reprint order accession label(s) [LRLHBXOL]
Review by order number [LRCENLKUP]
Show list of accessions for a patient [LRUPT]
Special test accessioning [LRNONCOM]
Test description information [LREV]

Process Data in Lab Menu [LR DO!]

This menu contains options the Laboratory uses to process (*do*) data on the specimens.

EA Enter/verify data (auto instrument) [LRVR]
EL Enter/verify data (Load list) [LRVRW2]
EM Enter/verify/modify data (manual) [LRENTER]
EW Enter/verify data (Work list) [LRVRW]
GA Group verify (EA, EL, EW) [LRGV]
**> Locked with LRLIASON
MP Misc. Processing Menu ... [LR PROCESS, MISC]
GD Group data review (verified & EM) [LRGVP]
GU Group unverified review (EA, EL, EW) [LRGP]
Active Load Work Listing [LRLLPA]
Clear instrument/worklist data [LRINSTCLR]
**> Locked with LRVERIFY
Incomplete test status report [LRWRKINC]
Insert a Sample on a Load/Work list [LRLLINST]
Keypad differential for CRT's [LA KB DIFF]
*Lab statistics menu ... [LR WKLD]
Long form accession list [LRACC1]
Move a Load/Work list entry [LRLLMOVE]
Remove a Load/Work list entry [LRLLREMV]
Rollover Accession (Manual) [LR ROLLOVER]
Set new "starting sequence number" [LRLL NEW 1ST SEQUENCE #]
Short accession list [LRACC2]
Smac Support menu ... [LRSMACMENU]
Clear instrument/worklist data [LRINSTCLR]
**> Locked with LRVERIFY
Flagged Specimens [LRSMAC3]
Group verify (EA, EL, EW) [LRGV]
**> Locked with LRLIASON
Halt Smac Run [LRSMAC6]
Quality control display (Levey-Jennings) [LRQC]
Run Smac [LRSMAC5]

Work sheet Accession list [LRACC3]
Work sheet of all unverified accessions for a date [LRACC4]
Accession order then immediately enter data [LR ACC THEN DATA]
Batch data entry (chem, hem, tox, etc.) [LRSTUF]
**> Locked with LRVERIFY
Build a load/work list [LRLL]
Bypass normal data entry [LRFAST]
Download a load list to an Instrument. [LA DOWN]
Fast Bypass Data Entry/Verify [LRFASTS]
**> Locked with LRLAB
Lookup accession [LR LOOKUP ACCESSION]
Order/test status [LROS]
Print a load/work list [LRLLP]
STD/QC/REPS manual workload count [LR WKLD STD/QC/REPS]^
Unload Load/Work List [LRLLCT]
*Lab statistics menu ... [LR WKLD]
Edit Workload Comments [LR WKLD COMMENTS]
File listings ... [LR WKLD3]
**> Locked with LRSUPER
1 WKLD code list by code [LR WKLD CODE BY CODE]
2 WKLD code list by name [LR WKLD CODE BY NAME]
3 Lab section list by code [LR WKLD SECTION BY CODE]
4 Lab section list by name [LR WKLD SECTION BY NAME]
5 Lab subsection list [LR WKLD SUBSECTION]
6 Lab subsection by Lab section [LR WKLD SUB BY SECTION]
7 Service dictionary [LR WKLD SERVICE]
8 Requesting center dictionary [LR WKLD REQUEST]
9 Test dictionary [LR WKLD TEST DICT]
10 WKLD log file download [LRCAPDL]
Lab test turnaround time [LR CAPTT]
LMIP Reports/Data Collection ... [LR WKLD4]
**> Locked with LRLIASON
1 PHASE 1: Move data from 64.1 to 67.9. [LR WKLD LMIP 1]
**> Locked with LRSUPER
2 PHASE 2: Collect data for transmit to NDB. [LR WKLD LMIP 2]
**> Locked with LRSUPER
3 PHASE 3: Print of data to be sent to NDB. [LR WKLD LMIP 3]
**> Locked with LRSUPER
4 PHASE 4: Create E-mail message for NDB. [LR WKLD LMIP 4]
**> Locked with LRSUPER
PHASE 5: Purge monthly WKLD data from 67.9. [LR WKLD LMIP 5]
**> Locked with LRLIASON
Recompile Phase 1 LMIP Data. [LR WKLD LMIP 1 REPEAT]
**> Locked with LRSUPER
Review accession workload [LR WKLD AUDIT]
STD/QC/REPS manual workload count [LR WKLD STD/QC/REPS]
Turn on site workload statistics [LR WKLD STATS ON]
**> Locked with LRLIASON
Turn on workload stats for accession area
[LR WKLD STATS ON ACC AREA]
**> Locked with LRLIASON
WKLD statistics reports ... [LR WKLD2]
**> Locked with LRSUPER
1 PHASE 3: Print of data to be sent to NDB [LR WKLD LMIP 3]

**> Locked with LRSUPER
2 Workload statistics by accession area and shift [LRRP8]
**> Locked with LRSUPER
3 Workload cost report by major section [LRCAPML]
4 Detail Workload Report [LRRP6]
5 Treating Specialty Workload Report [LRCAPTS]
6 Workload Report [LRCAPR1]
Workload manual input [LR WKLD MANUAL INPUT]

Results Menu [LR OUT]
This menu contains options that the lab uses to report or send out patient test results.

Edit/print/display preselected lab tests**...**
PR Print/display preselected lab tests
EN Enter/edit user defined lab test lists
General report for selected tests
Graph results
Interim report
Interim report by provider
Interim report for selected tests as ordered
Interim report for selected tests
Interim reports by location (manual queue)
Interim reports for 1 location (manual queue)
Interim reports for 1 provider (manual queue)
Order/test status
Print a full patient summary
Review by order number

Information-Help Menu [LRHELP]
This menu contains options that the lab uses to obtain additional "help" or information about tests, orders, make inquiries, etc.

General report for selected tests [LRGEN]
Inquiry to LAB TEST file [LRTESTDIQ]
**> Locked with LRSUPER
Interim report for selected tests as ordered [LRRSP]
Order/test status [LROS]
Review by order number [LRCENLKUP]
Test description information [LREV]

Ward Lab Menu [LRWARDM]
This menu contains the standard options that can be assigned to ward personnel.

PA Interim report [LRRP2]
PO Interim report for selected tests as ordered [LRRSP]
Add tests to an already existing order number. [LRADD TO ORDER]
Delete entire order or individual tests [LRCENDEL]
Fast lab test order (IMMEDIATE COLLECT) [LROW IMMED COLLECT]
Fast lab test order (ROUTINE) [LROW ROUTINE]
Fast lab test order (SEND PATIENT) [LROW SEND PAT]
Fast lab test order (WARD COLLECT) [LROW WARD COL]
General report for selected tests [LRGEN]
Graph results [LRDIST]
Interim report by provider [LRRD]
Interim report for selected tests [LRRP3]
Interim reports for 1 location (manual queue) [LRRS BY LOC]

Lab test order [LROW]
List of lab orders not collected [LRNODRAW]
Order/test status [LROS]
Reprint a Ward Collect Order [LROWRP]
Review by order number [LRCENLKUP]
Show list of accessions for a patient [LRUPT]
Test description information [LREV]
Ward collection summary for lab orders [LRDRAW]

Anatomic Pathology [LRAP]

The anatomic pathology portion of the laboratory core package contains the following sections:

- Surgical pathology (SP),
- Cytopathology (CY),
- Electron microscopy (EM)
- Autopsy pathology (AU)

Within each section are options for log-in (LG), data entry (DA), print (P) and searches (S).
See the Anatomic Pathology User Manual for detailed descriptions of the options and functionality of this module.

D Data entry, anat path ... [LRAPD]
E Edit/modify data, anat path ... [LRAPE]
I Inquiries, anat path ... [LRAPI]
L Log-in menu, anat path ... [LRAPL]
**> Locked with LRANAT
P Print, anat path ... [LRAPP]
R SNOMED field references ... [LRAPREF]
S Supervisor, anat path ... [LRAPSUPER]
**> Locked with LRAPSUPER
V Verify/release menu, anat path ... [LRAPVR]
C Clinician options, anat path ... [LRAPMD]
W Workload, anat path ... [LRAPW]

Microbiology Menu [LRMI]

This menu contains the options routinely assigned to Microbiologists.

RB Results entry (batch) [LRMISTUF]
RE Results entry [LRMIEDZ]
VS Verification of data by supervisor [LRMIVER]
**> Locked with LRSUPER
VT Verification of data by tech [LRMINEWD]
WKLD Review Accession Workload [LR WKLD AUDIT]
Accessioning, standard (Microbiology) [LRMICROLOGIN]
Batch accessioning [LRMIBL]
Lab statistics menu ... [LR WKLD]
Long form accession list for microbiology [LRMIACC1]
Microbiology print menu ... [LRMIP]
References ... [LRMIREF]
Results menu ... [LR OUT]
Short accession list [LRACC2]
Show list of accessions for a patient [LRUPT]
STD/QC/REPS/MANUAL WKLD COUNT [LR WKLD STD/QC/REPS]
Supervisor menu ... [LRSUPERVISOR]
**> Locked with LRSUPER

If the laboratory position requires access to software packages other than the Lab; e.g. Radiology, IFCAPS, Timekeeper, Supply, Generic Code, then a request for access is made through the Service Application Coordinator. If access is approved, the responsible Applications Coordinator will either train the Lab Information Manager or provide the necessary training and/or documentation for the support of personnel using the software. The Lab Information Manager will train Applications Coordinators from other services in Laboratory applications as required.

This manual specifically addresses the Laboratory software package.

Written by: Yvette Spangler

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02/04/15	Suzanne Stoneman				
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ADP SECTION
VA Medical Center, Salem, VA
Written: May 2003

PROCEDURE MANUAL
Approved by: _____
Chief, P&LMS

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CPRS, LAB ORDERS & ADD-ON PROTOCOL

The Computerized Patient Record System (CPRS) software was installed on 10/29/98 at this facility and includes electronic Physician Order Entry. The physician or designee as established by each service will initiate and electronically sign Clinical Lab orders, with a few notable exceptions when it is appropriate that an order or change be initiated by Pathology and Laboratory Medicine Service personnel. Using established lab options, personnel will respond to prompts for Nature of Order/Change with selections from a set of codes. This order/change will be automatically recorded in the patient's electronic record. Depending on the nature of this activity, a notification may be sent to the requesting clinician to electronically sign this action and a copy of this action may be printed on the ward/clinic to be placed in the patient's chart. Exceptions to electronic ordering generally fall into 2 categories where either a written order is retained on the chart, or an order requires service correction.

A. When a written order is retained on the chart with the electronic lab order generated through the lab software instead of CPRS, **Nature or Order/Change: SERVICE CORRECTION**
   1. Recovery from downtime (written downtime form)
   2. Miscellaneous Send Out (written downtime form)
   3. Hospital locations retaining access to Lab order options follow policies of their Service, and generally accept the SERVICE CORRECTION default when using Lab options.

B. When Service Correction is required, **Nature of Order/Change: SERVICE CORRECTION**, or **Cancelation Reason: SERVICE CORRECTION**.
   1. To correct premature order acceptance when a duplicate order must be placed.
   2. To cancel orders from the collection list.
   3. To add on tests meeting established criteria including, but not limited too:
      a. Retic – add on to current accession for CBC
      b. Diffs – for abnormal CBC criteria
      c. Gram Stains, Anaerobic Culture, Fluid Culture – to meet specimen requirements.
      d. Hepatitis – confirmation testing.
      e. Direct LDL –when Lipid levels meet the threshold for reflex.
      f. FT4 – when TSH is established threshold.
   4. To delete tests meeting established criteria including:
      a. Urine gram stains on routine specimens.

b. Entire panel of tests, CBC or Urinalysis, etc., when order is accessioned but specimen cannot be obtained or is unsuitable for processing. Requestor is notified of reason test is not performed. Note: single tests are generally resulted with "comment" or "canc" using # or * respectively and do not generate a prompt for cancellation reason.
c. To update/correct orders after change in reference range.

C. **Add-on Protocol** when verbal requests are received for additional testing on orders already accepted into the Lab:
1. The requestor will phone the Lab with the following information:
   a. Patient name/SSN
   b. Tests already ordered
   c. Order number and order status
   d. Accession number (far right on display screen)
2. Lab personnel will locate the specimen using the Accession number provided above.
3. Lab personnel will ask the caller to generate an electronic order and print a copy to the lab, or communicate the order# over the phone. In rare cases to maintain report continuity, the technologist will add the test to an existing accession and record the entry in the comments. However, the lab prefers a new accession number to be generated so turnaround times will not be negatively impacted.

Written by: Beatrice Wilkinson

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02/04/09	Beatrice Wilkinson	04/10/15	Suzanne Stoneman		

Contingency Plans

Pathology and Laboratory Medicine Service
Automated Data Processing
Contingency Plan

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Pathology and Laboratory Medicine Service (P & LMS)
Automated Data Processing Contingency Plan

1. Purpose.
To establish policies and procedures for developing a plan that will provide the course of action to be followed before, during, and after the occurrence of an undesirable event that disrupts or interrupts automated data processing (ADP) operations. A contingency or disaster is defined as any unexpected emergency that happens suddenly and disrupts the routine of the facility, that can hurt its mission, and demands immediate attention.

2. Scope.
These procedures apply to the Veteran Affairs Medical Center (VAMC) staff and include specifically the Office of Information and Technology Service (OI&T), Information Security Officer (ISO), Service Chiefs and the service ADP Application Coordinator (ADPAC)/Alternate ADPAC.

3. Policy.
OMB Circular A-130, "Management of Federal Information Resources," and VA Manual MP-6, "Automatic Data Processing" requires that appropriate contingency plans be developed and maintained by end users of information technology applications. The intent of such plans is to assure that users can continue to perform essential functions in the event their information technology support is interrupted. All Service Chiefs are required to have in place a documented and working recovery plan, which will include documented procedures and other required information to ensure an acceptable level of business recovery capability. Verification of the existence and feasibility of service-level plans will be the responsibility of the facility Information Security Officer (ISO).

4. Responsibilities.
(Note: See Appendix A for a list of responsible people and their contact numbers.)

a. The Medical Center Director shall provide direction, support and resources for **ADP** contingency planning. The Medical Center Director shall:

(1) Manage **ADP** contingency planning based upon the results of risk analyses and other pertinent information;

(2) Assign responsibilities for preparation and review of **ADP** contingency planning to designated personnel;

(3) Require contingency plans for all facility organization providing or dependent upon computer support;

b. The ISO or designee shall:

(1) Coordinate the development of the facility service contingency plans;

(2) Provide information and support to the OI&T Chief, system managers, ADPACs, Office Administration Staff, and representatives of dependent services;

(3) Review and audit the results of the **ADP** contingency plan tested by each service line.

c. The Pathology and Laboratory Medicine Service (PALMS) shall:

(1) Write and review the **ADP** contingency plan;

(2) Activate the **ADP** contingency plan when necessary. (Appendix A includes the names and contact numbers of the service chief and other persons who could activate the plan if the primary activating person is unavailable);

(3) Update the **ADP** contingency plan in response to testing, specified reviews, or information requiring update (e.g., critical device lists).

d. The ADPAC or a representative of dependent services will be responsible for development of the **V*IST*A** contingency plan and its execution when required. He/she shall:

(1) Contribute components to the contingency plan;

(2) Initiate the appropriate actions when the contingency plan is activated;

(3) Assist in regular updates to the contingency plan in response to testing or other information needing updates.

5. Procedures.

a. Disaster avoidance.

(1) A list of protective measures to minimize risks in computer rooms and office areas may be found in #6-Protective Measures for Disaster Avoidance.

(2) Virus scans are pushed through when computer script is run. Personal Computers should **NOT** be turned off. Virus scans are upgraded weekly. Personal Computers left on **will** receive the upgrades automatically.

b. Disruptions.

(1) In the event of a **limited disruption** (temporary disruption not associated with damage or loss of assets, e.g., power failure, lasting up to five days):

a) Only STAT/LTE list tests are available. All STAT/LTE test equipment is backed-up on generator. If VISTA is up and other parts of hospital have power, terminals will be operable from generator power. Routine Chemistry samples will be processed to a stable state and tested only as time permits. If results are needed for a patient with routine requests, notify the Laboratory, extension 2290, of needed priority. Include phone or beeper for result notification.

b) If VISTA is unavailable, the wards will manually order tests using the appropriate Standard Form(s):

- Computer Downtime Laboratory Request Form (CDLR), for Clinical Lab Orders (APPENDIX E), located in the downtime draw in central lab.

- Local form, **BLOOD BANK VERIFICATION FORM**, for Blood Bank Services (APPENDIX H)

- SF 515, **TISSUE EXAMINATION**, for Histology and Cytology Requests (APPENDIX F)

The form must include the patient's full name, the full Social Security Number, date, patient's location, ordering physician, tests required, collection sample, urgency, and phone number if urgency is STAT or Life Threatening Emergency (LTE).

NOTE: To maintain patient privacy, forms and reports with patient information are to be turned over or placed in a folder.

c) When the lab receives the manual slips (CDLR), they are tracked manually on the Downtime Accession Log (APPENDIX G). Lab personnel should begin the log with a number greater than the last known computer accession number. The Blood Bank will use Local Blood Bank Forms (APPENDIX H) to record patient information and blood component assignment and relocation information.

d) Laboratory personnel will make copies of laboratory reports intended for delivery to the patient care areas. These copies are not intended for the patient chart and will be stamped "not chartable PHYSICIAN copy". The stamp and CDLR forms are located in the hematology section of the Central Lab in the top drawer ,where the evening/midnight phlebotomy log is located, marked "Computer Downtime Supplies".

e) For downtime occurring 7 am - 3:30 p.m. Monday-Friday, the Nurse Manager on each ward will designate staff to retrieve the reports from the Laboratory and deliver them to the ward. For downtime occurring after 3:30 p.m. Monday-Friday and on holidays and weekends, the Nurse on Duty (NOD) will designate staff to retrieve the reports from the Laboratory and deliver them to the wards. The reports will be placed on the wards in a location that is readily accessible to physicians and residents who wish to review the reports.

f) When and how often Nursing staff must retrieve lab results will vary according to workload and available nursing staff. However, most mornings lab results will be available for pick-up by 10:30 am, and most afternoon lab work will be available by 2:30 p.m..

g) Laboratory staff will continue the current policy of calling critical values and will also call results of LIFE THREATENING EMERGENCY (LTE) and STAT urgency orders to the appropriate personnel.

(2) In the event of a **serious disruption** (repairable damage to equipment or facility, or replaceable loss of key personnel, data, software, etc., e.g., equipment breakdown, lasting one to two weeks):

a) In the event of a serious disruption, the lab will follow the procedures outlined in "(1) limited disruption."

b) The lab has back-up equipment for each piece of critical equipment. If tests were unavailable due to equipment breakdown, plans will be made to contract necessary testing to another local medical facility.

(3) In the event of a **major disruption** (irreparable damage to equipment or facility, or loss of key personnel, data, or software, lasting for two weeks to one month):

a) If only the computer system is down the lab will operate according to the procedures outlined in "(1) limited disruption," expanding the system to accommodate routine testing.

b) In the event of loss of facility, the lab would be required to contract lab work to another local medical facility, due to the quantity and complexity of necessary equipment.

(4) In the event of a **catastrophic disruption** (total loss or near total loss of facility and its contents or people, i.e., earthquake, lasting in excess of one month):

a) Other VAMCs and Chief Information Officer field office campuses may provide support functions until the Salem VAMC can resume operations.

(Note: Time frames for each level of disruption are estimates. The situation may demand some flexibility.)

c. Payroll tracking.

(1) When the system becomes unavailable, the timekeepers for each service will begin tracking time manually on the "Time and Attendance Report --VA Form 5631" (See Appendix B).

(2) Each service will keep an ample supply of VA Form 5631, as photocopiers may be unavailable.

(3) When the system resumes, timekeepers will enter the time into *VATAS*.

(4) If the system becomes or remains unavailable when payroll is due in Austin, Payroll technicians will collect the completed VA Form 5631.

(5) Provisions for transmitting payroll to Austin without *VATAS* appear in the Human Resources Management Services Contingency Plan.

d. Evacuation.

(1) Should evacuation be necessary, employees should congregate at their service specific area and wait there for further instruction from management or local authorities.

(2) If a disaster occurs during non-business hours, employees should be advised to stay home or go to their homes as soon as they hear of a threat to their office or facility. They should wait at home for a phone call from management or a supervisor advising them when and where to report to begin carrying out office recovery tasks.

(3) The service shall identify people with physical, mental, or sensory impairments, document their work locations, and identify "buddies" to assist the disabled when a disaster occurs.

6. Protective Measures for Disaster Avoidance.

Fire prevention, detection, suppression and protection.

a. *Prevention*: Place printers, copiers, and other equipment that have a relatively high potential risk of fire in areas that have true floor-to-ceiling walls constructed of masonry or other fire-retardant material; be sure cleaning solvents and other flammables are kept in closed storage; and keep the amount of paper stock and other fuel sources in areas to a minimum.

b. *Detection*: Smoke detection devices should be considered under any raised floors, mounted on the suspended ceiling, and above the suspended ceiling.

c. *Suppression*: Locate portable handheld fire extinguishers near exit doors and near equipment (printers, copiers, etc.) that have a high potential for fire. Portable extinguishers should be a dry chemical or Halon type, rated for electrical and paper fires. The location of portable extinguishers should be clearly marked. If portable extinguishers are in an area with a raised floor, they should be co-located with floor pullers.

d. *Protection*: Data, software, documentation, and similar assets may be protected from fire damage by fireproof storage containers and off-site storage.

Water prevention, detection, and protection/correction.

a. *Prevention*: Computer equipment should be located in an area where the potential for flooding is low; assets placed above the ground floor significantly reduces the potential for damage or loss when a flood does occur. Rerouting water pipes is an appropriate countermeasure, but may be extremely expensive depending on the size and location of the area where the equipment is housed. Electrical and communication cables that pass through perimeter walls need to be in conduits and sealed. Openings around water pipes and air ducts must also be sealed.

b. *Detection*: Whenever a water source is in or near an area housing computer equipment, use of water detectors should be considered.

c. *Protection/Correction*: Three approaches can be used to protect ADP assets after flooding or water leakage has occurred: removing assets from the affected area, covering the asset if the leak originates above the asset, and removing water. Covering the asset requires placing plastic sheeting near the assets to be protected. Removing water requires installation of drains or pumps, or using wet/dry vacuums. Installing drains or pumps is effective only if there is an area where water may be safely discharged.

Electric Power Supply.

a. *Microcomputers*: The primary electrical threats to microcomputers are spikes, surges, and outages. As a general rule, all microcomputers should have real spike and surge protection.

b. *Mainframe Computers*: Universal Power Supply (UPS), diesel generators, and secondary power feeds from separate power substations protect mainframes for extended power outages. The transformers and motor generators needed to produce the stable high voltage required by mainframes also protect them from transient electrical events such as spikes, surges, and dips.

c. *Environmental Support Equipment*: If a mainframe-based network is intended to operate for extended periods on a UPS or generator, air-conditioning equipment must have similar electrical continuity.

d. *Access Control Mechanisms*: For access mechanisms that require electricity (e.g., card key systems), alternate power arrangements must be considered. Strictly controlled distribution of bypass keys to key personnel should also be considered. Since most of these systems are generally microcomputer-based, spike and surge protection is also required.

Natural Disasters. No countermeasures, other than relocation, are available to reduce the likelihood of natural disaster. Countermeasures that may be used to minimize the effects include:

a. using earthquake-resistant building structures.

b. "shock mounting" equipment to withstand earthquakes.

c. lightning rods to dissipate lightning strikes.

d. shutters to protect against glass breakage in windstorms

Natural disasters may produce secondary effects such as electrical spikes, fires, and flooding.

Housekeeping. Good housekeeping procedures minimize potential fire hazards by preventing an excessive buildup of trash, minimize operational disruption due to dirt or dust accumulations on magnetic storage devices, and ensure that sensitive waste products are destroyed in accordance with the level of sensitivity. Countermeasures that are appropriate for ADP-related housekeeping activities include:

a. *Standard Operating Procedures*: Employees should not eat or drink when using electronic equipment.

b. *Destruction of Sensitive Material*: When documents that contain sensitive information are no longer required, they should be destroyed in a manner that protects the confidentiality of the data.

c. *Screening of Cleaning Staff*: Ensure that the past performance of cleaning staff that have access to critical ADP assets does not represent a pattern of behavior that could be detrimental to ADP operations and security.

7. Plan Modification.

a. The P&LMS Chief and the ADPAC/Alternate ADPAC shall make necessary updates to the plan as changes occur.

b. The plan will be reviewed and revised annually. All critical device and ADP inventory lists will be verified and updated during the annual review.

c. Contingency plan, with new revision date to include testing documentation, will be placed by the Service Line ADPAC\Alternate ADPAC into the Contingency Plans folder in the ADPAC folder on the Public Drive.

P:\ADPAC folder\Contingency Plans folder

8. Security of Plan.

Contingency plan will be stored on the Public Drive in the ADPAC folder. This folder is limited to authorized individuals with a need to know. Each ADPAC\Alternate ADPAC will assure that a printed copy is accessible to service employees. Service employees must be aware of their responsibility when Contingency Plan is activated. The Laboratory Service Computer Users Manual contains printed copy of the plan and is located in the office of the Secretary's office.

9. Testing.

a. The plan will be tested annually. Components of the plan can be tested in intervals so as not to disrupt the timely delivery of patient care. However, the component and date of testing should be documented.

b. The Service Chief will document the use of the Service's contingency plan and send the documentation to the Information Security Officer or designee along with the critique of the plan's effectiveness on the Report of Salem VAMC Contingency Plan Level Two Testing, Appendix C and After-Action Report, Appendix D.

c. ADPAC/Alternate ADPAC will place the completed Contigency Plan as previously directed in #7-Plan Modification.

d. The ISO or designee will consolidate this information and present it to facility management along with documentation of the testing of the facility's ADP contingency plan.

Review Date:	Reviewed by:	Review Date:	Reviewed by:	Review Date:	Reviewed by:
02/05/09	Beatrice Wilkinson	03/27/14	Suzanne Stoneman	01/26/17	Suzanne Stoneman
04/14/10	Penny Gooch	04/13/15	Suzanne Stoneman	01/08/18	Suzanne Stoneman
1/23/12	Suzanne Stoneman	12/21/16	Suzanne Stoneman		

Index of Appendix Material

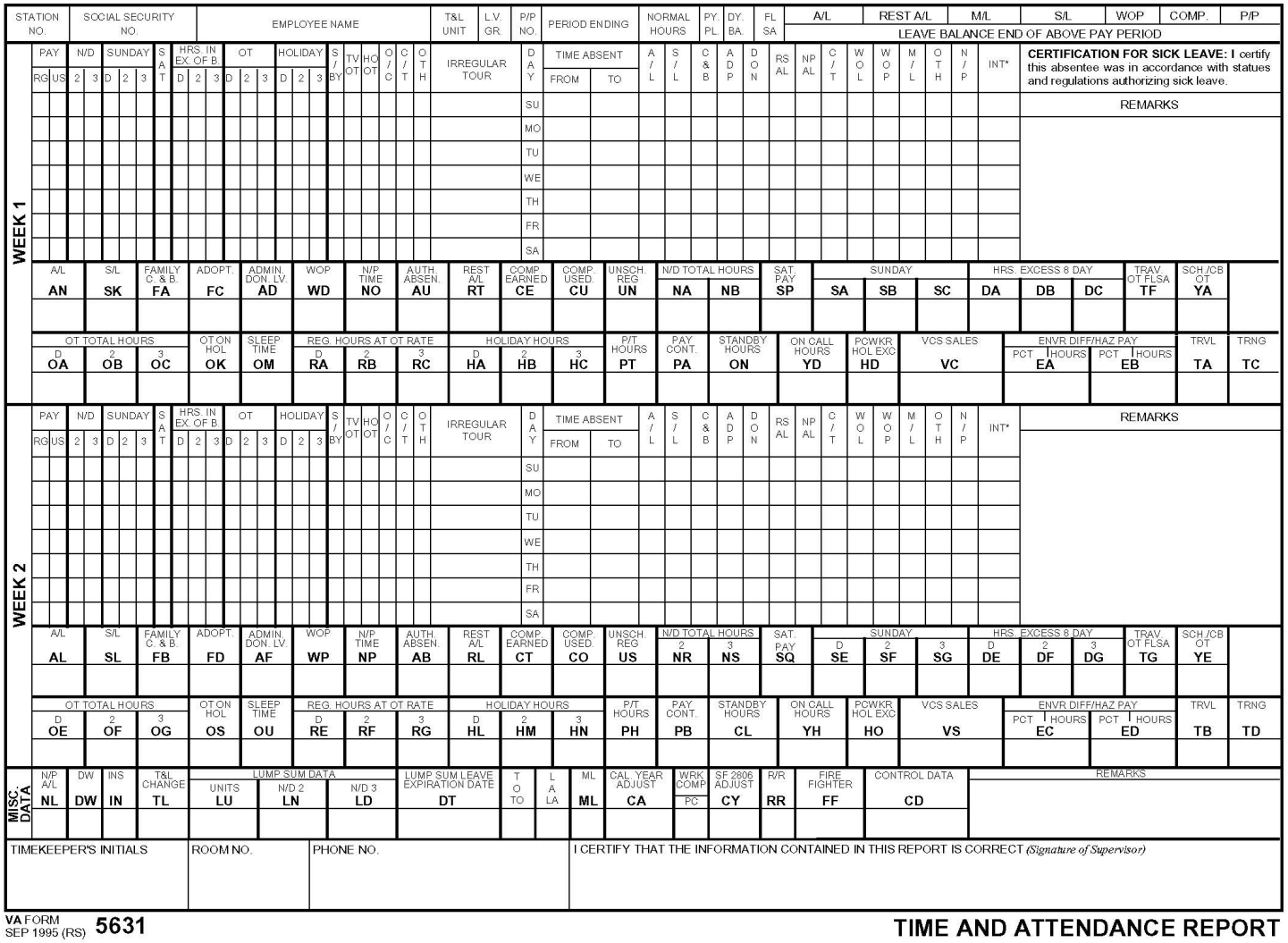
Appendix A – Emergency Contact List

In the event of an emergency situation, the following people should be contacted:

Position	Name	Work (982-2463)	Pager/Cell
Information Security Officer	Valarie Hoover	Ext. 1505	Cell:877-4316
Information Security Officer	Charlie Hurd	Ext. 3796	Cell:354-0772
Service Chief P&LMS	Lampros Karageorge, MD	Ext. 2293	1075
Laboratory Manager	William (WC) Wilkerson	Ext. 2200	
LIM/ADPAC	Suzanne Stoneman	Ext. 1424	
Alternate ADPAC	Adam Bishop	Ext. 2305	

Personal Contact phone numbers are available in the P&LMS service line phone book, located with-in the service.

Appendix B – VA Form 5631 Time and Attendance



STATION NO. | SOCIAL SECURITY NO. | EMPLOYEE NAME | T&L UNIT | L.V. GR. | P/P NO. | PERIOD ENDING | NORMAL HOURS | PY. PL. | DY. BA. | FL SA | A/L | REST A/L | M/L | S/L | WOP | COMP. | P/P

LEAVE BALANCE END OF ABOVE PAY PERIOD

WEEK 1

PAY RG US | N/D 2 3 | SUNDAY D 2 3 | SAT | HRS. IN EX. OF 8 D 2 3 | OT D 2 3 | HOLIDAY D 2 3 | S/BY | TV OT | HO OT | O/C | C/T | OTH | IRREGULAR TOUR | DAY | TIME ABSENT FROM TO | A/L | S/L | C&B | ADP | DON | RS AL | NP AL | C/T | WOL | WOP | M/L | OTH | N/P | INT*

CERTIFICATION FOR SICK LEAVE: I certify this absentee was in accordance with statues and regulations authorizing sick leave.

REMARKS

SU
MO
TU
WE
TH
FR
SA

A/L	S/L	FAMILY C. & B.	ADOPT.	ADMIN. DON. LV.	WOP	N/P TIME	AUTH. ABSEN.	REST A/L	COMP. EARNED	COMP. USED	UNSCH. REG.	N/D TOTAL HOURS		SAT. PAY	SUNDAY			HRS. EXCESS 8 DAY			TRAV. OT FLSA	SCH./CB OT
AN	SK	FA	FC	AD	WD	NO	AU	RT	CE	CU	UN	NA	NB	SP	SA	SB	SC	DA	DB	DC	TF	YA

OT TOTAL HOURS			OT ON HOL	SLEEP TIME	REG. HOURS AT OT RATE			HOLIDAY HOURS			P/T HOURS	PAY CONT.	STANDBY HOURS	ON CALL HOURS	PCWKR HOL EXC	VCS SALES	ENVR DIFF/HAZ PAY		TRVL	TRNG
D	2	3			D	2	3	D	2	3							PCT HOURS	PCT HOURS		
OA	OB	OC	OK	OM	RA	RB	RC	HA	HB	HC	PT	PA	ON	YD	HD	VC	EA	EB	TA	TC

WEEK 2

PAY RG US | N/D 2 3 | SUNDAY D 2 3 | SAT | HRS. IN EX. OF 8 D 2 3 | OT D 2 3 | HOLIDAY D 2 3 | S/BY | TV OT | HO OT | O/C | C/T | OTH | IRREGULAR TOUR | DAY | TIME ABSENT FROM TO | A/L | S/L | C&B | ADP | DON | RS AL | NP AL | C/T | WOL | WOP | M/L | OTH | N/P | INT*

REMARKS

SU
MO
TU
WE
TH
FR
SA

A/L	S/L	FAMILY C. & B.	ADOPT.	ADMIN. DON. LV.	WOP	N/P TIME	AUTH. ABSEN.	REST A/L	COMP. EARNED	COMP. USED	UNSCH. REG.	N/D TOTAL HOURS		SAT. PAY	SUNDAY			HRS. EXCESS 8 DAY			TRAV. OT FLSA	SCH./CB OT
AL	SL	FB	FD	AF	WP	NP	AB	RL	CT	CO	US	NR	NS	SQ	SE	SF	SG	DE	DF	DG	TG	YE

OT TOTAL HOURS			OT ON HOL	SLEEP TIME	REG. HOURS AT OT RATE			HOLIDAY HOURS			P/T HOURS	PAY CONT.	STANDBY HOURS	ON CALL HOURS	PCWKR HOL EXC	VCS SALES	ENVR DIFF/HAZ PAY		TRVL	TRNG
D	2	3			D	2	3	D	2	3							PCT HOURS	PCT HOURS		
OE	OF	OG	OS	OU	RE	RF	RG	HL	HM	HN	PH	PB	CL	YH	HO	VS	EC	ED	TB	TD

MISC. DATA

N/P A/L	DW	INS	T&L CHANGE	LUMP SUM DATA UNITS	LUMP SUM DATA N/D 2	LUMP SUM DATA N/D 3	LUMP SUM LEAVE EXPIRATION DATE	T O TO	L A LA	ML	CAL. YEAR ADJUST	WRK COMP	SF 2806 ADJUST	R/R	FIRE FIGHTER	CONTROL DATA	REMARKS
NL	DW	IN	TL	LU	LN	LD	DT			ML	CA	PC	CY	RR	FF	CD	

TIMEKEEPER'S INITIALS | ROOM NO. | PHONE NO. | I CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS CORRECT *(Signature of Supervisor)*

VA FORM SEP 1995 (RS) **5631**

TIME AND ATTENDANCE REPORT

Appendix B – VA FORM 5631 Time and Attendance

LEAVE RECORD (MEMO)

INSTRUCTIONS: Current balance and maximum limitation entries are available from Earnings and Leave Statement or the Payroll Activity

SECTION II	A/L
BALANCE AS OF	
ACCRUAL REMAINDER OF LEAVE YEAR	
TOTAL AVAILABLE REMAINDER OF LEAVE YEAR	
MAXIMUM LIMITATION *(Minus)*	
USE OR FORFEIT	

VETERANS CANTEEN SERVICE COMMISSION SALES

WEEK 1 FROM	TO		WEEK 2 FROM	TO	
DAY	AMOUNT		DAY	AMOUNT	
SUN			SUN		
MON			MON		
TUES			TUES		
WED			WED		
THUR			THUR		
FRI			FRI		
SAT			SAT		
TOTAL WEEK 1*	$		TOTAL WEEK 2*	$	

* Total money amount for week 1 must be coded in "VCS Sales VC" (front side, right center) while total money amount for week 2 must be coded in "VCS Sales VS" (front side, lower right.) All sales data MUST be recorded in the week in which the actual sale occurred.

INSTRUCTIONS FOR LEAVE RECORD (MEMO), SECTION I: This section should be used only for employees with marginal leave balances. Routine completion for all employees is not required.

TO SECTION 1	A/L	S/L	RSAL	C/T	NPAL	WOP	M/L
BAL. FWD.							
ACCRUAL							
BAL. AVAIL.							
LEAVE USED							
CARRY FWD.							

RESERVED

REMARKS

REVERSE OF VA FORM 5631, SEP 1995 (RS)

Appendix C – Report of Salem VAMC Contingency Plan Level Two Testing

---

Facility: _____ Test Date: _____

Prepared by (Name and Title): _____

System: _____

Approved By: _____

Instructions: Include a brief summary of the plan tested during the test period (e.g., functions critical to activities of the service, contingency plan(s) necessary to ensure continued functioning of those activities). Please return completed form to the Information Security Officer within 5 workdays of completed test.

Function: _____
Contingency Procedure(s): _____
_____
_____
Findings/Recommendations: _____
_____
_____
Action/Follow-up Status
_____ _____
_____ _____

_____

_____

Appendix D – After-Action Report

AFTER-ACTION REPORT

Team: Failure Assessment Team **Incident Date:**

Team Coordinator:

Situation Being Reported:

1. **Objectives Not Met:** The Purpose and Objectives sections of each chapter define the objectives of disaster recovery operations. List those objectives NOT MET during this situation.

2. **Problems:** Define problems encountered while performing disaster recovery activities and describe actions taken to resolve each one.

3. **Areas of Weakness:** In view of the objectives not met and the problems encountered, specify support functions that were not performed effectively or efficiently. Functional areas to consider include:
   a. Management and control;
   b. Communications;
   c. Logistic support;
   d. Administrative support;
   e. User response; and
   f. Operational support (from in-house resources/backup facility).

4. **Recommendations:** For each area of weakness, recommend improvements. Consider:
   Training program;
   b. Administrative procedures;
   c. Operational procedures;
   d. Communications procedures;
   e. Maintenance procedures (for backup capabilities); and
   f. Written instructions pertaining to the above.

5. **Supporting Documentation:** Attach a copy of completed team checklists, showing the date and time that the disaster recovery tasks were completed, and the names of team members who were assigned those tasks

APPENDIX E – Computer Downtime Laboratory Request Form

Computer Downtime Laboratory Request Form

Stamp with patient addressograph card OR print:
Last Name, First Name, and complete SS#

☐ Ward Collect ☐ Lab Collect ☐ Send Patient

Date _____

Time _____

Ward _____

Room/Bed _____

Print Provider's Name _____

Lab Use Only

Down # _____

Acc # _____

Collectors Initials _____

Receiving Initials _____

SST ____ Green ____ Lav ____ Blue ____

Red ____ Other _____

Order number# _____ ***(Generated before the computer went down)***

Tests Requested

☐ Routine

Wards & Clinics: Please label each tube with patient labels or hand written: full name and full social security number. ☐ STAT ☐ LTE

Chemistry			
☐	BMP (SST)	☐	LIPASE (SST)
☐	LIVER (SST)	☐	TROPONIN(GRN)
☐	PO4 (SST)	☐	CKMB (GRN)
☐	MG (SST)	☐	A1C (LAV)
☐	AMY (SST)	☐	BNP (LAV)

Hematology			
☐	CBC (LAV)	☐	PT (BLUE)
☐	CBCwDiff (LAV)	☐	PTT(BLUE)
☐	H&H (LAV)	☐	D-DIMER (B)
☐	UA (urine)		
☐	UA w/Rflx		

Microbiology			
☐	Urine Cult	☐	FIT (stool)
☐	Sputum Cult	☐	Other_____
☐	Blood Cult		

Other Lab Test:	

APPENDIX F--SF FORM 515 HISTOLOGY AND CYTOLOGY REQUEST

MEDICAL RECORD

TISSUE EXAMINATION

SPECIMEN SUBMITTED BY | DATE OBTAINED

SPECIMEN

BRIEF CLINICAL HISTORY *(Include duration of lesion and rapidity of growth, if a necroplasm)*

PREOPERATIVE DIAGNOSIS

OPERATIVE FINDINGS

POSTOPERATIVE DIAGNOSIS | SIGNATURE | NAME OF SIGNER | TITLE OF SIGNER

PATHOLOGICAL REPORT

NAME OF LABORATORY | ACCESSION NO(S).

GROSS DESCRIPTION, HISTOLOGIC EXAMINATION AND DIAGNOSES

SIGNATURE OF PATHOLOGIST | NAME OF PATHOLOGIST | DATE

HOSPITAL OR MEDICAL FACILITY | RECORDS MAINTAINED AT | DEPARTMENT/SERVICE OF PATIENT

RELATION TO SPONSOR | SPONSOR'S NAME *(Last, first, middle)* | SPONSOR'S ID NUMBER *(SSN or Other)*

PATIENT'S IDENTIFICATION *(For typed or written entries, give: Name--last, first, middle; ID no. (SSN or other); Sex; Date of Birth; Rank/Grade)* | REGISTER NO. | WARD NO.

TISSUE EXAMINATION

Medical Record

STANDARD FORM 515 (REV. 8-97)

Prescribed by GSA/ICMR FPMR 101-11.203(b)(10)

☆ U.S. GOVERNMENT PRINTING OFFICE: 2004-620-212

https://app_gsagov_prod_rdcgwaajp7wr.s3.amazonaws.com/SF%20515.pdf

APPENDIX G—DOWNTIME ACCESSION LOG

DATE: ____________

DOWNTIME ACCESSION LOG

PAGE : ____________

PATIENT/ORDER INFORMATION								HEMATOLOGY						CHEMISTRY													URINES				COMPLETED by:
VistA Order#	Manual Acc#	PATIENT NAME	LAST FOUR SS#	WARD	PROVIDER	COLLECT TIME	PHLEB INT.	CBC	H/H	ESR	PT	PTT	DDIMER	BMP	LIVER	LIPID	CA	PO4	MG	AMY	LIPASE	BNP	TROP	CKMB	A1C	Other	REFLEX	UA	MA	SEROLOGY / SEND	ACCNESSION #'S:

APPENDIX H– LOCAL BLOOD BANK FORMS

1. Patient File Card

FILE CARD

PATIENT'S NAME **SS#** **TYPE**

WARD	DONOR #	DATE REC	DIAG.	PRODUCT	UNIT GIVEN/REL	TRANS. REACTION	ANTIGEN TYPING	TECH	REMARKS ACC #

REMARKS:

VA MEDICAL CENTER
SALEM, VA 24153

2. PATIENT SAFETY: TRANSFUSION OF BLOOD PRODUCTS REQUEST REVIEW

To be completed by nursing:

Attention Nursing: Verify that there is a current, valid **INFORMED CONSENT** and a **PHYSICIAN'S ORDER** prior to obtaining the blood/blood component from the Blood Bank.

Requesting Physician: _____
Patient Location: _____
_____Date of request: _____
Affix Patient Label in Above Space
Nursing Review Initials: _____

(Circle Appropriate Number Below Per Physician Order)

Product:	***Transfusion Guidelines:***	***Lab Data:***	***Comment:***
Red Blood Cells	**1**. Chronic Anemia: Hgb≤8g/dL, Hct≤24% (except patients with ESRD)	Hgb=_____g/dL Hct=_____%	Follow-up H&H within 12-24 hours (except in chronic anemia)
	2. Acute Anemia: Blood Loss≥ 500mL or fall in Hgb by 3g/dL or Hct by 10% w/I 48 hours		
	3. Anemia associated with symptomatic coronary / pulmonary / cerebral vascular disease and H&H ≤ 10g/dL / 30%		
	4. Indicated for surgical procedure		
Fresh Frozen Plasma	**1**. Decrease in clotting factors (i.e., PT≥20sec; PTT≥55sec) not associated with anti-platelet and anti-clotting factors.	PT= _____sec PTT=_____sec	Follow-up PT/PTT within 24 hours.
	2. Clinical bleeding after 4 or more units of RBCs.		
	3. Six (6) or more units RBCs during surgery.		
	4. DIC		
	5. Bleeding on warfarin therapy.		
Platelets	**1**. Prophylactic: Platelet count ≤ 10,000 µl	Plt Count=_____µl	Follow-up platelet count within 3 hours.
	2. Prophylactic: Pre-op/Pre-procedure for qualitative platelet abnormality.		
	3. Evidence of bleeding with platelet count ≤50,000µl.		
	4. Pre/post-op with bleeding and platelet count ≤50,000µl.		
Cryoprecipitate	**1**. Fibrinogen <100 mg/dL with bleeding	Fibrinogen= _____mg/dL	Follow-up fibrinogen within 24 hours.
	2. Von Willebrand's disease with bleeding		
	3. Factor VIII or Factor XIII deficiency with bleeding		Follow-up PTT within 24 hours.

To be completed by Blood Bank Technologist:

Product	Donor Number	Lab Data as Appropriate					Meets Guideline		Unit Inspected
		Hgb	Hct	Plt.	Fib.	PT/PTT	Yes	No	

Reviewing Tech Initials: _____
Unit Relocated In Computer?_____

Name of Person Receiving Unit/s: _____
Date and Time Relocated: _____
Comments:

_____
****
****

Unit Returned

Donor Number: _____ Date and Time Returned:

_____
Unit Inspected (**circle**): Satisfactory or Unsatisfactory
Return Temperature: _____^{o}C
Acceptable return temperature: *red blood cells/fresh frozen plasma: 1-10^{o}C*
platelets/cryoprecipitate: 20-24^{o}C.

Unit Relocated in Computer? _____
Name of Person Returning Unit: _____
Reason for return: _____
Reviewing Technologist Initials: _____
Salem VA Medical Center
Revised: 8/7/2014

3. Blood Bank Verification Form

Salem VA Medical Center

BLOOD BANK VERIFICATION FORM

PATIENT LABEL: Must include full first and last name and full SSN PATIENT IDENTIFICATION LABEL:	**SPECIMEN COLLECTED BY:** _____ [PRINT your name CLEARLY] **Date:** _____ **Time:** _____ I have performed positive identification of this patient. I compared the first and last name and full social security number on the sample label and verified that they exactly match the identifiers on the patient's armband and on this collection form. I labeled the sample and obtained a second person's verification before leaving the patient's bedside. *(When coherent, the patient must be asked to state first and last name and SSN.)*
NOTE: **Signature OR initials of the person collecting the sample, date, and time are also required to be on the blood bank sample.** Samples that are labeled incompletely or illegibly will be rejected. Samples submitted with incomplete or incorrect blood bank specimen collection forms will be rejected. Rejected samples will have to be recollected, they shall not be corrected after leaving the patient's bedside.	**SECOND VERIFIER:** _____ [PRINT your name CLEARLY] **Date:** _____ **Time:** _____ I witnessed the person above collect this blood sample. I have read the first and last name and full social security number on the sample and verified that they exactly match the identifiers on the patient's arm band and on this collection form. *(When coherent, the patient must be asked to state first and last name and SSN.)*
Blood Bank Technologist ONLY: **Historical Record Check:** _____Record _____No Record **ABO/Rh:**_____ **Antibody/ies:**_____ (If applicable) **SI/TR:**_____ (If applicable)	*Blood Bank Technologist* *Signature:*_____ *Date:* _____

Computer Downtime Use ONLY:

Diagnostic Test:	**Component Requested:**	**Quantity Requested:**	
☐ Type and Screen	☐ Red Blood Cells	_____	Note: Use Standard Form 557 to order DAT's and Transfusion Reaction Work-Up's during computer downtime.
☐ Antibody Screen	☐ Fresh Frozen Plasma	_____	
☐ ABO/Rh	☐ Platelets	_____	
	☐ Cryoprecipitate	_____	_____ **Requesting Physician**
	Special Requirements (requires pathologist approval): ☐ CMV Negative ☐ Irradiated		_____ **Urgency**

Revised: 12/28/2015

Patient Name (Last, First, Middle)

Social Security # Collection Date/Time/Initial

Tests Ordered

Patient Name (Last, First, Middle)

Social Security # Collection Date/Time/Initial

Tests Ordered

Computer Downtime Laboratory Request Form

Stamp with patient addressograph card OR print: _____Ward Collect _____Lab Collect _____Send Patient
Last Name, First Name, and complete SS#

Date _____

Time _____

Ward _____

Room/Bed _____

Print Provider's Name _____

Lab Use Only

Down # _____

Acc # _____

Collectors Initials _____

Receiving Initials _____

SST ____ **Green** ____ **Lav** ____ **Blue** ____

Red ____**Other** _____

Order number# _____ ***(Generated before the computer went down)***

Tests Requested

☐ Routine

Wards & Clinics: Please label each tube with patient labels or hand written: full name and full social security number. ☐ STAT ☐ LTE

Chemistry			
☐	BMP (SST)	☐	LIPASE (SST)
☐	LIVER (SST)	☐	TROPONIN(GRN)
☐	PO4 (SST)	☐	CKMB (GRN)
☐	MG (SST)	☐	A1C (LAV)
☐	AMY (SST)	☐	BNP (LAV)

Hematology			
☐	CBC (LAV)	☐	PT (BLUE)
☐	CBCwDiff (LAV)	☐	PTT(BLUE)
☐	H&H (LAV)	☐	D-DIMER (B)
☐	UA (urine)	☐	
☐	UA w/Rflx	☐	

Microbiology			
☐	Urine Cult	☐	FIT (stool)
☐	Sputum Cult	☐	Other_____
☐	Blood Cult	☐	

Other Lab Test:	

DATE: ______________________ **DOWNTIME ACCESSION LOG** PAGE : ________________

PATIENT/ORDER INFORMATION								HEMATOLOGY						CHEMISTRY													URINES				COMPLETED by:
VistA Order#	Manual Acc#	PATIENT NAME	LAST FOUR SS#	WARD	PROVIDER	COLLECT TIME	PHLEB INT.	CBC	H/H	ESR	PT	PTT	DDIMER	BMP	LIVER	LIPID	CA	PO4	MG	AMY	LIPASE	BNP	TROP	CKMB	A1C	Other	REFLEX	UA	MA	SEROLOGY / SEND	ACCESSION #'S: