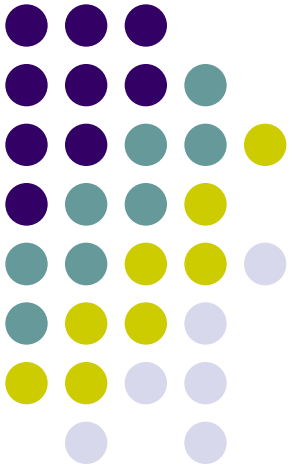
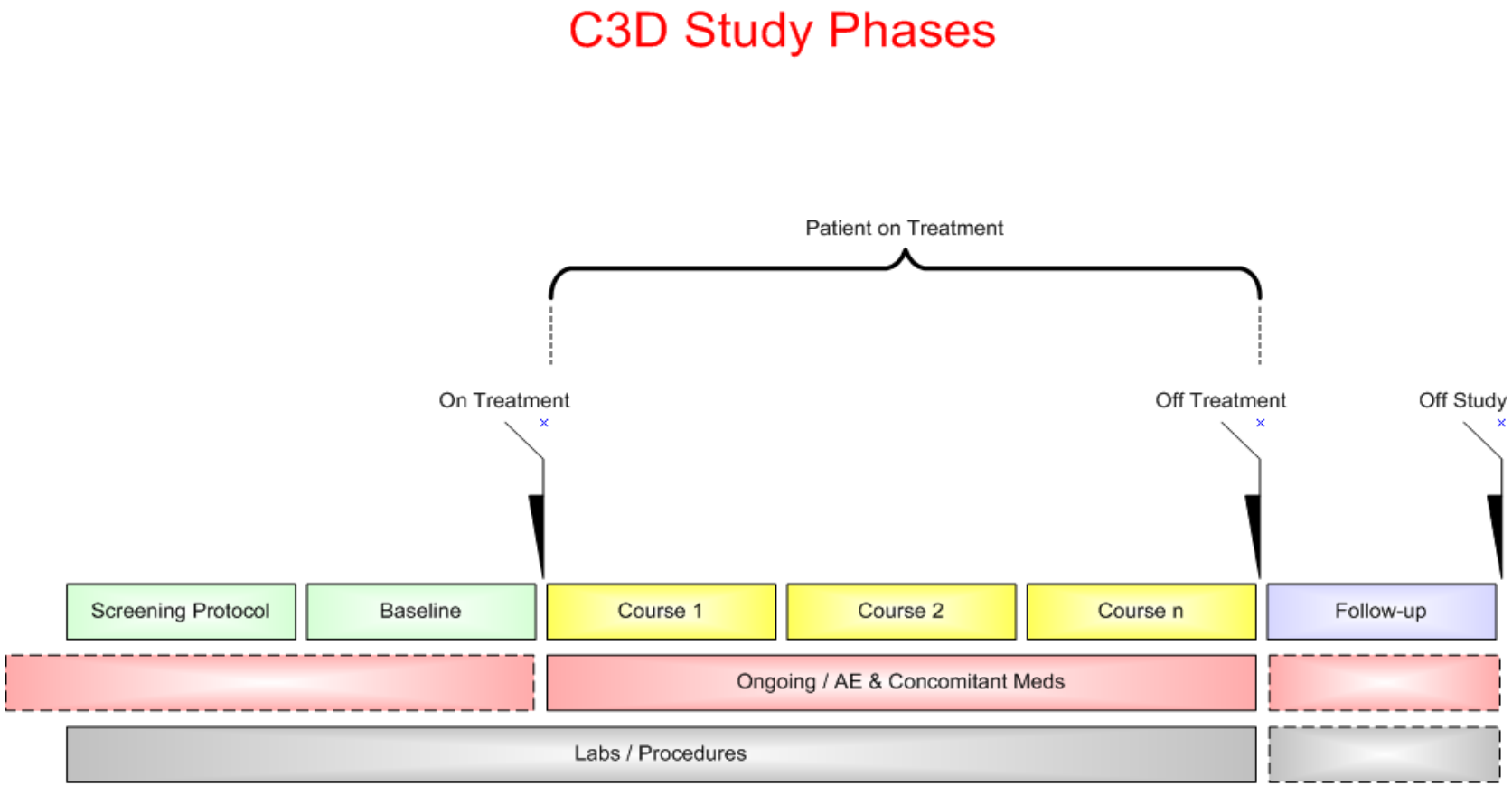
# Introduction to C³D

Harris Corporation

Rev 8/10



# C3D Protocol Phases



# C$^3$D Protocol Phases

- C$^3$D Protocol is typically organized in the following Phases
  - Screening/Baseline
  - Courses/Cycles
  - Ongoing
  - Labs
  - Off Treatment/Off Study
- Each Phase contains one or more visit within

# Standard Forms

- Library of Standard Forms & Rules is available as a starting point to build protocol specific forms & rules
- Each Form contains mandatory and derived fields
- Detailed Instructions are available for each Standard Form

  https://ccrod.cancer.gov/confluence/x/9QiJAw

# Standard Forms

- Screening Baseline Forms
  - Enrollment, PE, Vitals, Symptoms, Prior Tx, …
- Courses/Cycles
  - Course Initiation, Tx Administration, PK, Course Assessment, PE, …
- Ongoing
  - AE, Concomitant Measures, Extent of Disease, …
- Labs
  - Blood Chemistry, Hematology, …
- Off Tx / Off Study / Follow-Up

# eCRF Instructions

Course Initiation

Search

Home › C3D Portal › Training and Education › ... › Course Initiation

- Home
- C3D Portal
- Login
- Training and Education
- Sponsor Reporting
- Support
- Other Applications Documentation
- GLC Web Application Users Manual
- TIGER-LC Web Application Users Manual

**Contents**


- Purpose
- Course Initiation eCRF
- Validations
- Derivations


## Purpose

Record course initiation Start Date, Arm, Treatment Assignment Code (TAC) and Treating Institution.

## Course Initiation eCRF

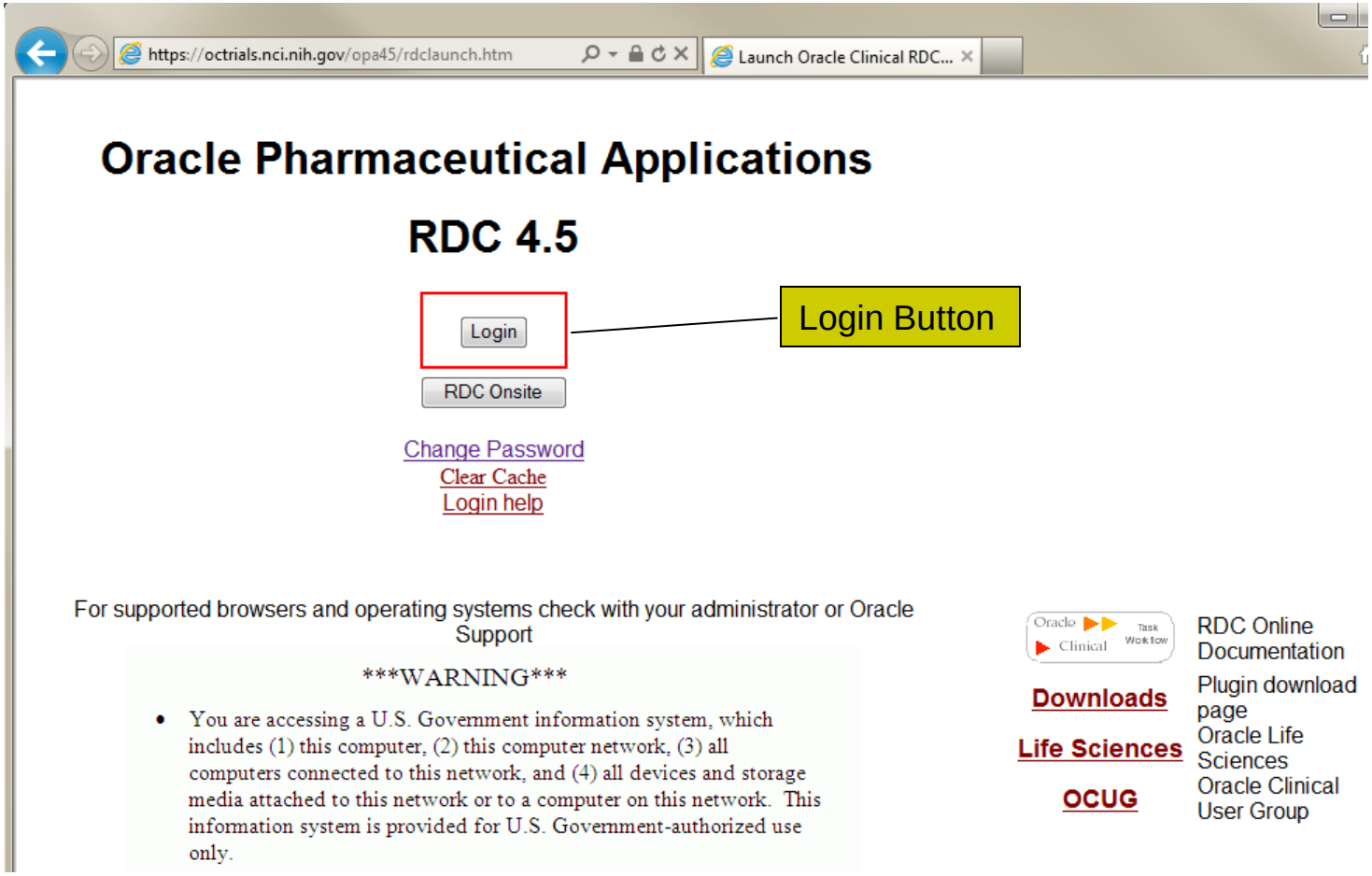
| Field Name | Description / Instructions | Format |
|---|---|---|
| Visit Date(m) | Enter the date the course started. | DD-MMM-YYYY |
| Course #(d) | Sequential number of this course of treatment: first course = 1, second course = 2, etc. | 5 digits |
| Start Date of Course(m) | Enter the date on which the course was started. This is the date on which a protocol stipulated medication (or treatment) was first administered. | DD-MMM-YYYY |

# eCRF Instructions

- Detailed Instructions are provided for Standard Forms including
  - Screen Shot
  - General Description
  - Field Specific Description (Mandatory, Derived, etc.)
  - Validation/Derivation Rules

- **Quick Tip:**
  - Protocol Specific Forms and Rules may have minor deviations to accommodate for protocol requirements.

# C3D Web Site

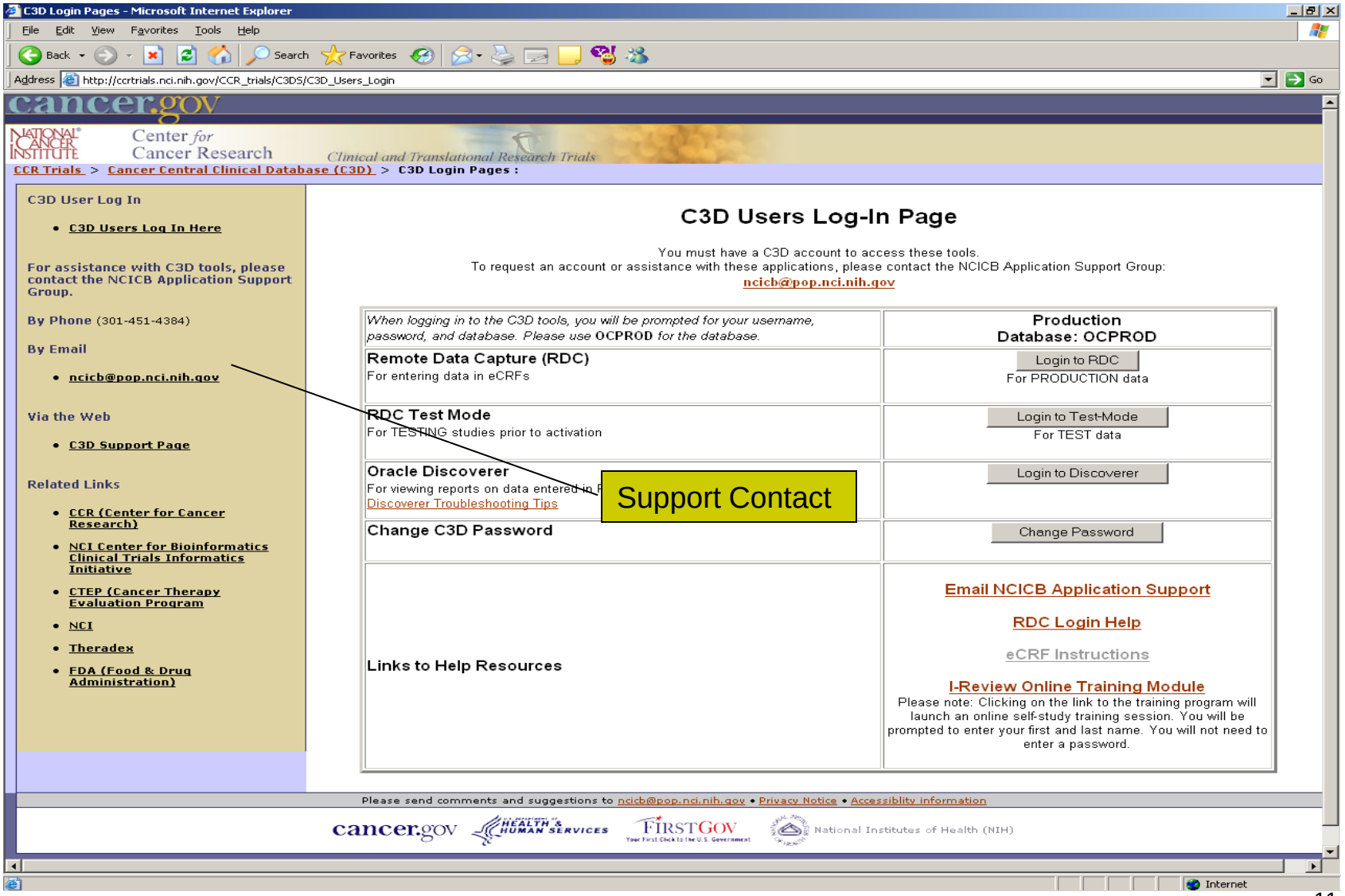

https://octrials.nci.nih.gov/opa45/rdclaunch.htm
Launch Oracle Clinical RDC...
Oracle Pharmaceutical Applications
RDC 4.5
Login
RDC Onsite
Login Button
Change Password
Clear Cache
Login help
For supported browsers and operating systems check with your administrator or Oracle Support
***WARNING***
You are accessing a U.S. Government information system, which includes (1) this computer, (2) this computer network, (3) all computers connected to this network, and (4) all devices and storage media attached to this network or to a computer on this network. This information system is provided for U.S. Government-authorized use only.
Oracle Clinical Task Workflow
RDC Online Documentation
Downloads
Plugin download page
Life Sciences
Oracle Life Sciences
OCUG
Oracle Clinical User Group

# C³D Web Sites

- Internal (Within NIH LAN)
  http://ccrtrials.nci.nih.gov/CCR_trials/C3DS/C3D_Users_Login
- External (Outside NIH Firewall)
  https://octrials.nci.nih.gov/opa45/rdclaunch.htm

- **Quick Tip:**
  - C³D provides a separate Data Entry environment to test protocol design

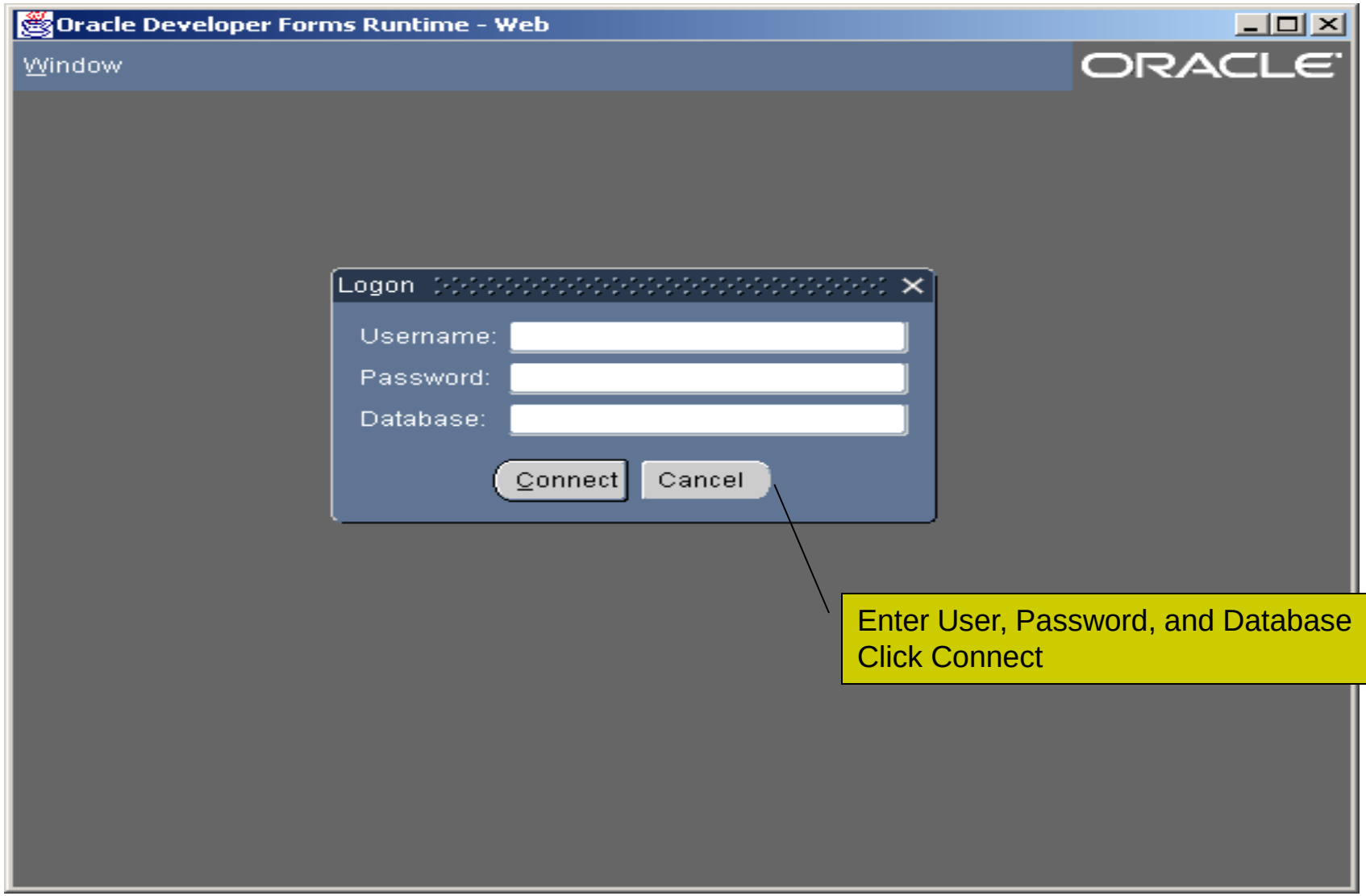
# C3D Support


C3D Login Pages - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://ccrtrials.nci.nih.gov/CCR_trials/C3DS/C3D_Users_Login
Go
cancer.gov
NATIONAL CANCER INSTITUTE
Center for Cancer Research
Clinical and Translational Research Trials
CCR Trials > Cancer Central Clinical Database (C3D) > C3D Login Pages :
C3D User Log In
C3D Users Log In Here
For assistance with C3D tools, please contact the NCICB Application Support Group.
By Phone (301-451-4384)
By Email
ncicb@pop.nci.nih.gov
Via the Web
C3D Support Page
Related Links
CCR (Center for Cancer Research)
NCI Center for Bioinformatics Clinical Trials Informatics Initiative
CTEP (Cancer Therapy Evaluation Program
NCI
Theradex
FDA (Food & Drug Administration)
C3D Users Log-In Page
You must have a C3D account to access these tools.
To request an account or assistance with these applications, please contact the NCICB Application Support Group:
ncicb@pop.nci.nih.gov
When logging in to the C3D tools, you will be prompted for your username, password, and database. Please use OCPROD for the database.
Production Database: OCPROD
Remote Data Capture (RDC)
For entering data in eCRFs
Login to RDC
For PRODUCTION data
RDC Test Mode
For TESTING studies prior to activation
Login to Test-Mode
For TEST data
Oracle Discoverer
Discoverer Troubleshooting Tips
Login to Discoverer
Change C3D Password
Change Password
Links to Help Resources
Email NCICB Application Support
RDC Login Help
eCRF Instructions
I-Review Online Training Module
Please note: Clicking on the link to the training program will launch an online self-study training session. You will be prompted to enter your first and last name. You will not need to enter a password.
Support Contact
Please send comments and suggestions to ncicb@pop.nci.nih.gov • Privacy Notice • Accessiblity information
cancer.gov
HEALTH & HUMAN SERVICES
FIRSTGOV
National Institutes of Health (NIH)
Internet

# C3D Support

- Contact
  - Email: ncicbiit@mail.nih.gov
  - Phone: 240-276-5541
- CBIIT provides the first line of support for C3D related issues
- Protocol specific issues are escalated to the Protocol Builder by CBIIT
- Changes to Standards are escalated to Controls & Configuration Management Group (CCMG)

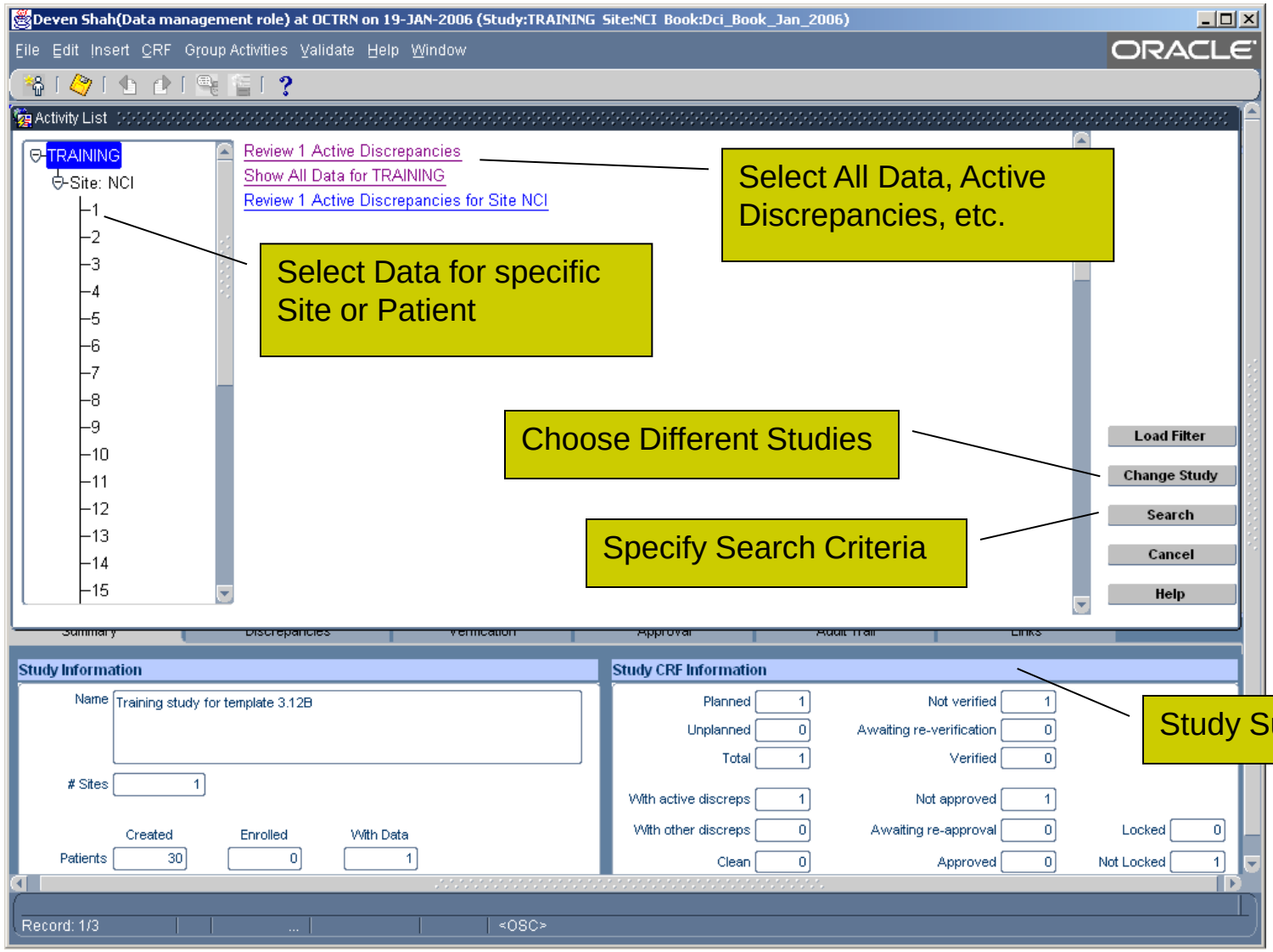
# Login


Oracle Developer Forms Runtime - Web
Window
ORACLE
Logon
Username:
Password:
Database:
Connect
Cancel
Enter User, Password, and Database
Click Connect

# Username & Password

- Username is of the format **ops$**smiths
- Password has to be 8 characters starting with a letter and containing **at least one number and one special characters** (e.g. ! # )
- Production Database is called **ocprod**
- About C3D Password
  - Do not share the password with others!
  - Password needs to be changed the first time you login
  - Passwords expire every 6 months and need to be changed
  - Account gets locked upon three unsuccessful attempts

# Selecting Activity

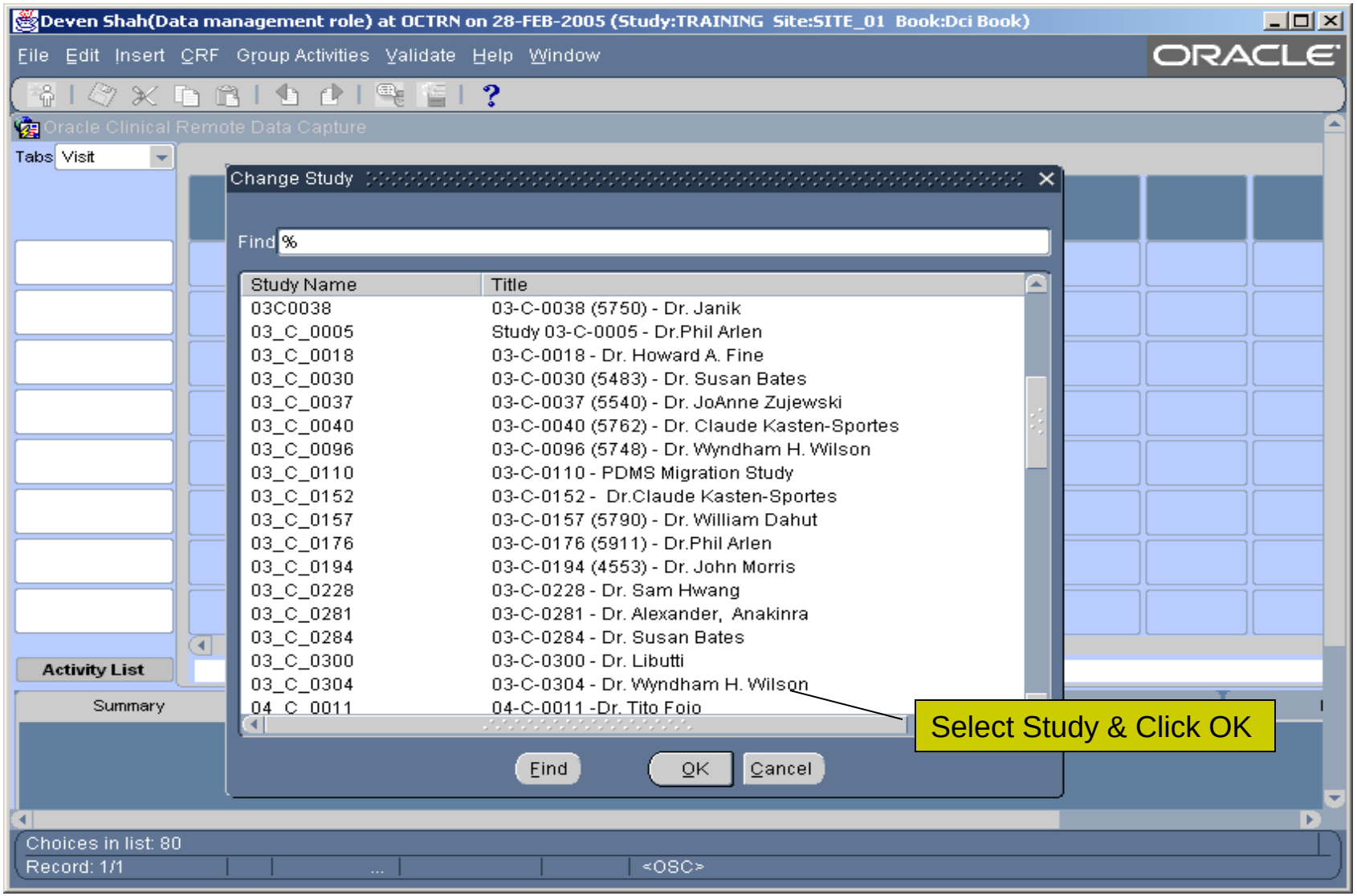


# Selecting Activity

- Quick Link to View
  - All Study Data
  - Discrepant Data
  - Site Specific or Patient Specific Data
- Choose a Different Study
  - Access to studies is controlled by user role
  - Default Study is preserved from prior login
- Specify Search Criteria

- **Quick Tip:**
  - This screen provides a quick review of open discrepancies in your study

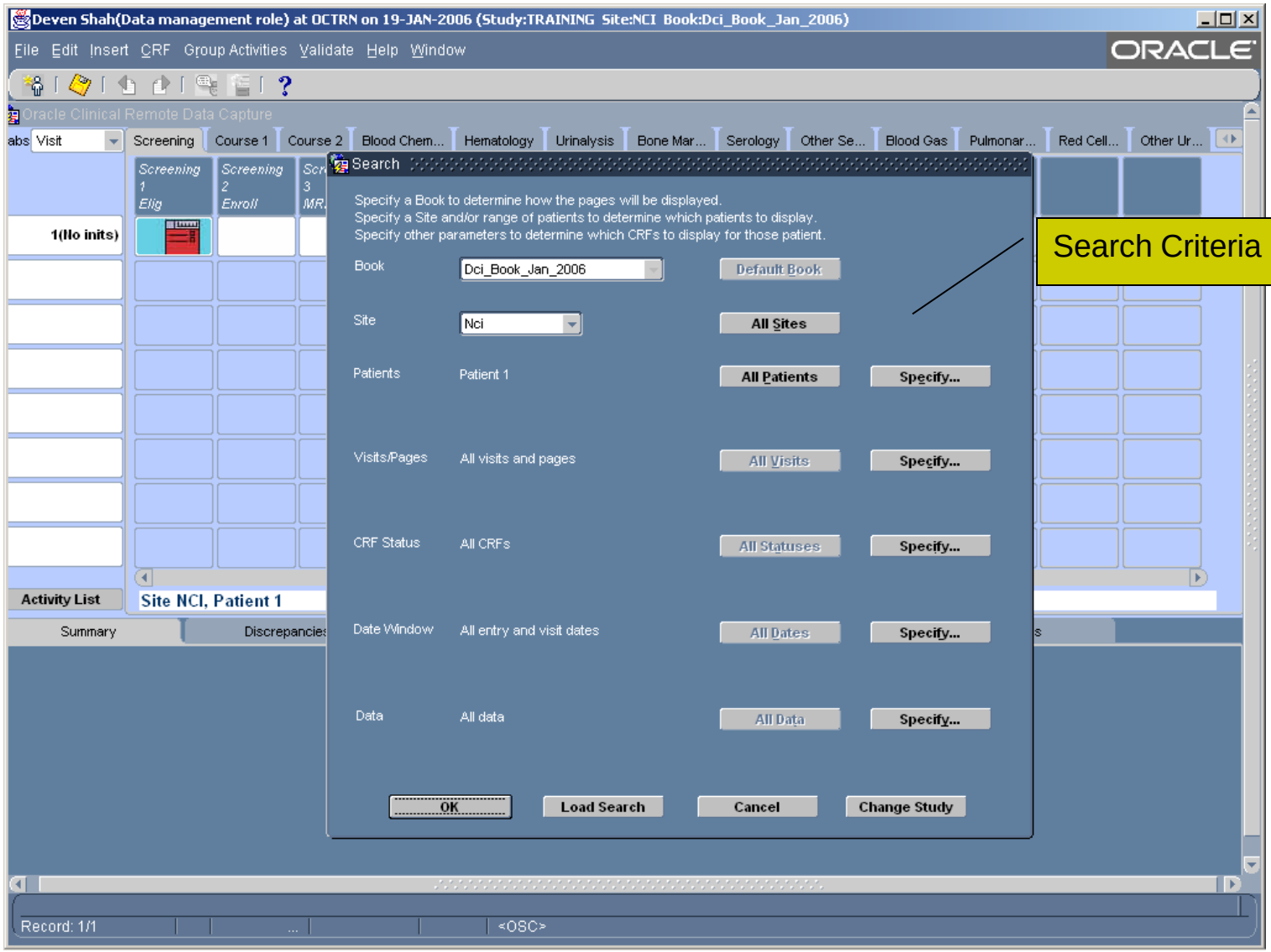
# Selecting Study



# Study Access

- Study Access is provided by User
- Types of Access
  - Data Managers
  - Research Nurse
  - Monitor
  - Principal Investigator
  - Reviewer

# Search Criteria



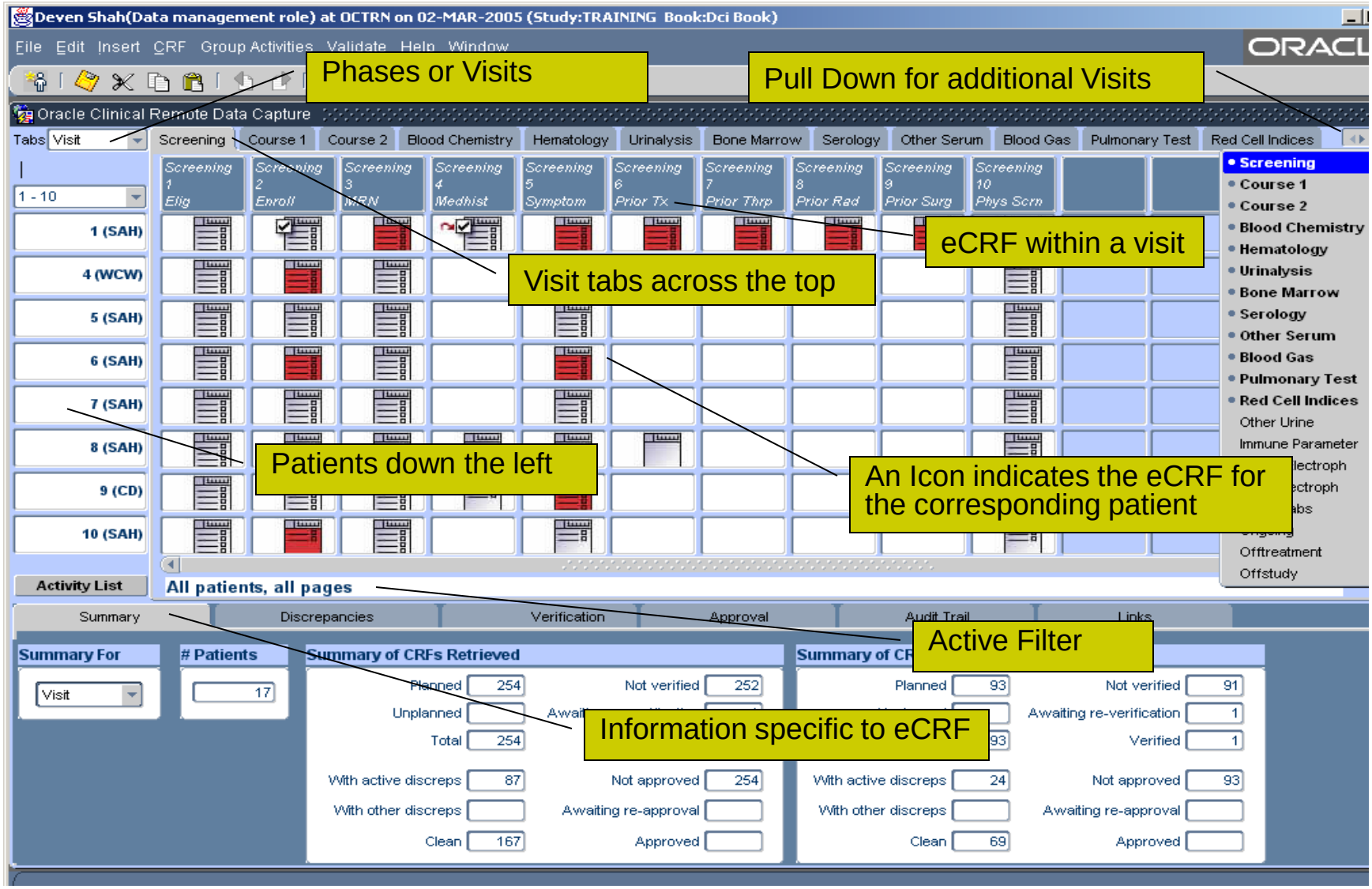

Search Criteria Dialog Box

# Search Criteria

- Search options:
  - Book - collection of CRFs in the protocol/amendments
  - Site
  - Patients
    - Range of Patients
  - Visits/Pages
    - Phases, Visits, etc.
  - CRF Status
    - Complete, Discrepant, Verified, Approved, etc.
  - CRF Entry Date Window
    - Entry or Modification Date Ranges
  - Data

- **Quick Tip:**
  - Protocol Amendments may require different DCI Book. Use Search option to pick the appropriate book.
  - Search Criteria Could be saved for future use.

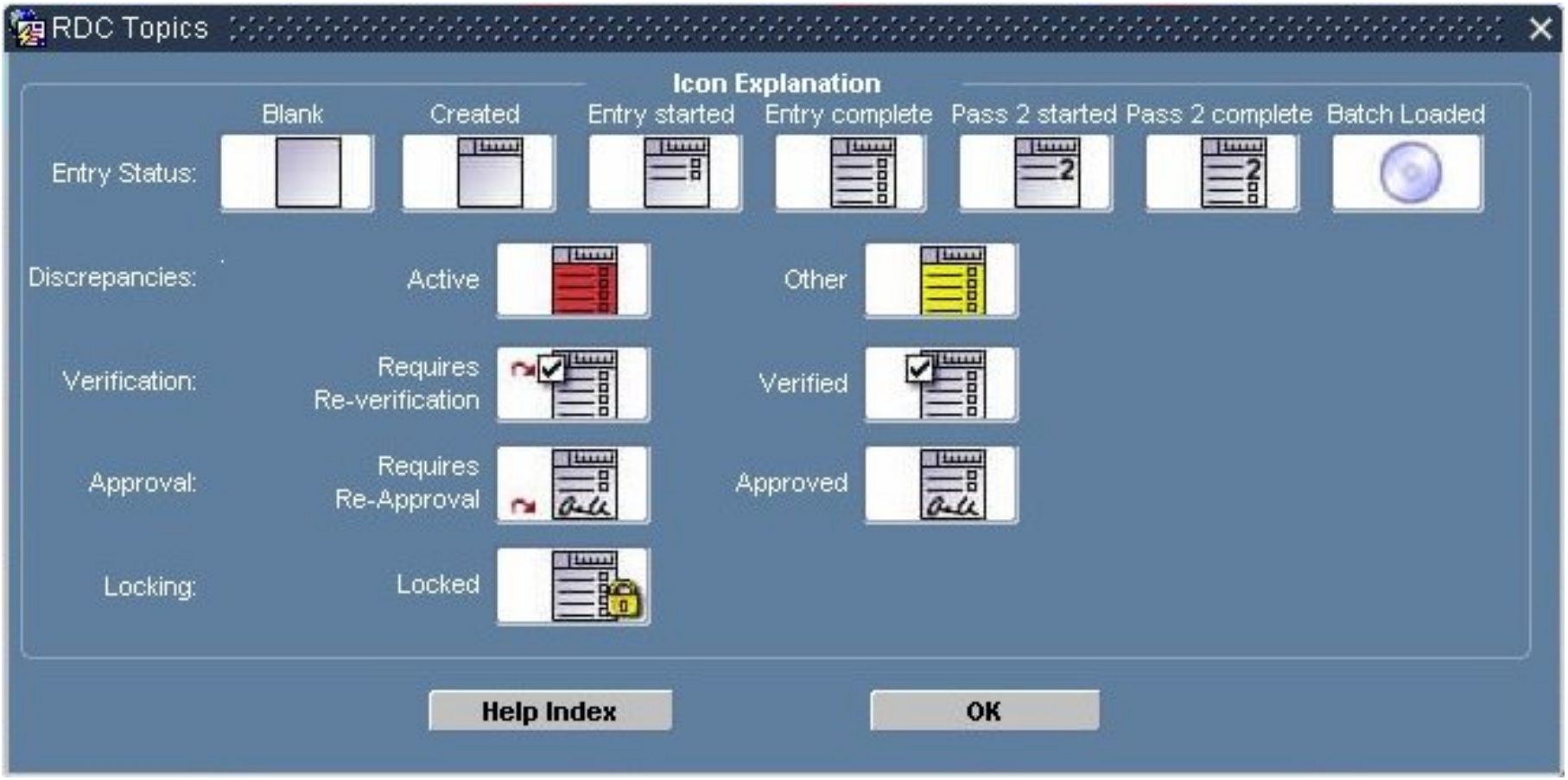
# RDC Spreadsheet



# Navigating RDC Spreadsheet

- Spreadsheet Layout
  - Patients along Rows
  - Visit Tabs along Columns; pull down for additional visits
  - eCRF within Tabs
  - Cells represents an eCRF for the corresponding Patient-Visit
- Tabs can be organized by Study, Phase, & Visit
- Information Tabs for Summary, Discrepancies, Verification, Audit-trail, etc. at the bottom
- Navigation Functions via
  - Menu
  - Toolbar
  - Hot Keys

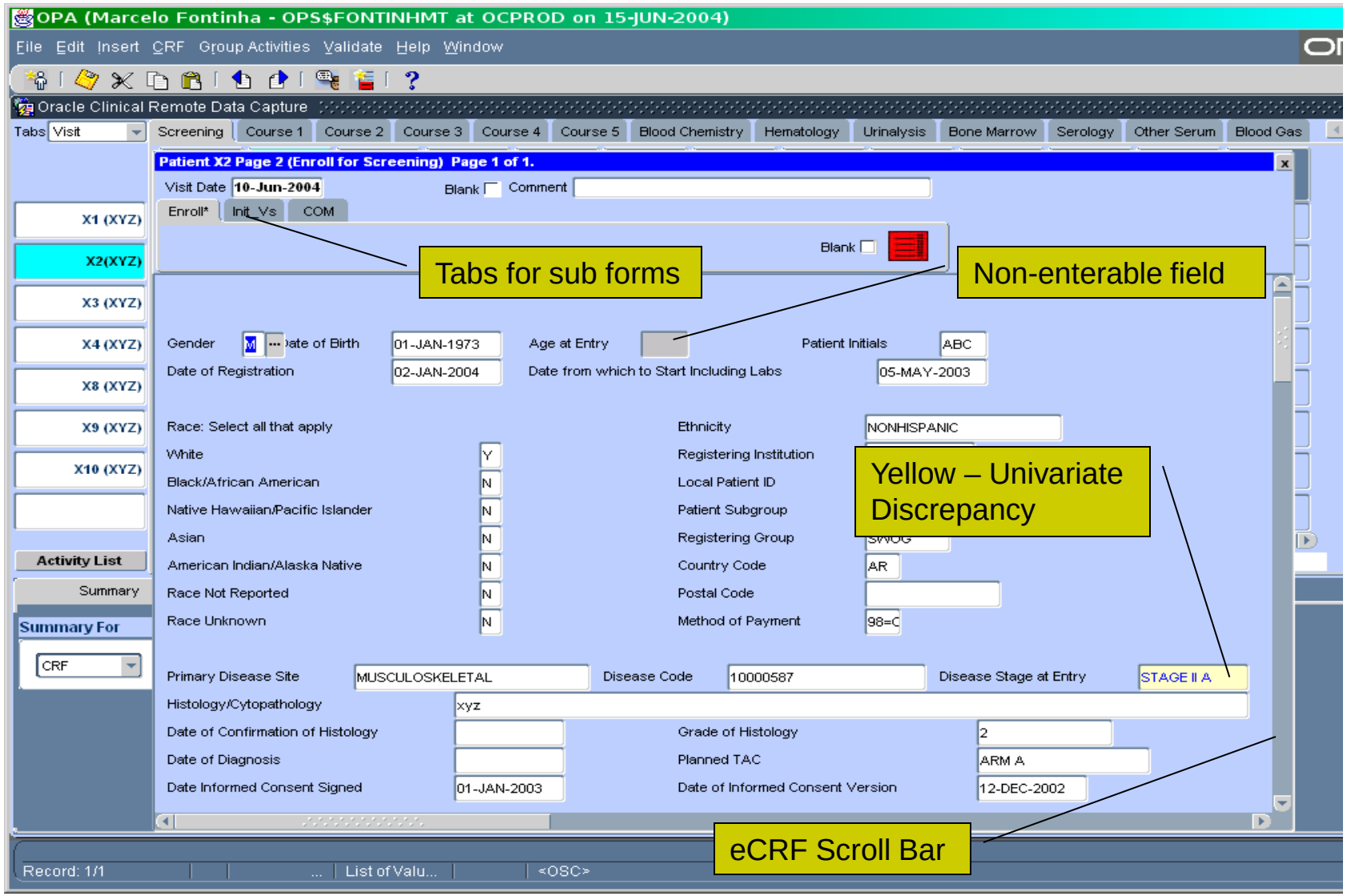
# eCRF Icons


RDC Topics
Icon Explanation
Blank
Created
Entry started
Entry complete
Pass 2 started
Pass 2 complete
Batch Loaded
Entry Status:
Discrepancies:
Active
Other
Verification:
Requires Re-verification
Verified
Approval:
Requires Re-Approval
Approved
Locking:
Locked
Help Index
OK

# Important eCRF Icons

- Square icon represents manual entry
- Round icon represents automated entry (lab load)
- An eCRF just created, but without data has no lines within the icon
- Partially entered eCRF has lines across half of the icon
- Completed eCRF have lines across the whole icon
- Blank Square icon indicates eCRF has been marked blank
- Red icon indicates one or more open discrepancies

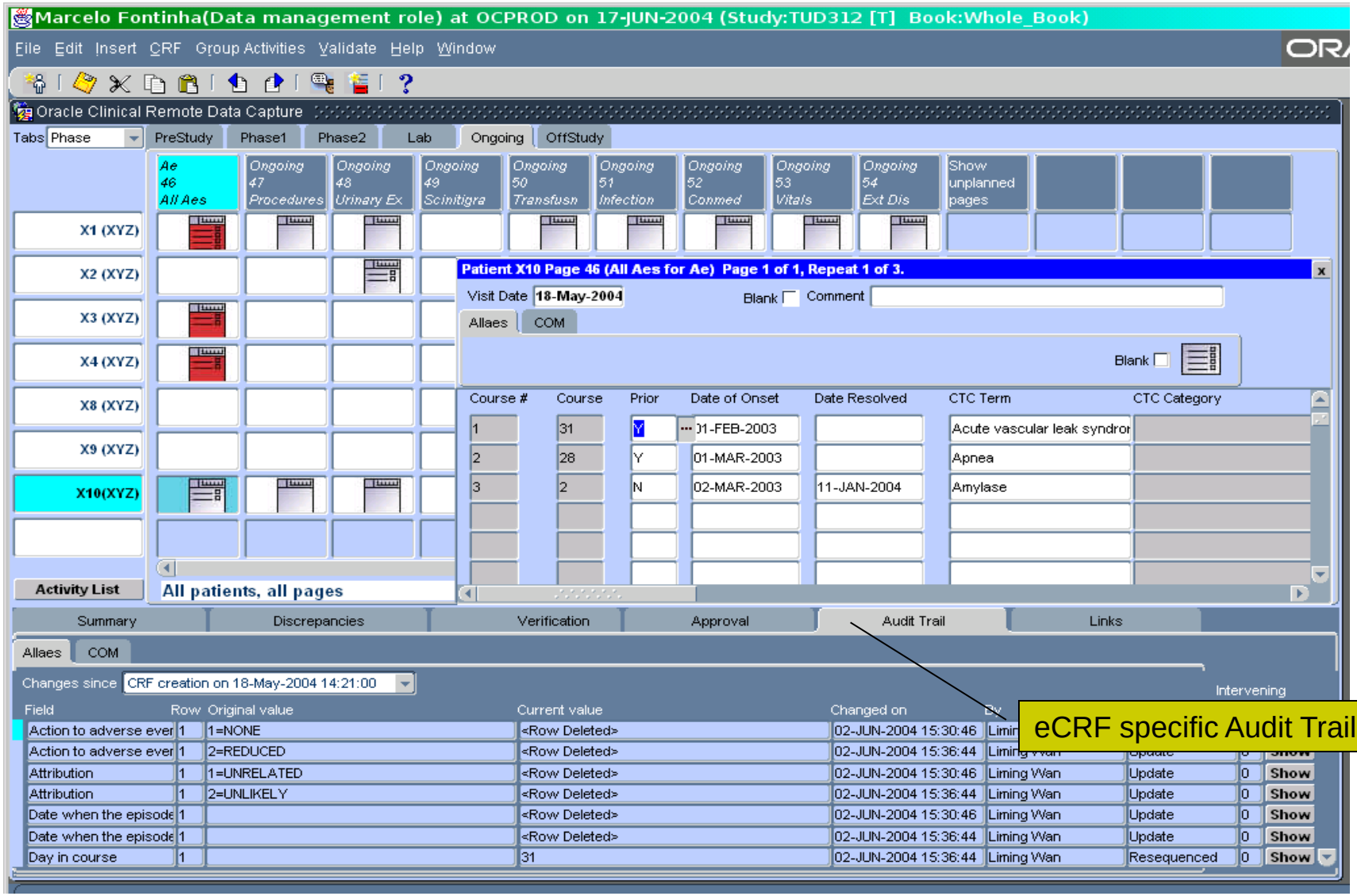
# Electronic CRF (eCRF)



# eCRF Navigation

- Clicking on eCRF icon brings up the eCRF
- eCRF may contain sub-tabs
- Grey Fields indicates non-enterable fields (Derived, Defaulted, etc.)
- eCRF Scroll Bars indicate additional information

# Audit Trail

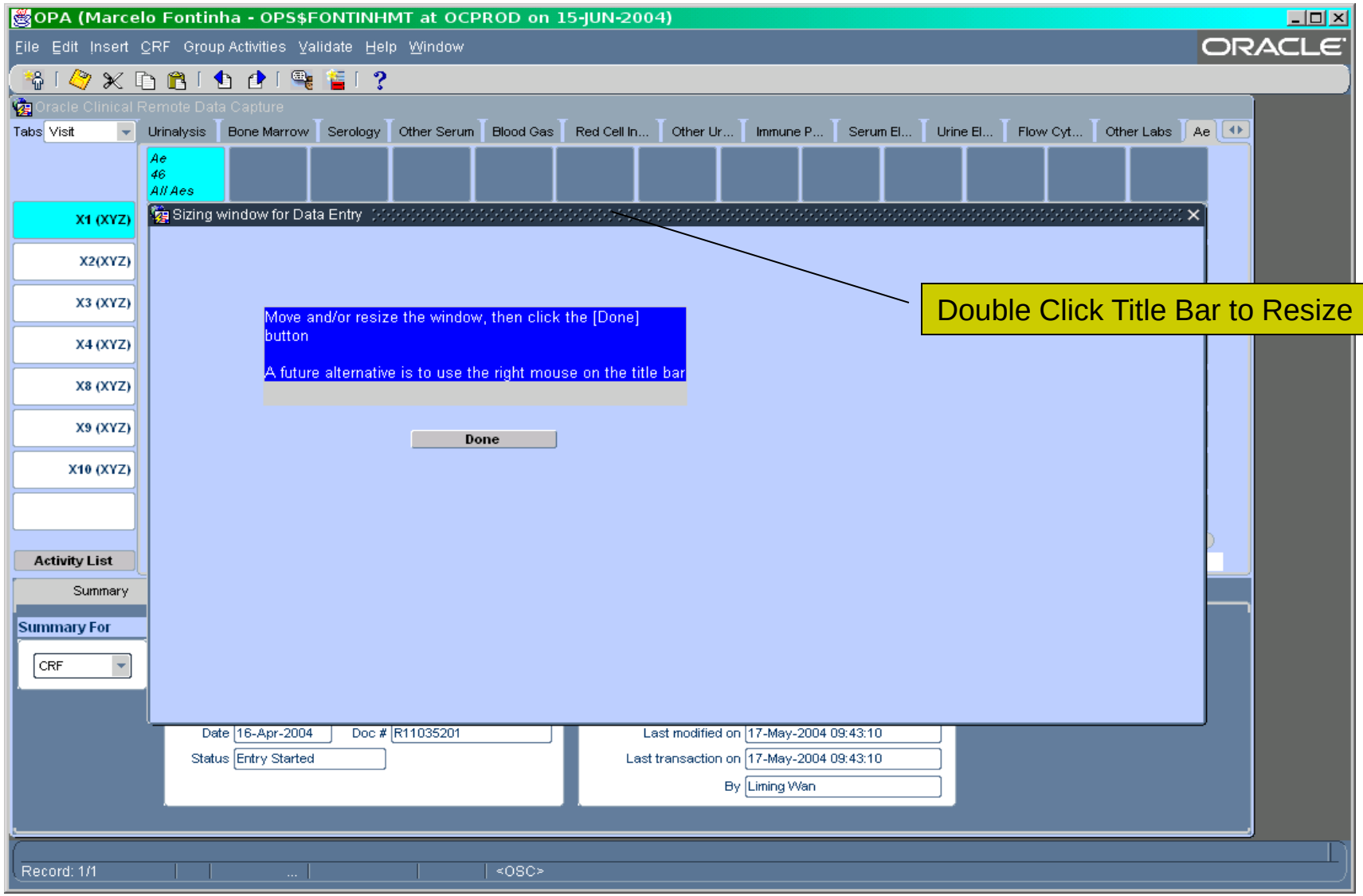

Marcelo Fontinha(Data management role) at OCPROD on 17-JUN-2004 (Study:TUD312 [T] Book:Whole_Book)
File Edit Insert CRF Group Activities Validate Help Window
Oracle Clinical Remote Data Capture
Tabs Phase
PreStudy Phase1 Phase2 Lab Ongoing OffStudy
Ae 46 All Aes
Ongoing 47 Procedures
Ongoing 48 Urinary Ex
Ongoing 49 Scinitigra
Ongoing 50 Transfusn
Ongoing 51 Infection
Ongoing 52 Conmed
Ongoing 53 Vitals
Ongoing 54 Ext Dis
Show unplanned pages
X1 (XYZ)
X2 (XYZ)
X3 (XYZ)
X4 (XYZ)
X8 (XYZ)
X9 (XYZ)
X10(XYZ)
Activity List
All patients, all pages
Patient X10 Page 46 (All Aes for Ae) Page 1 of 1, Repeat 1 of 3.
Visit Date 18-May-2004
Blank
Comment
Allaes COM
Course # Course Prior Date of Onset Date Resolved CTC Term CTC Category
1 31 Y 01-FEB-2003 Acute vascular leak syndror
2 28 Y 01-MAR-2003 Apnea
3 2 N 02-MAR-2003 11-JAN-2004 Amylase
Summary Discrepancies Verification Approval Audit Trail Links
Allaes COM
Changes since CRF creation on 18-May-2004 14:21:00
Field Row Original value Current value Changed on By Intervening
Action to adverse ever 1 1=NONE <Row Deleted> 02-JUN-2004 15:30:46
Action to adverse ever 1 2=REDUCED <Row Deleted> 02-JUN-2004 15:36:44
Attribution 1 1=UNRELATED <Row Deleted> 02-JUN-2004 15:30:46 Liming Wan Update 0 Show
Attribution 1 2=UNLIKELY <Row Deleted> 02-JUN-2004 15:36:44 Liming Wan Update 0 Show
Date when the episode 1 <Row Deleted> 02-JUN-2004 15:30:46 Liming Wan Update 0 Show
Date when the episode 1 <Row Deleted> 02-JUN-2004 15:36:44 Liming Wan Update 0 Show
Day in course 1 31 02-JUN-2004 15:36:44 Liming Wan Resequenced 0 Show
eCRF specific Audit Trail

# Audit Trail

- Audit Trail Tab shows history of all changes made to a specific eCRFs
- Shows current and prior values for each changed eCRF field along with the date of change and the user who made the change

- **Quick Tips**:
  - Auditing Begins after Form is marked complete
  - Do not share user ids and passwords!

# Resizing eCRF Window

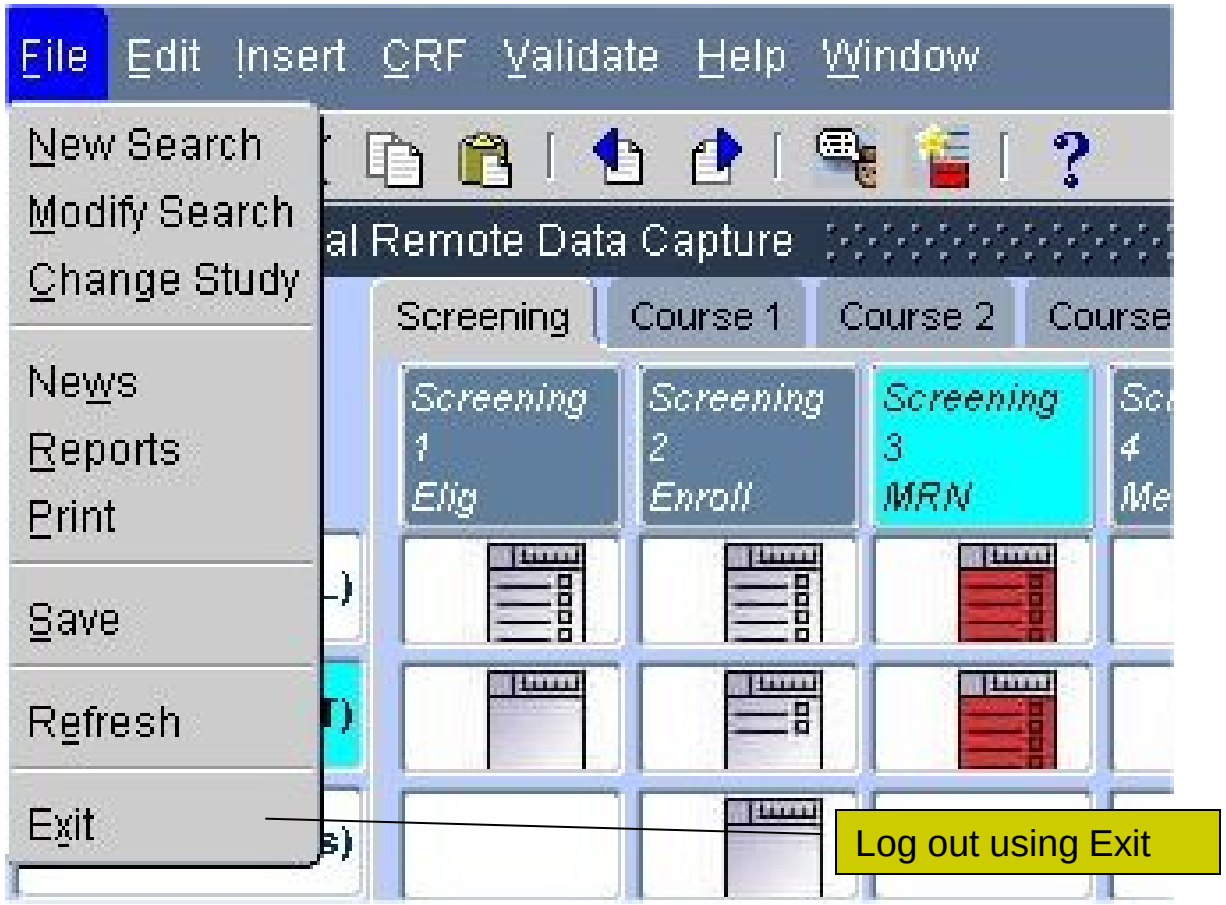


# Resizing eCRF Window

- Click on the eCRF title bar
- Click and drag title bar to move window
- Click and drag window edge to expand/ reduce window size
- Click OK when Done

- **Quick Tip:**
  - Right mouse click on the eCRF title bar to show a pop-up menu with options to move/resize the eCRF window.

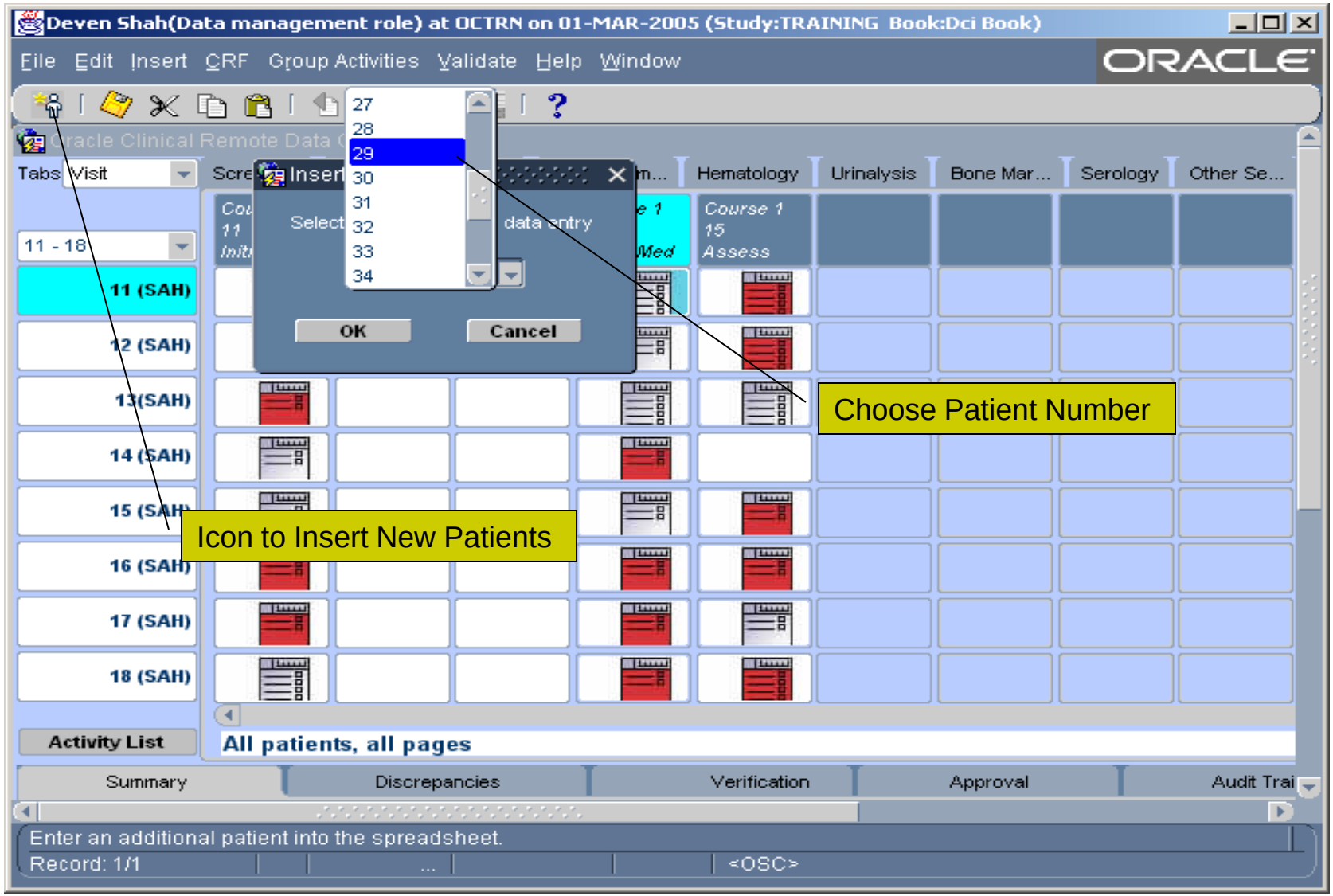
# Log Out


File
Edit
Insert
CRF
Validate
Help
Window
New Search
Modify Search
Change Study
News
Reports
Print
Save
Refresh
Exit
al Remote Data Capture
Screening
Course 1
Course 2
Course
Screening 1 Elig
Screening 2 Enroll
Screening 3 MRN
Log out using Exit

# Log Out

- Exit C3D before closing the Browser
- Inactivity for more than 30 minutes logs your out automatically

# Inserting New Patient

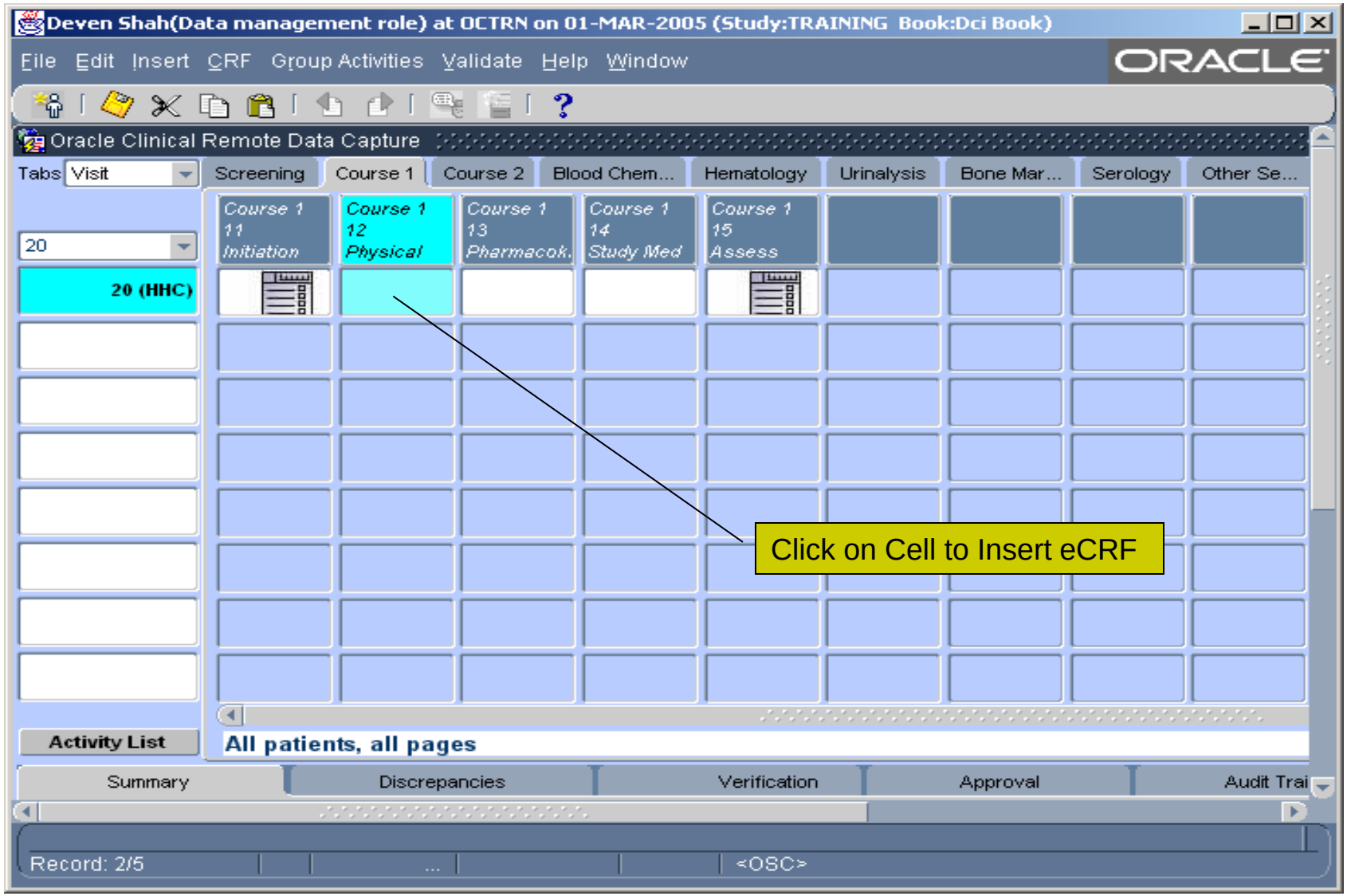


# Inserting New Patient

- Click Patient Icon or Select Insert -> Patient from the menu bar
- Choose a Patient Number from the pick list
- New Patient Row is Created

- **Quick Tips:**
  - The total number of Patients available for entry are governed by protocol ceiling accrual.  Request additional patient numbers if protocol is amended.
  - It is a good practice to use the patient numbers in sync with those assigned by Central Registration Office (CRO)

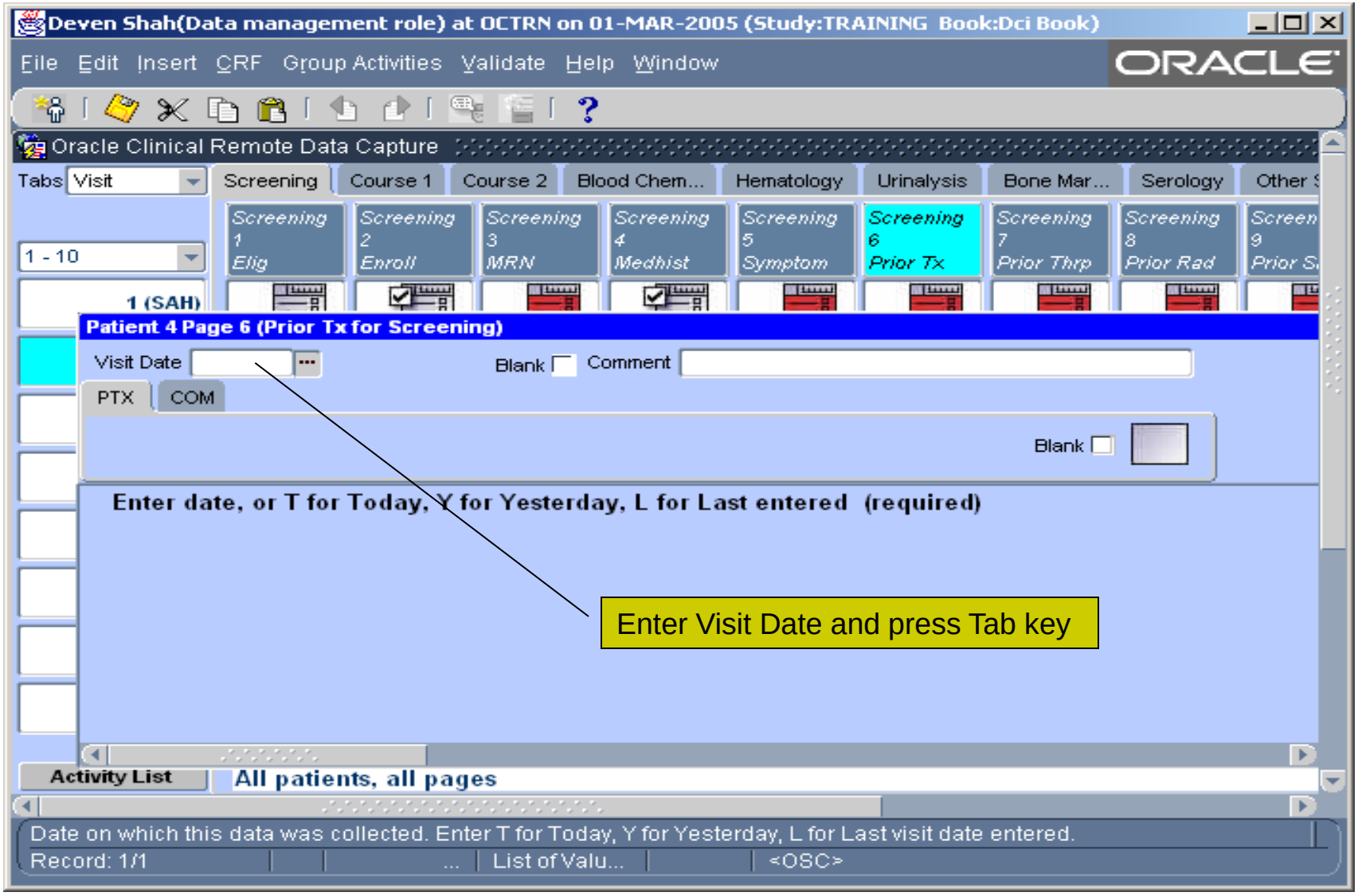
# Starting New Planned eCRF



# Starting New Planned eCRF

- Click on cell to insert eCRF
- Resize if necessary

# Entering eCRF Header

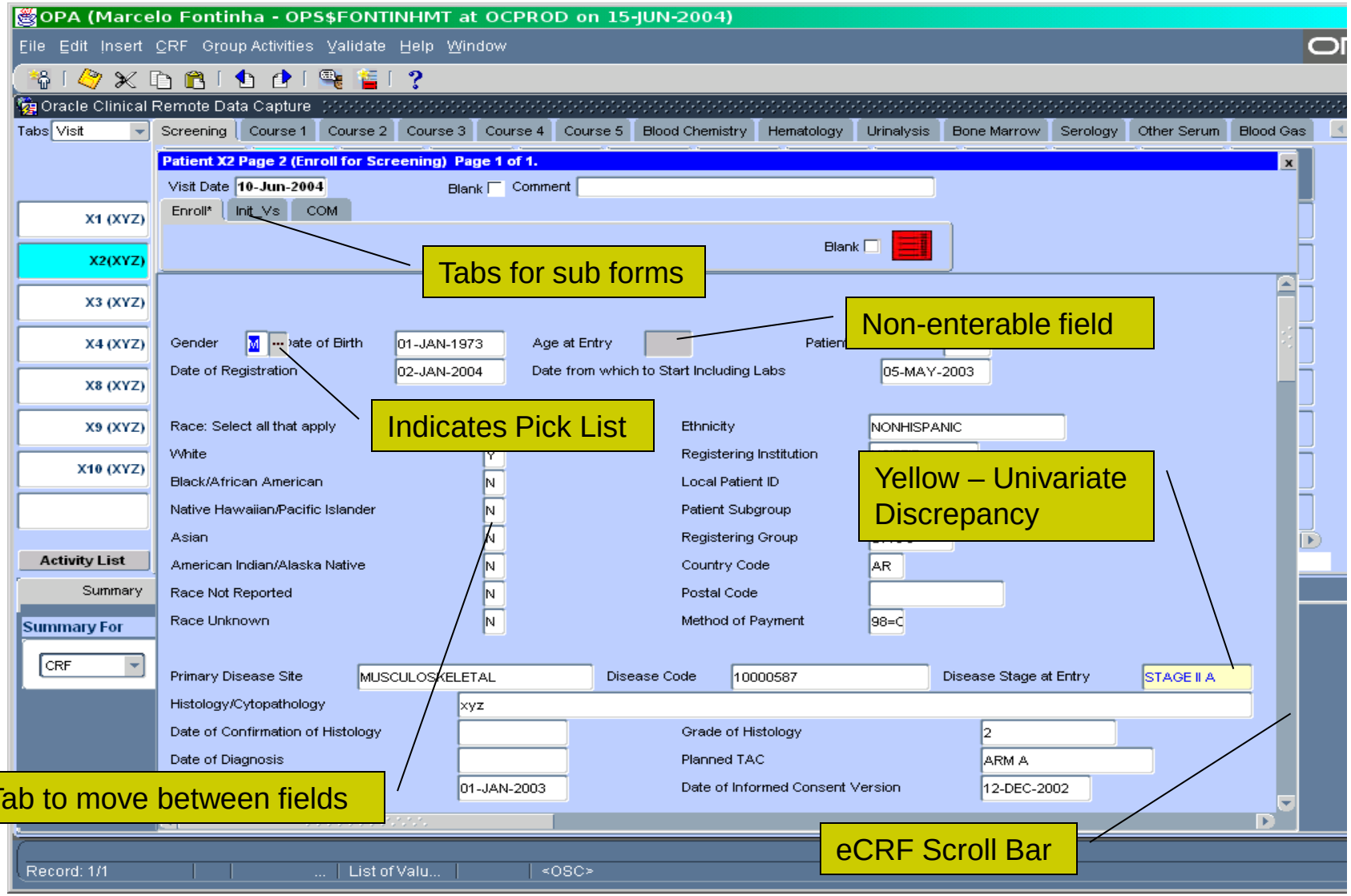


# Entering New eCRF

- Click on the empty Cell to insert appropriate eCRF
- Visit Date is mandatory for most forms
  - Interpret as Evaluation Date, Administration Date, Initiation Date, Lab Date, etc.
  - Use t for today, y for yesterday, or enter date in the MMDDYYYY format.
  - Partial dates are not acceptable when a visit date is mandatory

- **Quick Tip:**
  - Visit Date can be left Blank for Ongoing forms such as AE, Conmeds, etc.

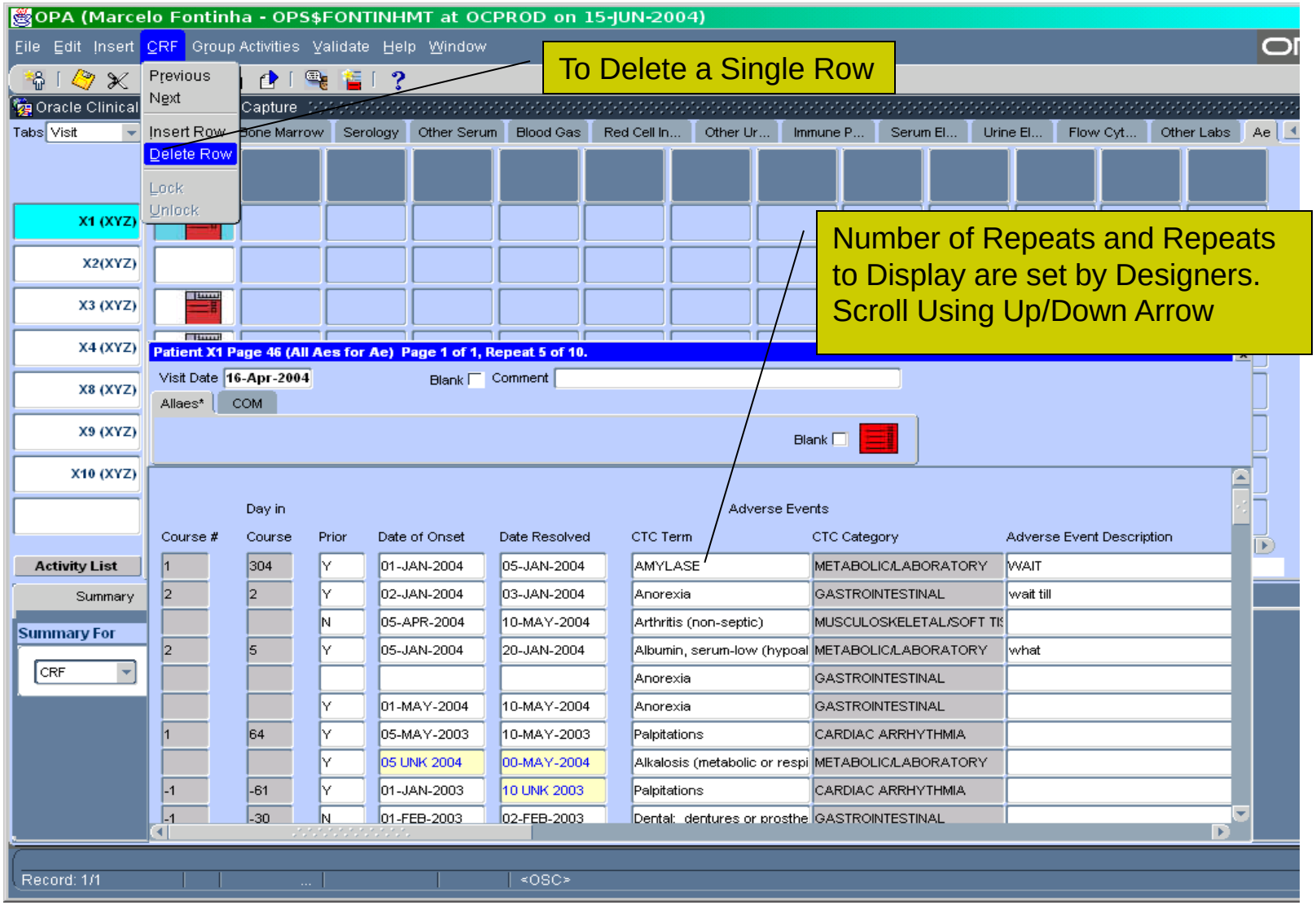
# Entering Data in eCRF



# Entering Data in eCRF

- Navigating between Fields
  - Use Tab Key to move to Next Field
  - Use Shift Tab to move to Previous Field
  - Use Mouse Click to navigate to a Specific Field
- Fields with Ellipsis indicate a Pick List (Use the Pick List!)
- Enter Dates as
  - MMDDYYYY for Current Information
  - MMYYYY for Prior Information is acceptable when complete date cannot be obtained

# Tabular eCRF

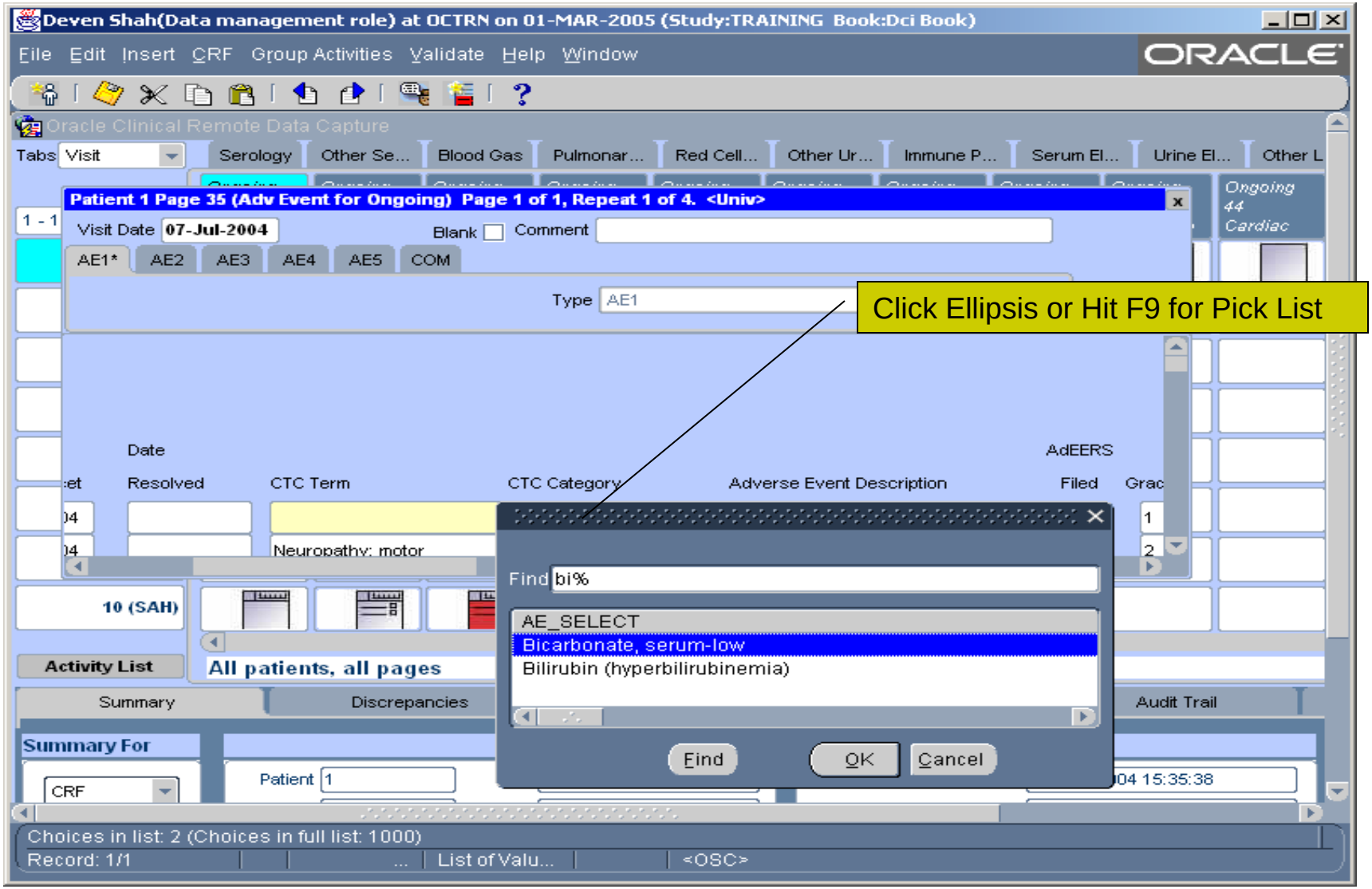


# Tabular eCRF

- Fields shown in a grid layout
- Scroll up and down the rows of the table using arrow keys (No Scroll Bars!!)

- **Quick Tips:**
  - Use the menu option CRF -> Insert Row to insert a row between two rows (below the currently selected row).
  - A row cannot be left blank and must be deleted before proceeding to another row. Select the menu option CRF -> Delete Row.

# Using Pick List

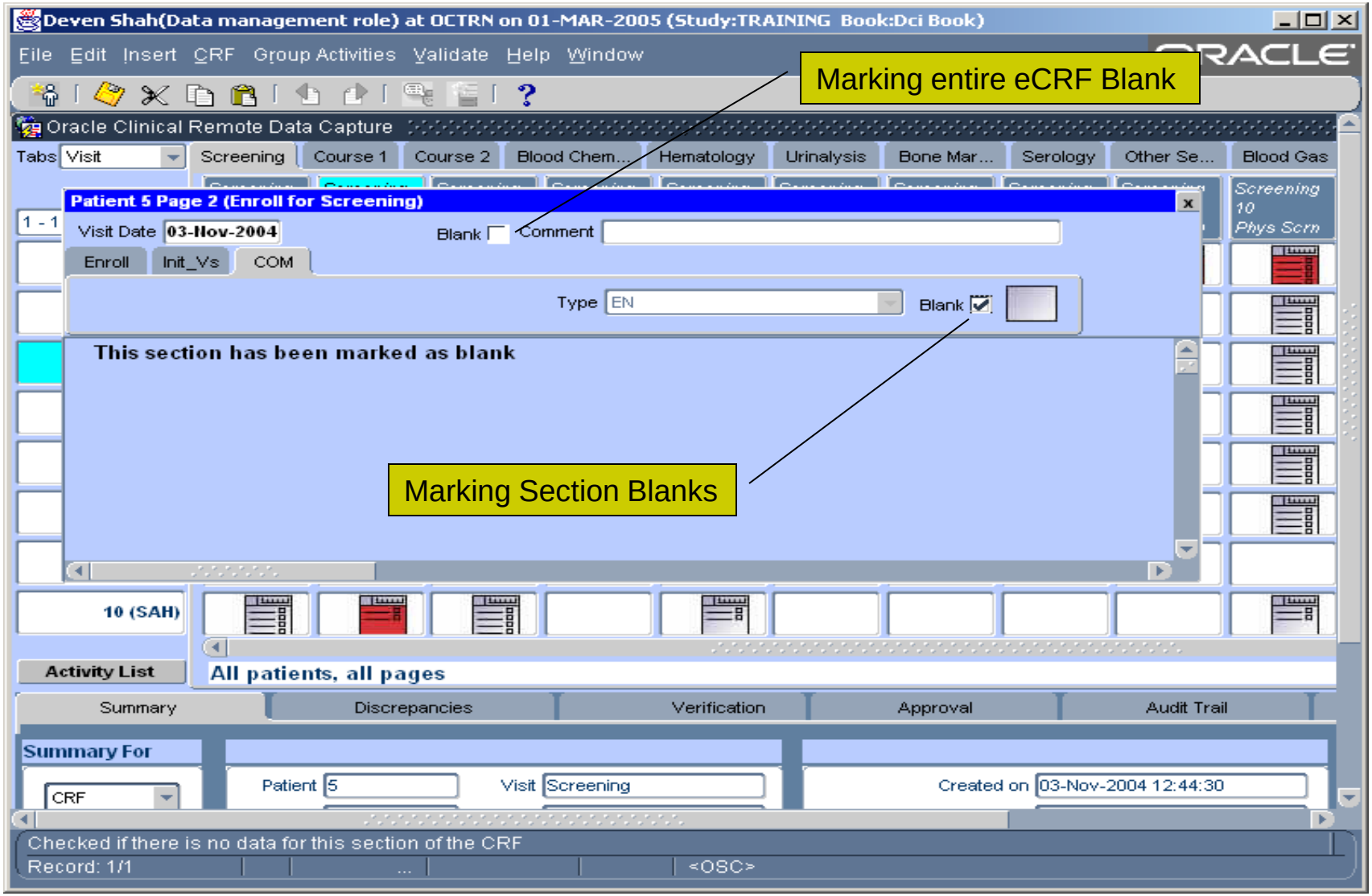


# Using Pick List

- Fields with Ellipsis contain a Pick List
- Pick List can be accessed by clicking the Ellipsis or Entering the F9 Key
- Pick List is Sorted Alphabetically and gets shorter as characters are typed in.

- **Quick Tips:**
  - Pick Lists with more than 1000 entries needs to be queried differently. (Demo)
  - If a value is not in the pick list enter it, create a discrepancy, and consult your DM Supervisor.

# Marking eCRF Blank

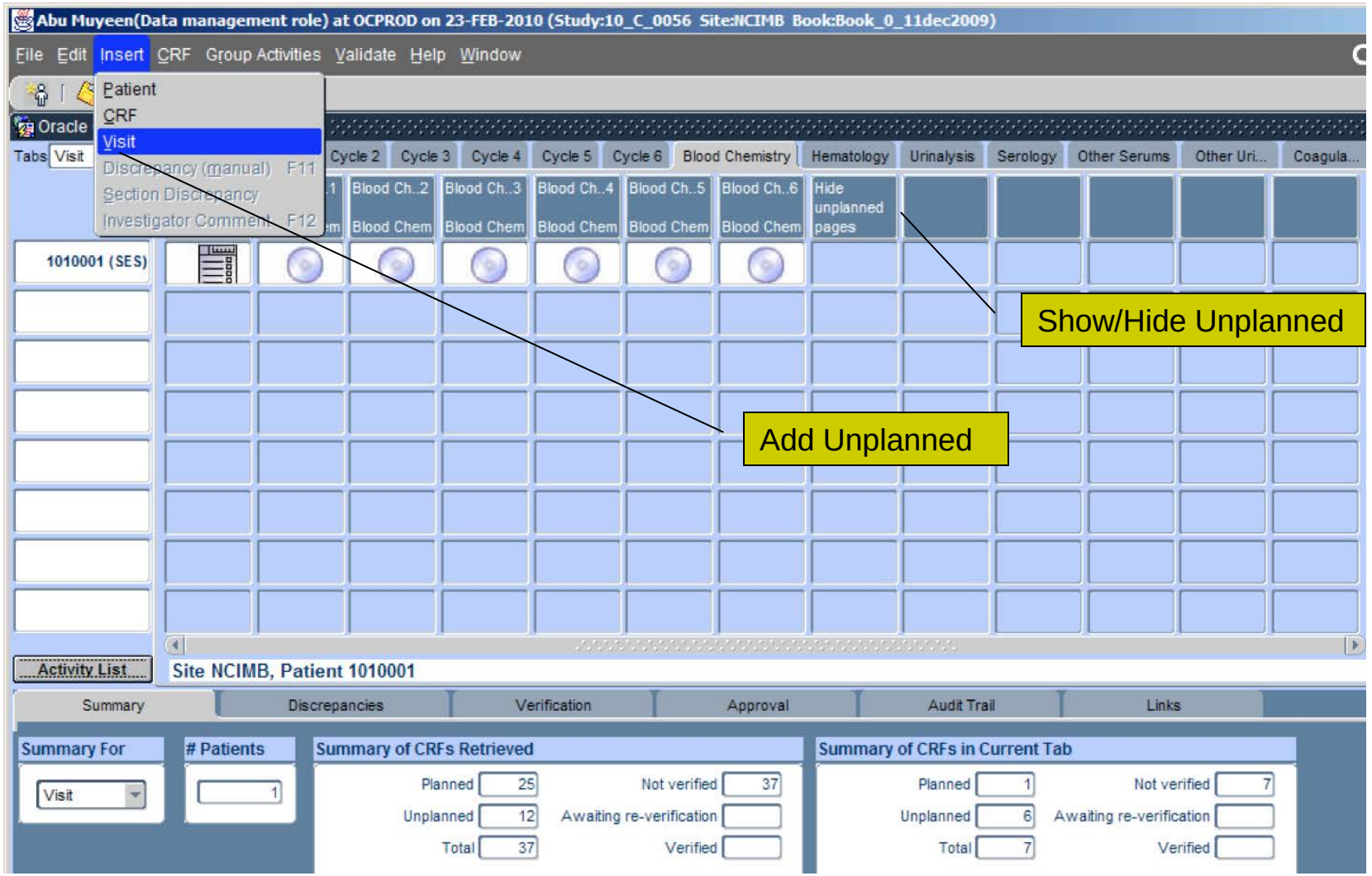


# Marking eCRF Blank

- Entire eCRF can be marked Blank
- Sections of eCRF can be marked Blank
- Checking Blank Flag will erase any entered information from the eCRF/Section
- Blank Flag can be unchecked to enter information

- **Quick Tip:**
  - It is a good practice to mark Sections not entered as Blanks so that the overall status of the eCRF is marked Completed.

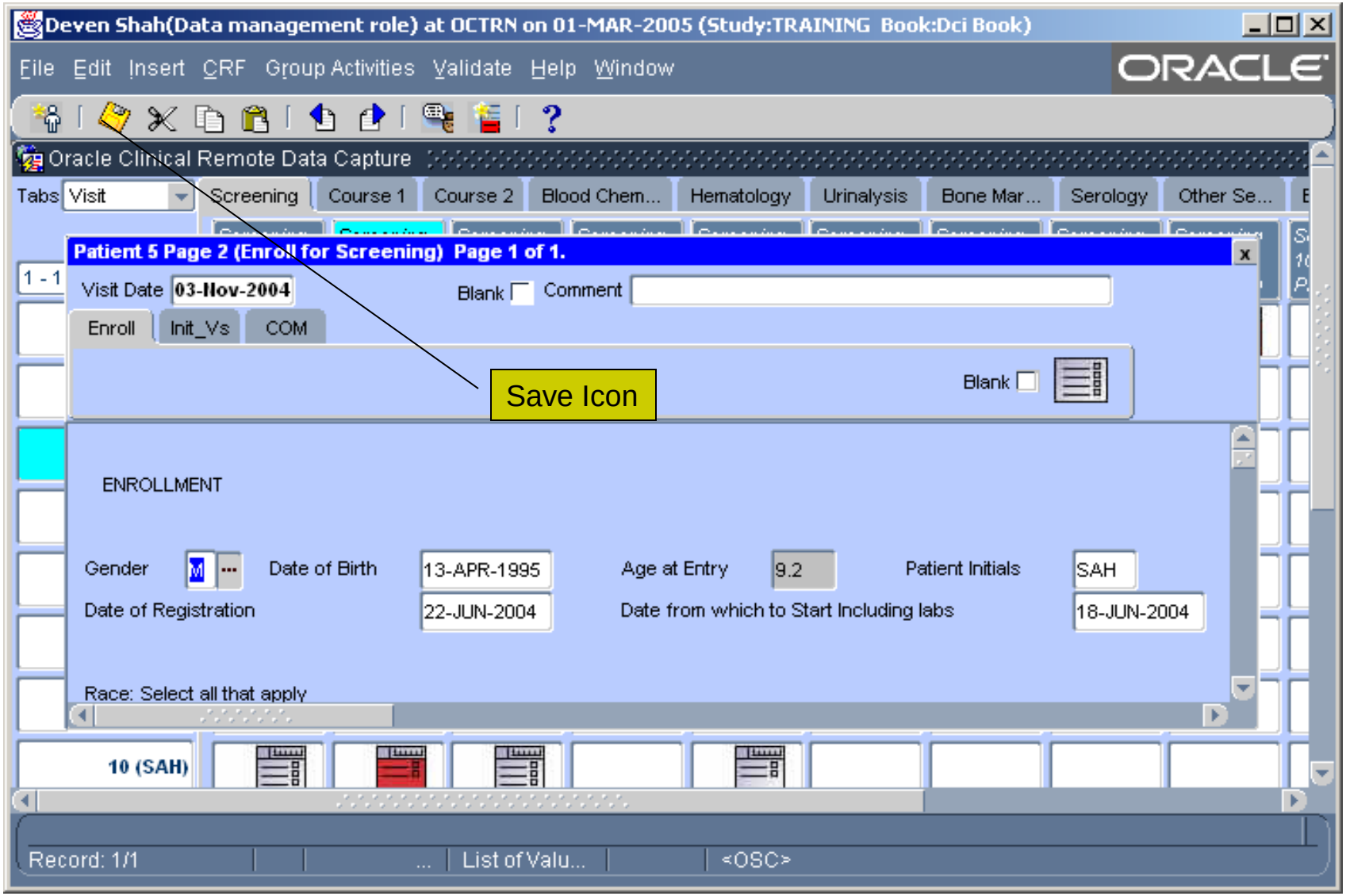
# Entering/Viewing Laboratory Data



# Entering/Viewing Laboratory Data

- Laboratory Data eCRFs are designed with dedicated Tabs
- Additional Forms can be viewed by clicking Show Unplanned Events
- Additional Forms can be added by choosing menu option Insert -> Visit

# Saving eCRF

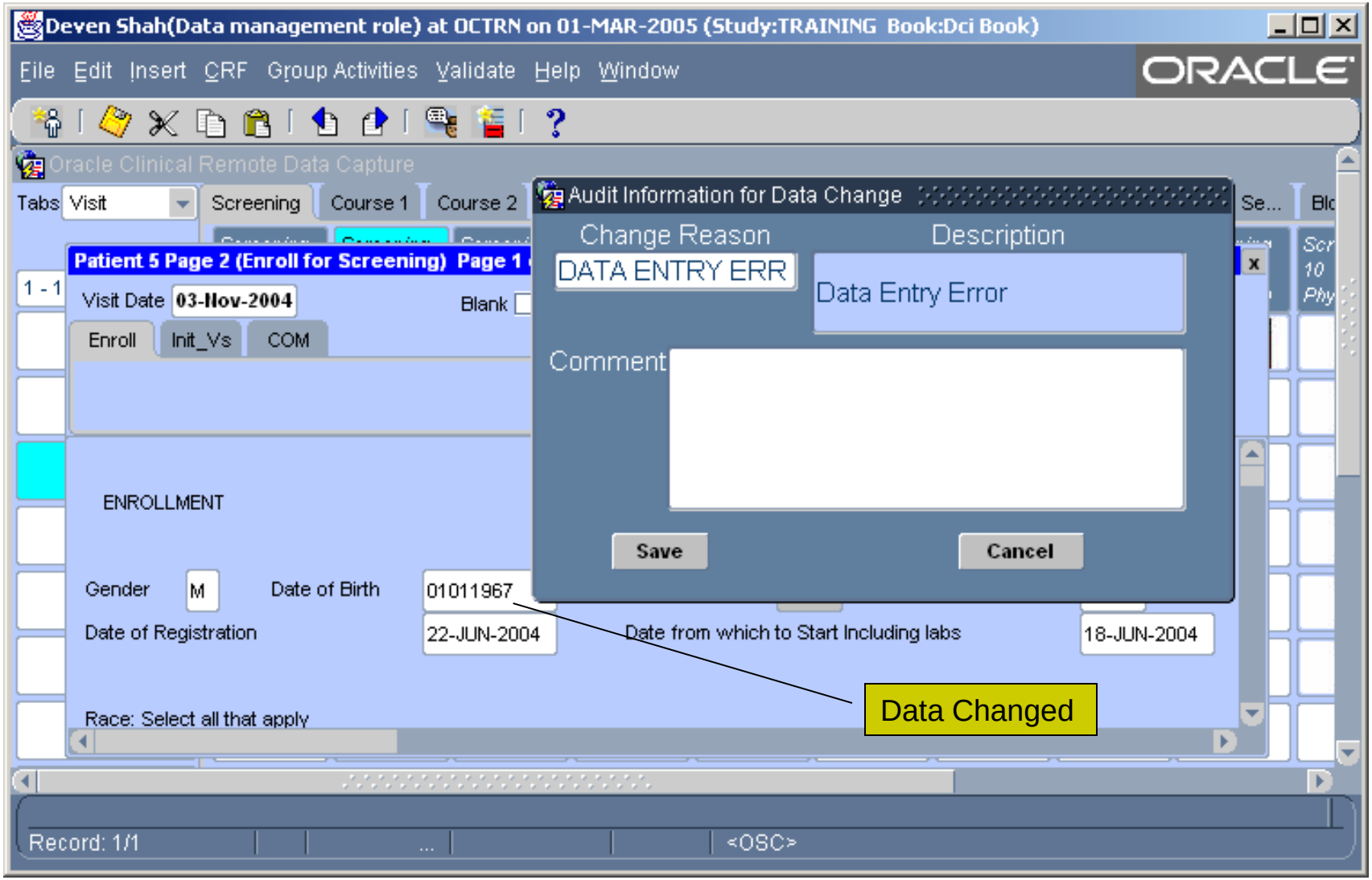

Deven Shah(Data management role) at OCTRN on 01-MAR-2005 (Study:TRAINING Book:Dci Book)
File Edit Insert CRF Group Activities Validate Help Window
ORACLE
Oracle Clinical Remote Data Capture
Tabs Visit
Screening
Course 1
Course 2
Blood Chem...
Hematology
Urinalysis
Bone Mar...
Serology
Other Se...
Patient 5 Page 2 (Enroll for Screening) Page 1 of 1.
Visit Date 03-Nov-2004
Blank
Comment
Enroll
Init_Vs
COM
Blank
Save Icon
ENROLLMENT
Gender M
Date of Birth 13-APR-1995
Age at Entry 9.2
Patient Initials SAH
Date of Registration 22-JUN-2004
Date from which to Start Including labs 18-JUN-2004
Race: Select all that apply
10 (SAH)
Record: 1/1
List of Valu...
<OSC>

# Saving eCRF

- eCRF can be saved using
  - Save Icon
  - F10 Key
  - File -> Save menu option

- **Quick Tip:**
  - Save Often!! Especially while entering Ongoing Information such as AEs and ConMeds.

# Data Entry Change Reason



# Data Entry Change Reason

- Change Reason needs to be specified while changing data on completed eCRF
- Change Reason becomes part of the Audit Trail along with date of change and user name
- Comments can be provided in the change reason to further explain

- **Quick Tip:**
  - Do not use personnel names in the comments.

# What is a Discrepancy?

- A discrepancy is the failure of entered data to pass a validation check as applied by $C^3D$
- $C^3D$ validation checks are defined based on the definition of the fields, logical rules, protocol specifications, and sponsor requirements.

# Why Discrepancies?

- Discrepancies are tools to assist teams in programmatically identifying potential data inconsistencies
- Discrepancies facilitate real-time QA of clinical data

- **Quick Tips:**
  - Discrepancies do not cover 100% of possible data inconsistencies.
  - Clinical judgment may supersede discrepancy logic.

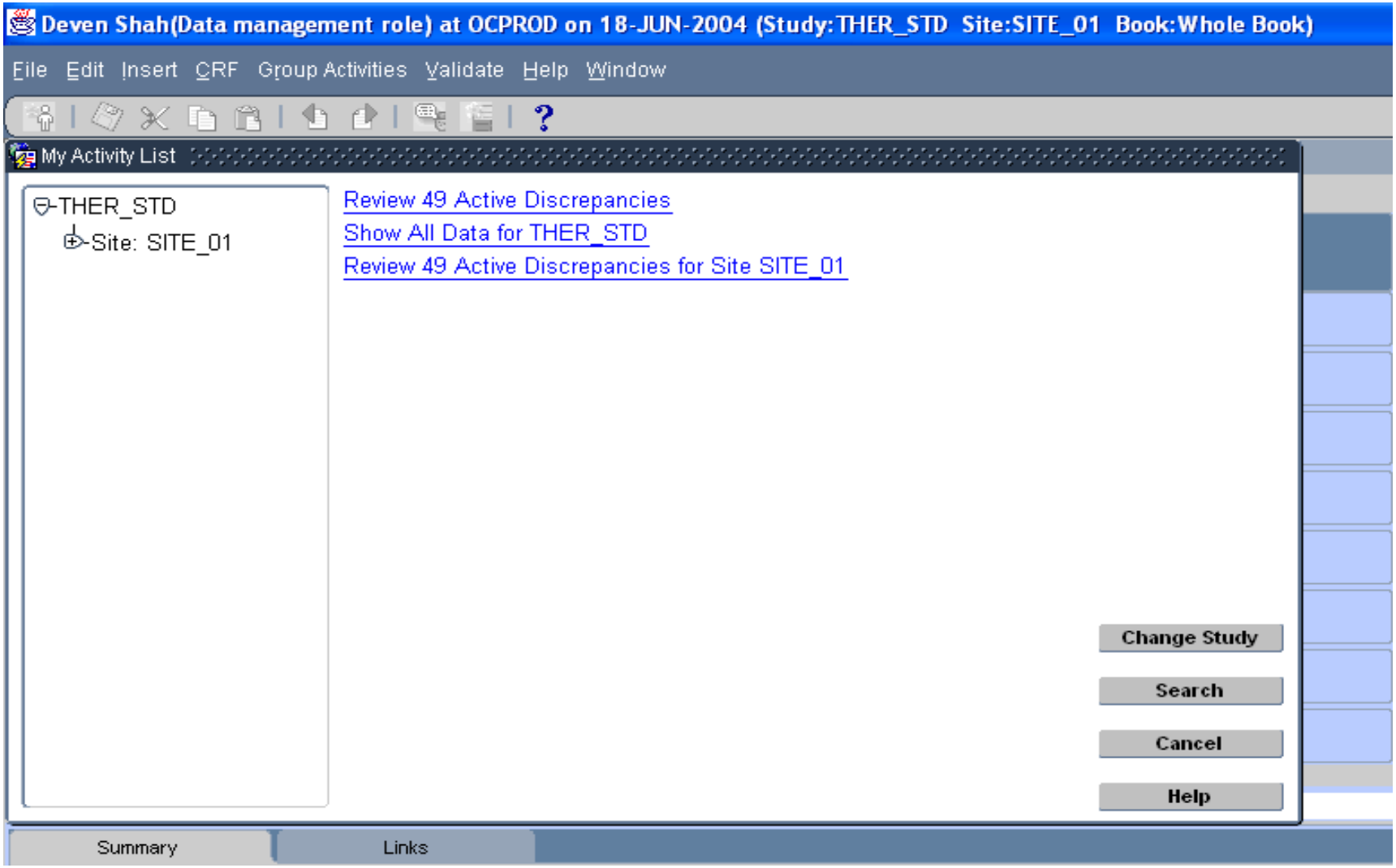
# C3D Discrepancy Types

- Univariate
  - Generated during data entry/load when data is in some way different from the Question definition (e.g. length, type, range, pick list, etc.)
- Multivariate
  - Based on a condition on one or more fields as defined in a validation rule
  - Generated on-line or when validation rules are run
- Manual
  - Generated by data entry operator seeking clarification on data values

# Some Typical Discrepancies

| Types | Resolution |
|---|---|
| Data Type | Review Source Document |
| Length Problems | Use NIH accepted Abbrev |
| Missing Pick list Values | Search for alternates, e.g. Generic; Consult TL/Liz. |
| Mandatory Value | Refer to Source Document; Design modification |
| Partial/Invalid Dates | Refer to Source Documents; Check Day Month Year order; Check that date is not in the future. |

# Outstanding Discrepancies in a Study

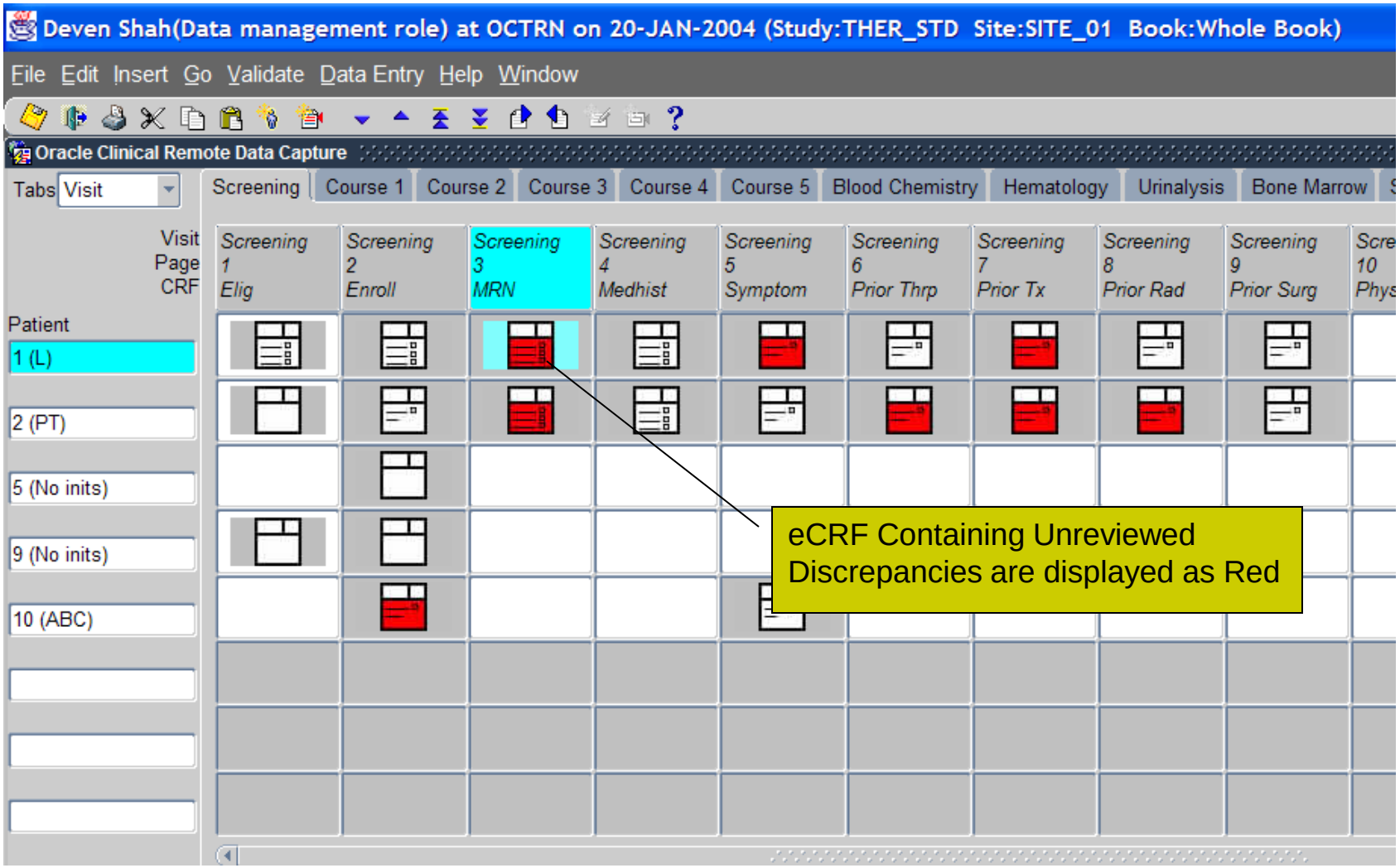


# Outstanding Discrepancies in a Study

- Total number of Discrepancies in a study are shown in the activity list
- Clicking on the ‘Review xx Active Discrepancies” will present only the Discrepant eCRFs

- **Quick Tip:**
  - Data Managers should manage their discrepancies every morning to help ongoing QA of clinical data.

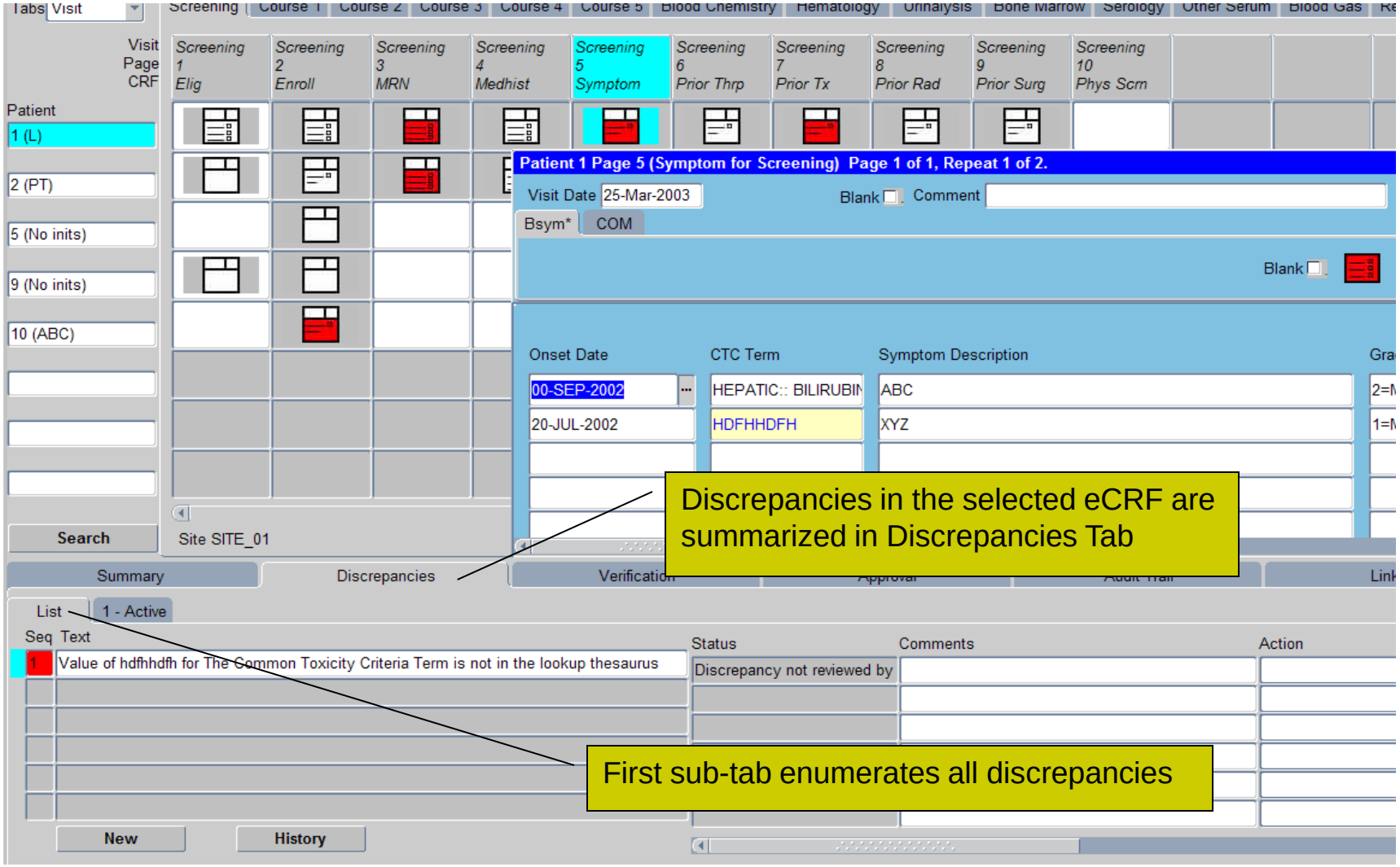
# eCRFs Containing Discrepancies



# eCRF Containing Discrepancies

- eCRF containing discrepancies are shown in Red
- It is a good practice to address discrepant eCRF on an ongoing basis

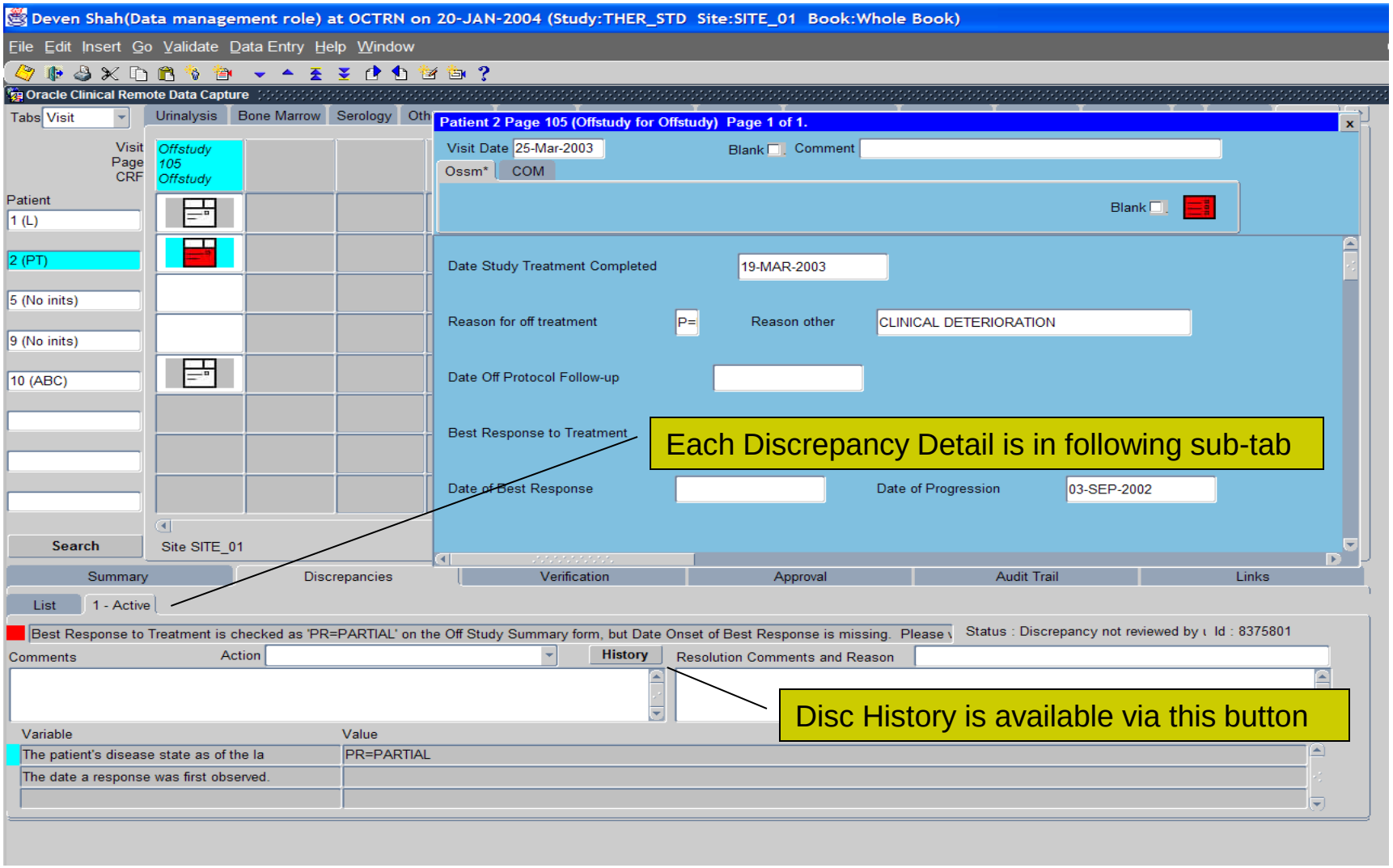
# Discrepancies Tab



# Discrepancies Tab

- While viewing an eCRF, clicking on the Discrepancies Tab shows the discrepancies on that eCRF
- The first sub-tab gives the summary of all discrepancies in that eCRF (open and closed)

# Discrepancy Details

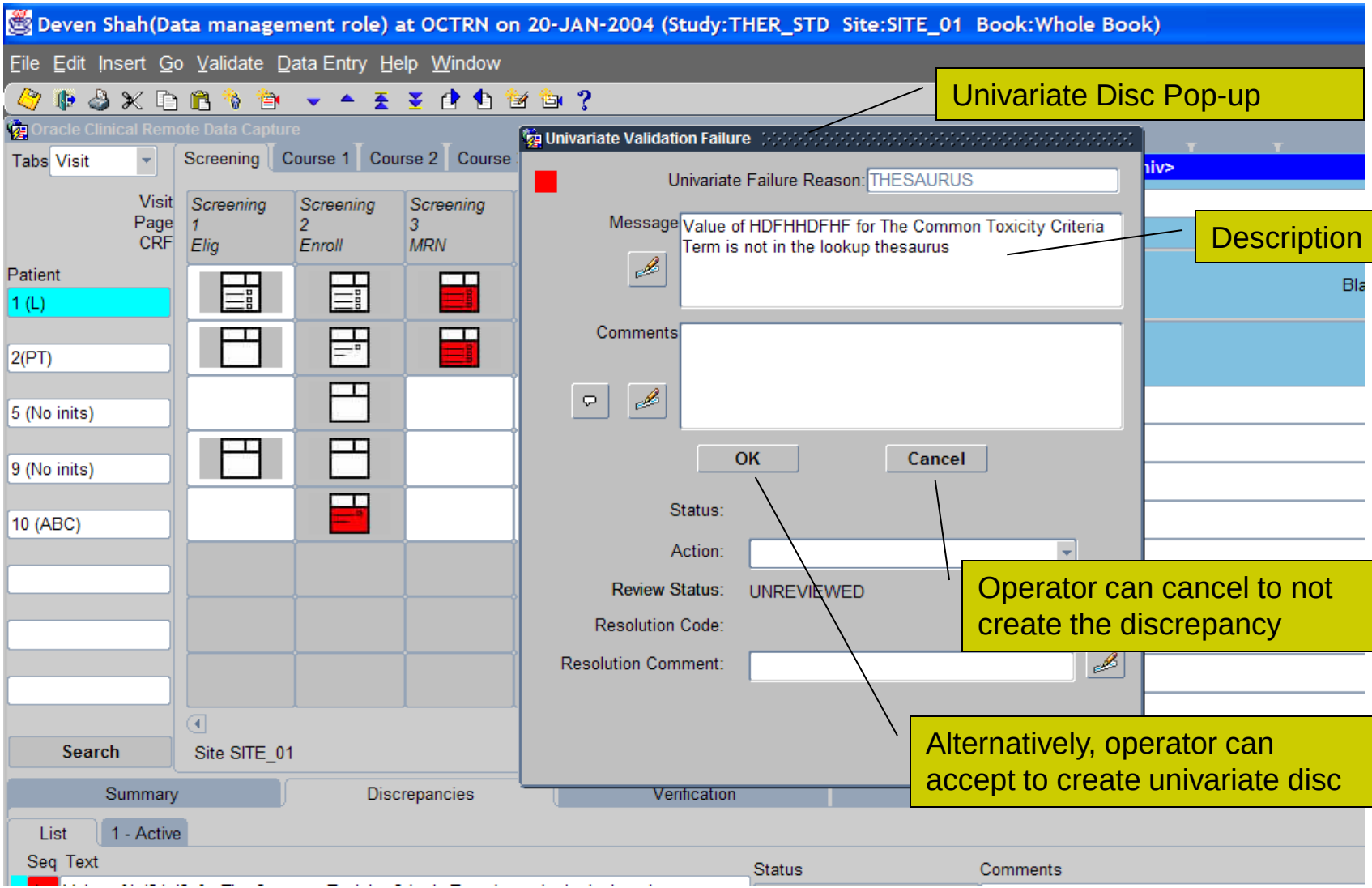


# Discrepancy Details

- Subsequent sub-tabs show details for each discrepancy
- Open Discrepancies are displayed first and are followed by Closed Discrepancies

- **Quick Tip:**
  - Double Clicking on the Discrepancy Text brings up a pop-up box with the entire message

# How are Univariate Disc. Created?

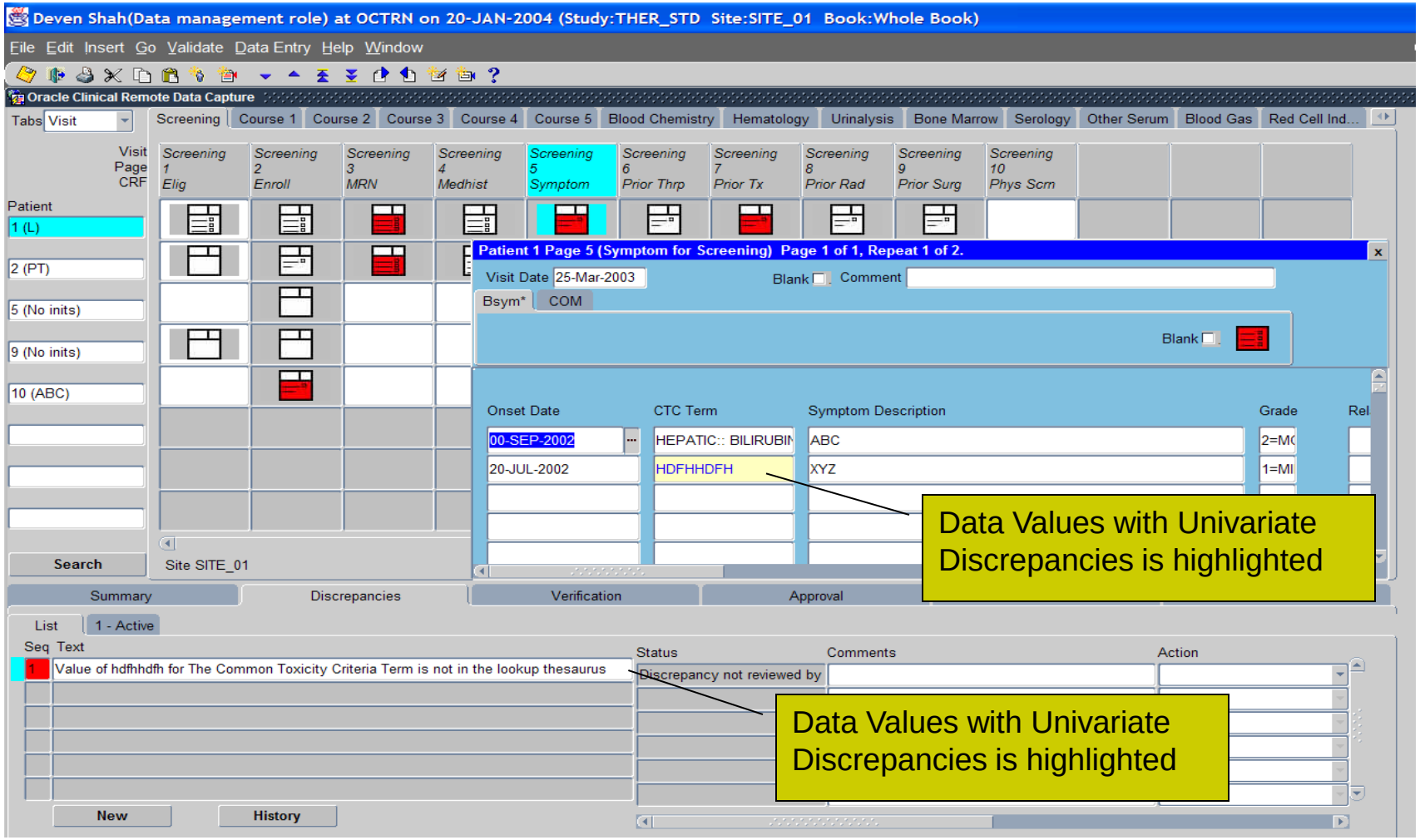


# How are Univariate Disc. Created?

- Univariate Discrepancies pop-up is presented during data entry when the entered value does not match the field definition
- Data Entry operator can
  - Cancel the pop up and fix the value
  - Or accept the discrepancy

- **Quick Tip:**
  - Univariate Discrepancies are reassessed during Batch Validation for Design Changes.

# How is a Univariate Disc. Displayed?



# How is a Univariate Disc. Displayed?

- Discrepant data is highlighted in Yellow
- Discrepancy text provides the details

- **Quick Tip:**
  - Double Click on the Discrepancy Message Text to view the entire message in a window.

# How are Multivariate Disc. Created?

- Multivariate Discrepancies are created based on validation rules programmed in a study
  - Example 1: Create Discrepancy if the entered BSA is not within 10% of the calculated BSA
  - Example 2: Create Discrepancy if Date of Histological Confirmation is before Date of Diagnosis

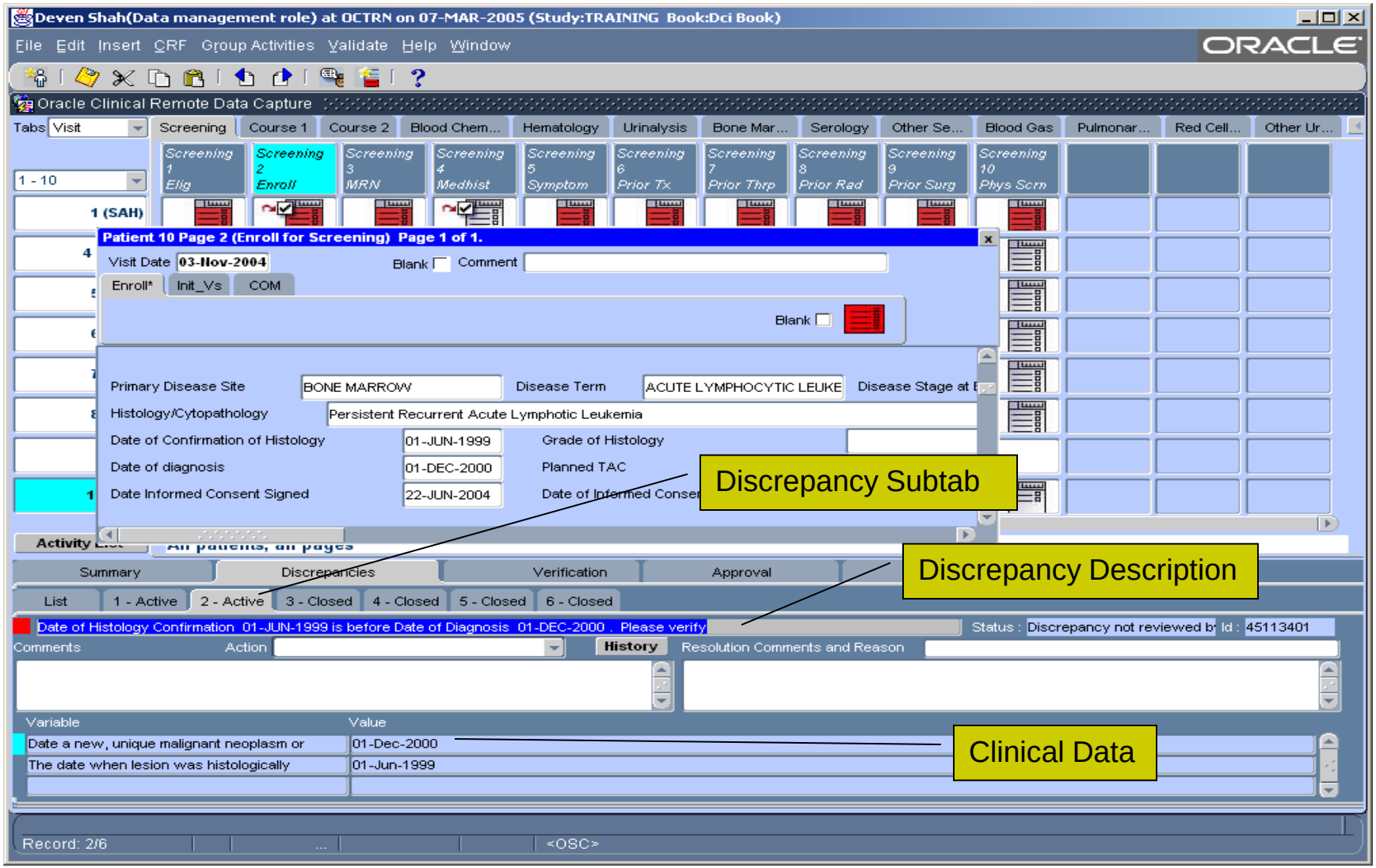
- **Quick Tip:**
  - Rules available as a standard on each eCRF are summarized in the eCRF instruction manual.
  - Though several standard rules are implemented for each eCRF as specified on the eCRF instructions manual, clinical teams can request them to be turned off if they do not apply to a protocol.

# Evaluation of Multivariate Rules

- Validation Rules are evaluated
  - on-line upon completion of a form, or
  - during an overnight batch validation session

- **Quick Tip:**
  - Complex rules run overnight

# How is a Multivariate Disc. displayed?

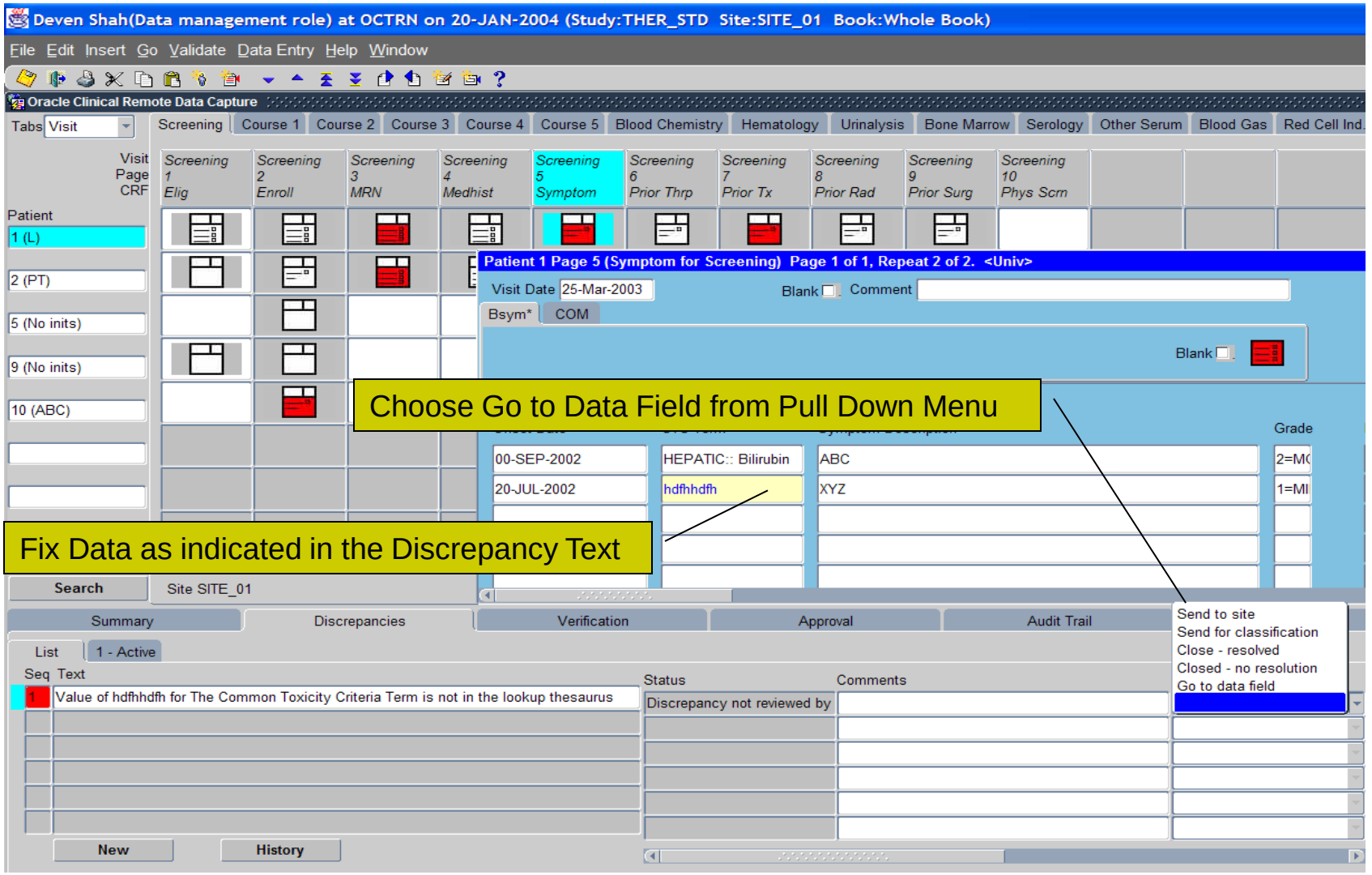


# How is a Mulitvariate Disc. displayed?

- Discrepancy is based on one or more fields and is NOT highlighted in Yellow
- Discrepancy sub-tab provides the details
  - Discrepancy Text
  - Involved Clinical Data in the evaluation of the Discrepancy

- **Quick Tip:**
  - The Action pull-down “Go to Data Field” does not work as the discrepancy could be based on more than one field.

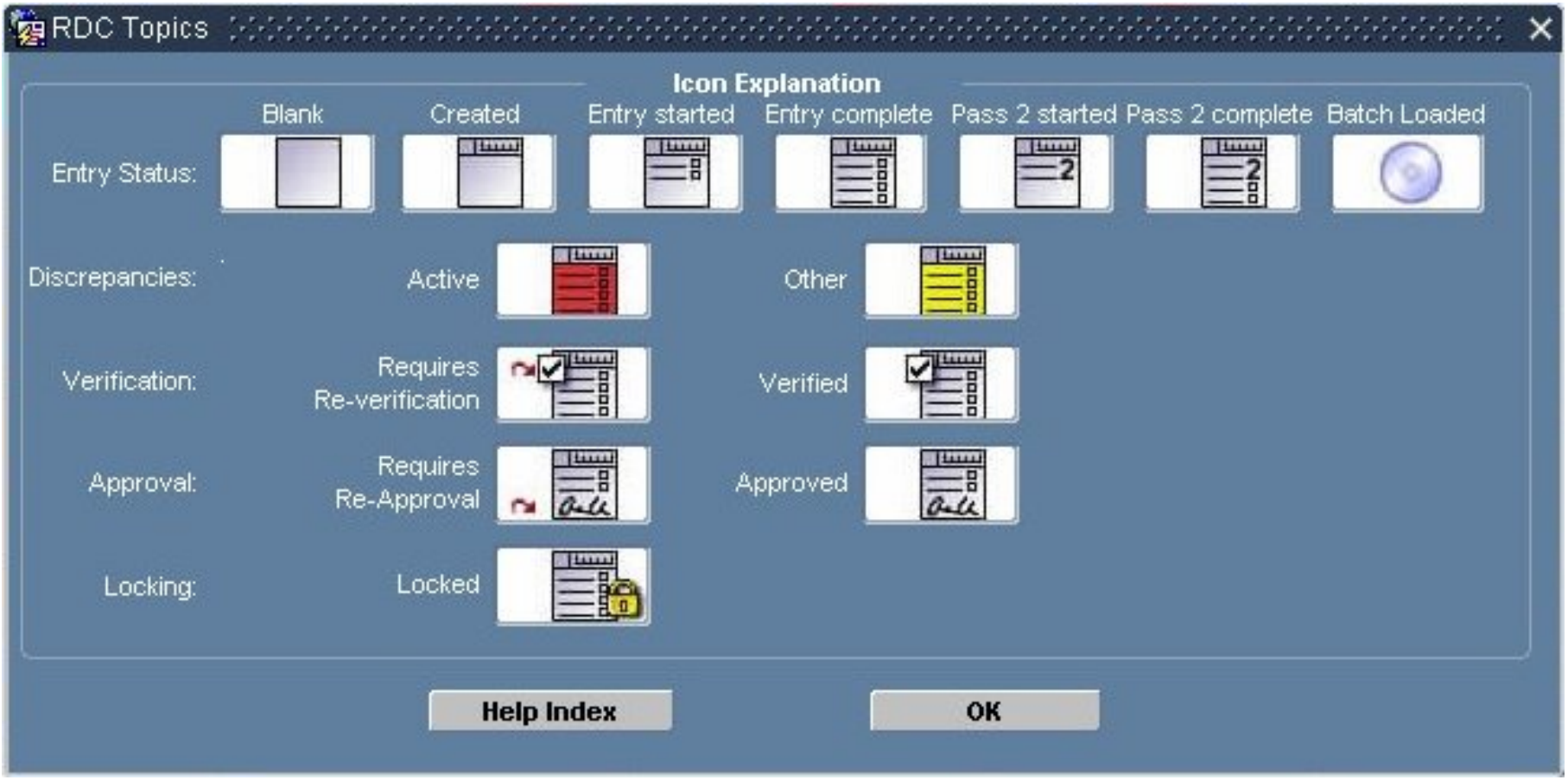
# How to Address a Discrepancy



# How to Address a Discrepancy

- Review Discrepancy Text
- Whenever possible, use the Action pull down ‘Go to Data Field’ to jump to the Discrepant Field
- Resolve the discrepancy by:
  - Modifying incorrect data and specifying change reason
  - Requesting Design or Rule Change
- **Quick Tip:**
  - System obsoletes the discrepancy automatically when data is corrected.

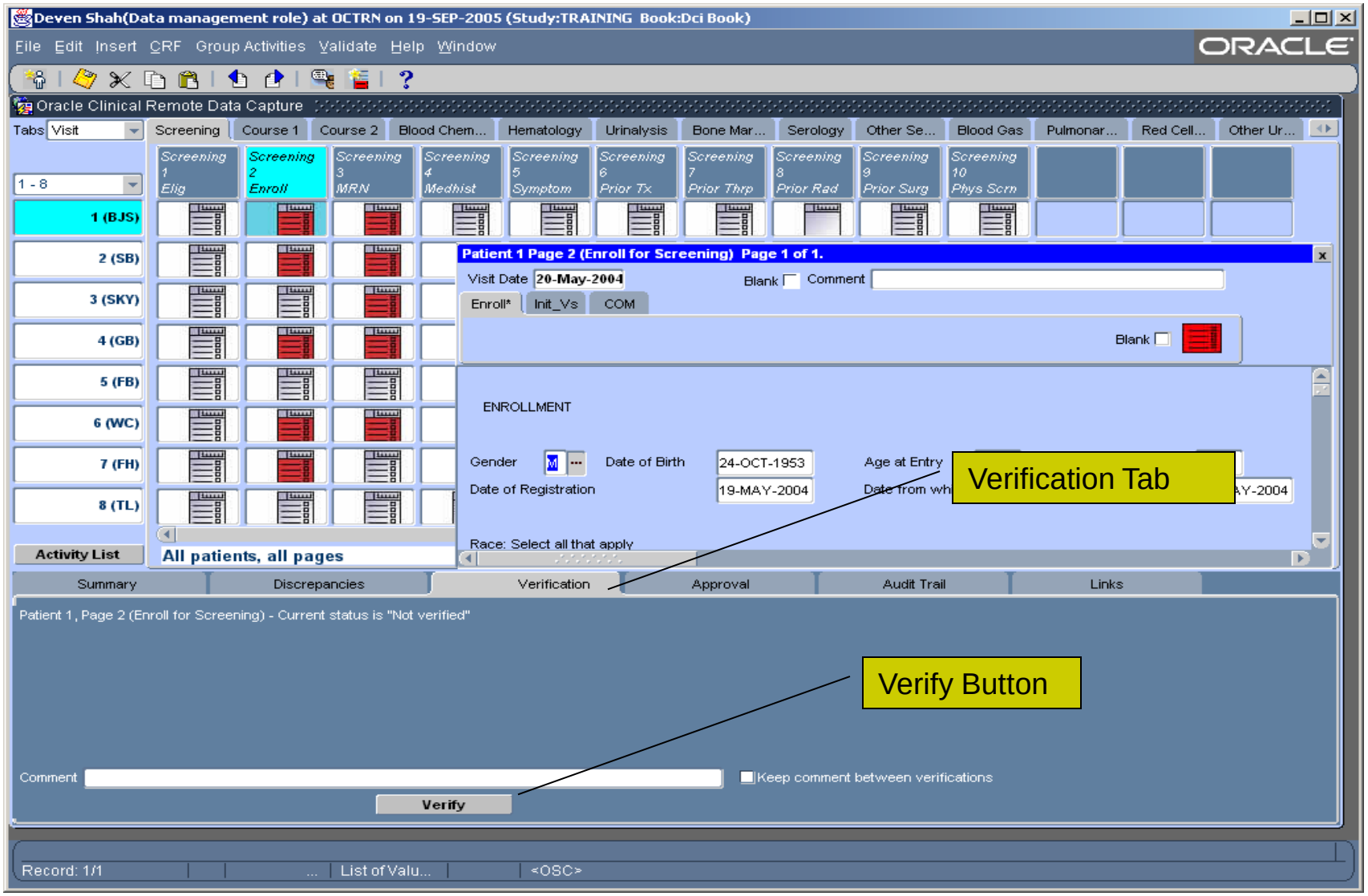
# Verification & Appoval



# Verification & Approval

- C3D Verification & Approval functionality offer capability to track QA and Monitoring of eCRF

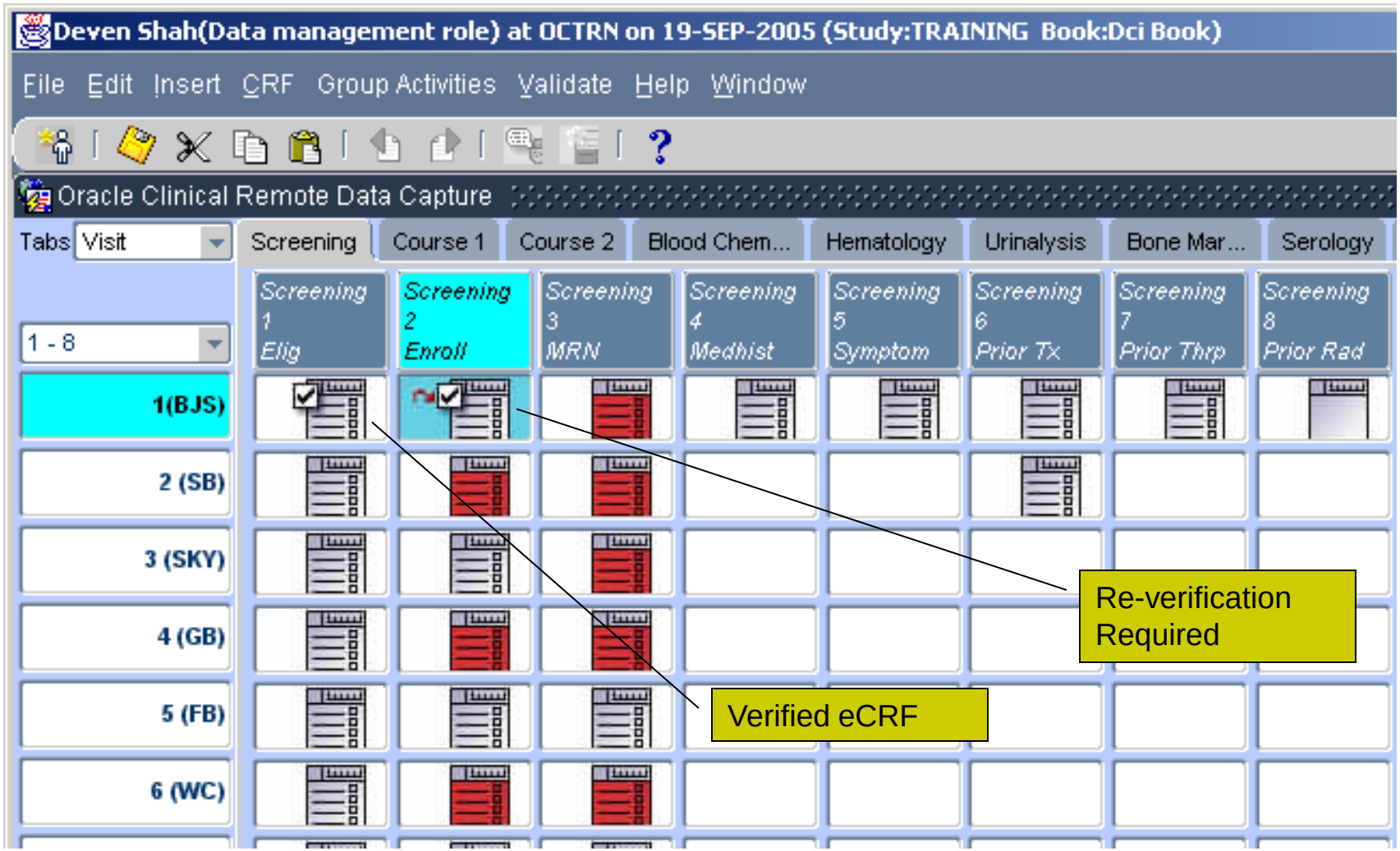
# Verification



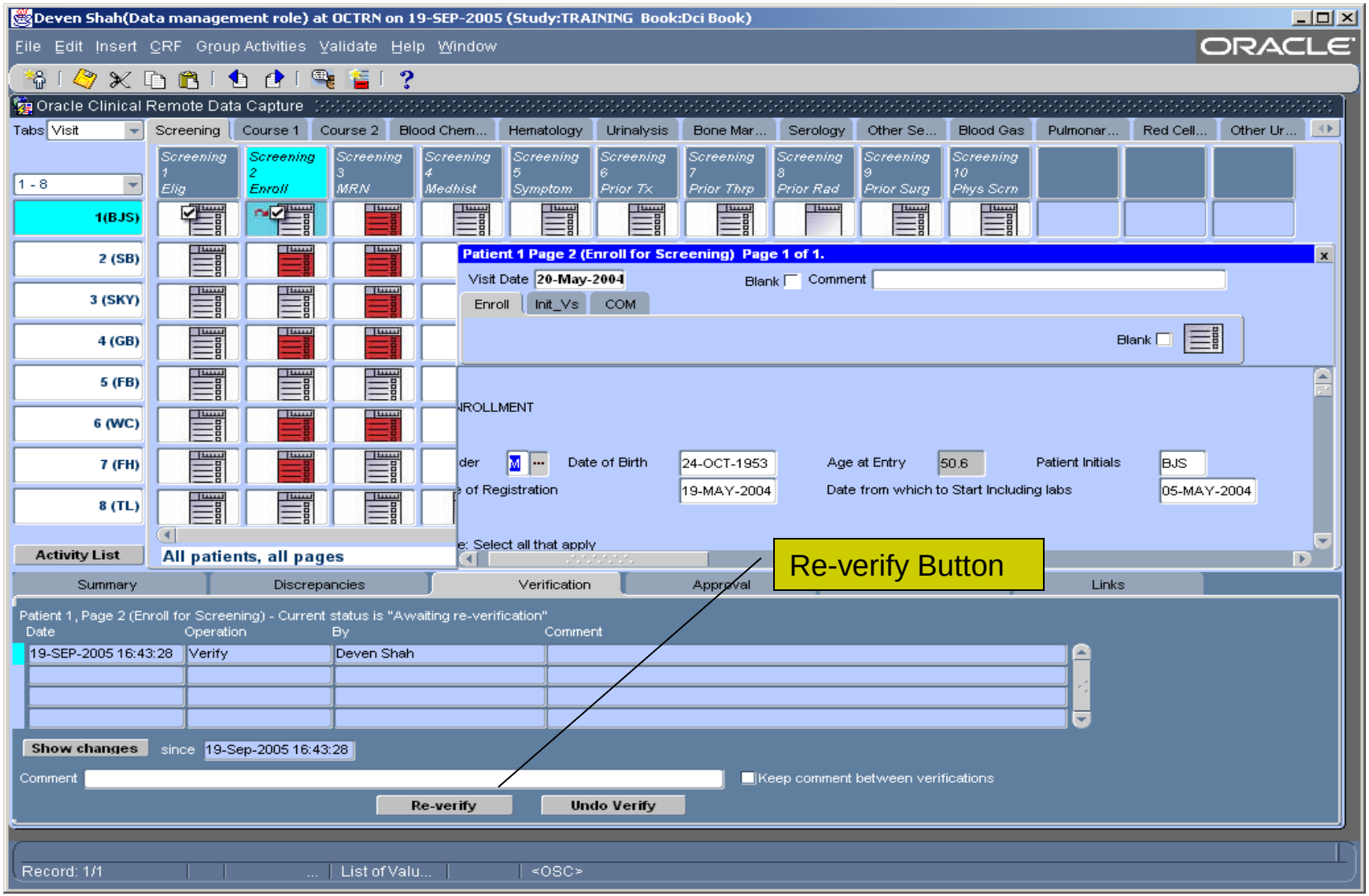
# Verification

- Each eCRF can be verified by clicking on the Verify button
- Verified eCRF Icon has a Checkmark
- Editing a verified eCRF changes its icon to a Re-Verify status
- Edited eCRF can be re-verified
- eCRF Verification Change History is maintained in the Verification Tab

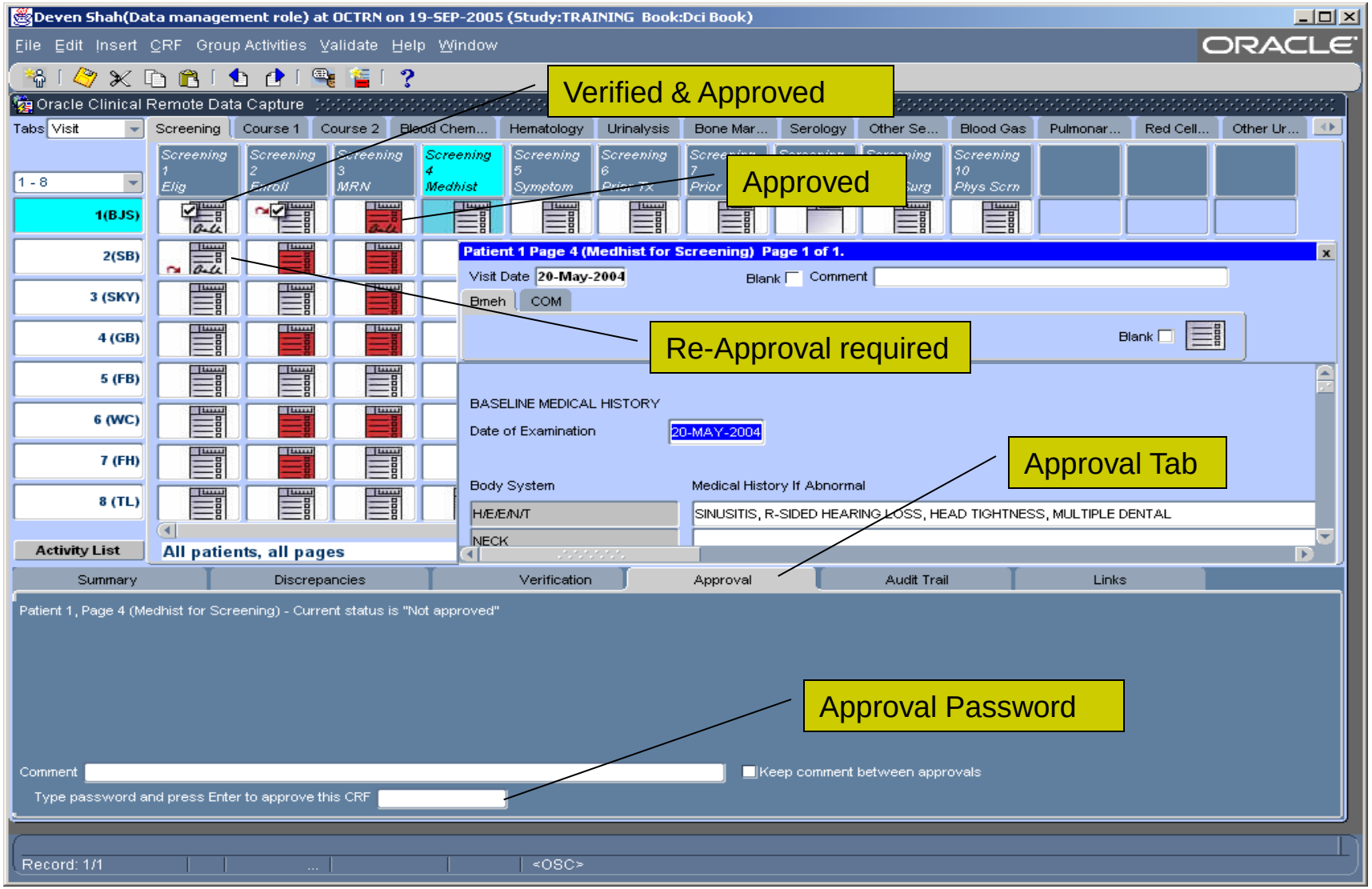
# Verification



# Verification



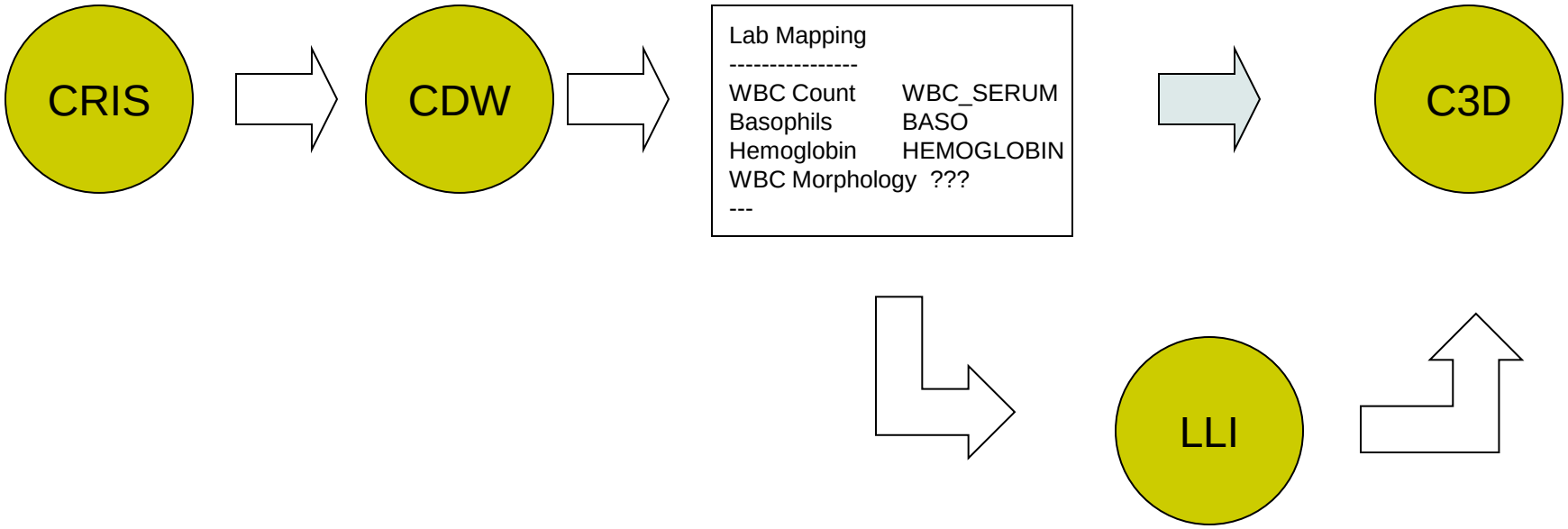
# Approval


Deven Shah(Data management role) at OCTRN on 19-SEP-2005 (Study:TRAINING Book:Dci Book)
File Edit Insert CRF Group Activities Validate Help Window
ORACLE
Oracle Clinical Remote Data Capture
Verified & Approved
Approved
Re-Approval required
Approval Tab
Approval Password
Tabs Visit
Screening
Course 1
Course 2
Blood Chem...
Hematology
Urinalysis
Bone Mar...
Serology
Other Se...
Blood Gas
Pulmonar...
Red Cell...
Other Ur...
Screening 1 Elig
Screening 2 Enroll
Screening 3 MRN
Screening 4 Medhist
Screening 5 Symptom
Screening 6 Prior Tx
Screening 7 Prior
Screening 10 Phys Scrn
1 - 8
1(BJS)
2(SB)
3 (SKY)
4 (GB)
5 (FB)
6 (WC)
7 (FH)
8 (TL)
Activity List
All patients, all pages
Patient 1 Page 4 (Medhist for Screening) Page 1 of 1.
Visit Date 20-May-2004
Blank
Comment
Bmeh
COM
Blank
BASELINE MEDICAL HISTORY
Date of Examination
20-MAY-2004
Body System
Medical History If Abnormal
H/E/E/N/T
SINUSITIS, R-SIDED HEARING LOSS, HEAD TIGHTNESS, MULTIPLE DENTAL
NECK
Summary
Discrepancies
Verification
Approval
Audit Trail
Links
Patient 1, Page 4 (Medhist for Screening) - Current status is "Not approved"
Comment
Keep comment between approvals
Type password and press Enter to approve this CRF
Record: 1/1
<OSC>

# Approval

- Each eCRF can be approved by providing the C3D Password on the Approval Tab
- Approved eCRF Icon has a Signature
- Editing an approved eCRF changes its icon to a Re-Approve status
- Edited eCRF can be re-approved
- eCRF Approval Change History is maintained in the Approval Tab

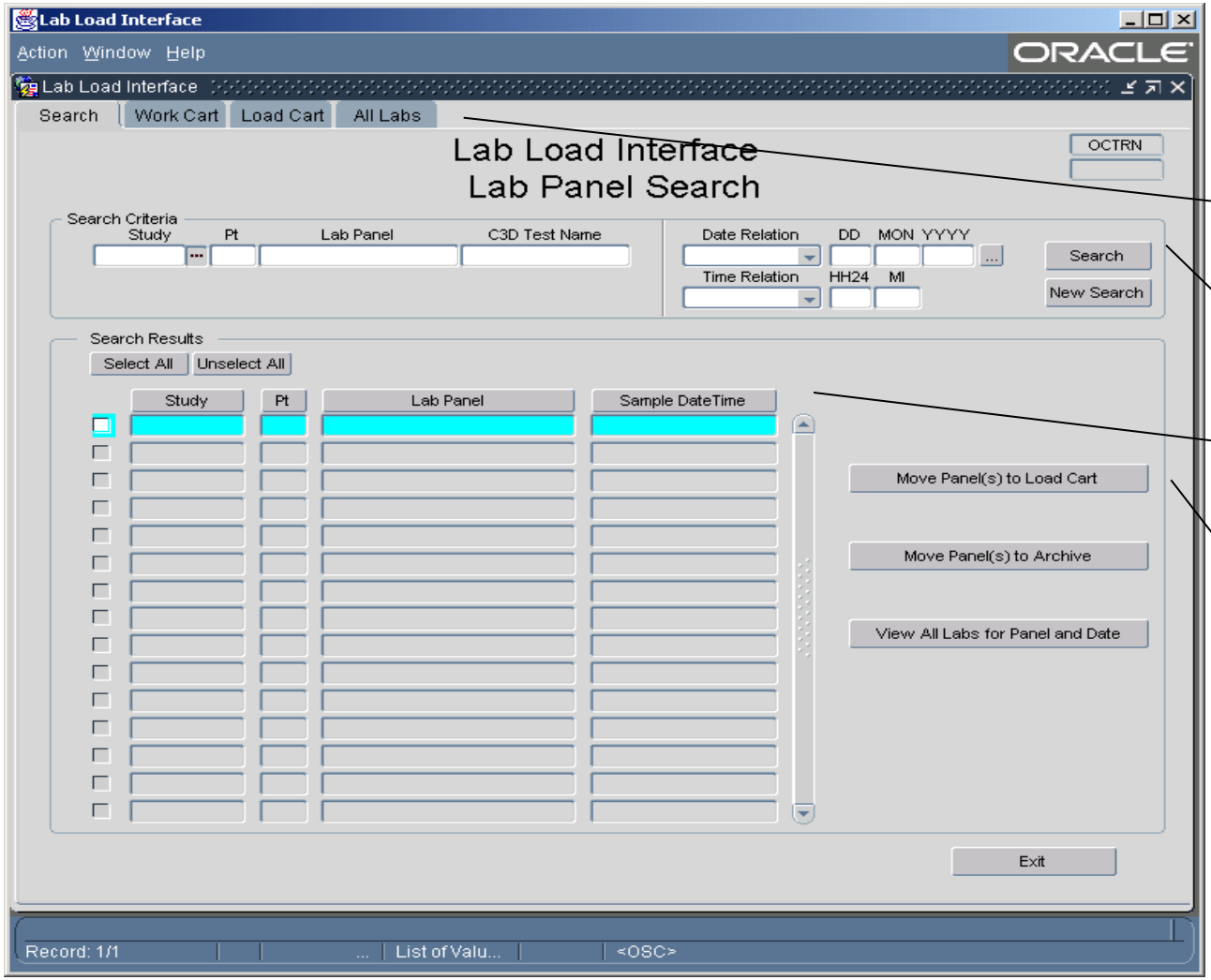
# CRIS to C3D Lab Data Flow



# What is LLI?

- LLI is a utility to review and identify specific Lab Test Results to be downloaded from the CRIS/CDW into C3D
- URL: http://octrials.nci.nih.gov/opa45/labloadinter.htm
- Username & Password are same as C3D

# LLI Search Screen



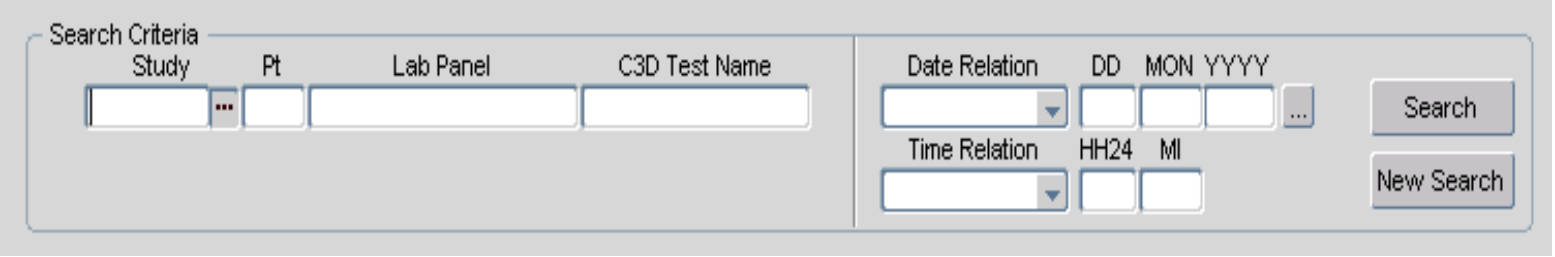

Workflow

Search Criteria

Selected Panels

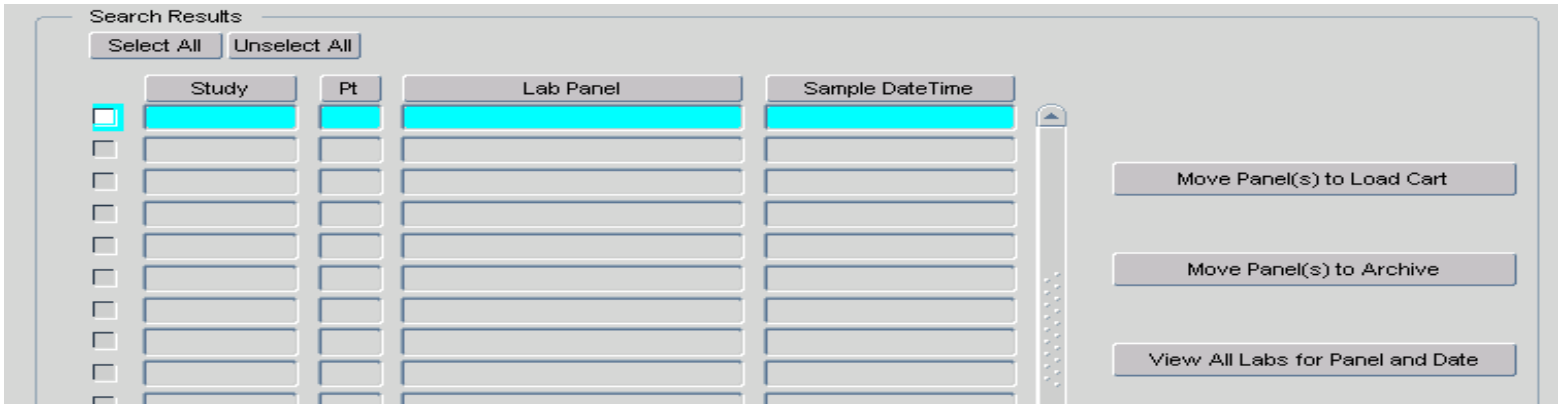
Action Buttons

# LLI Search Criteria



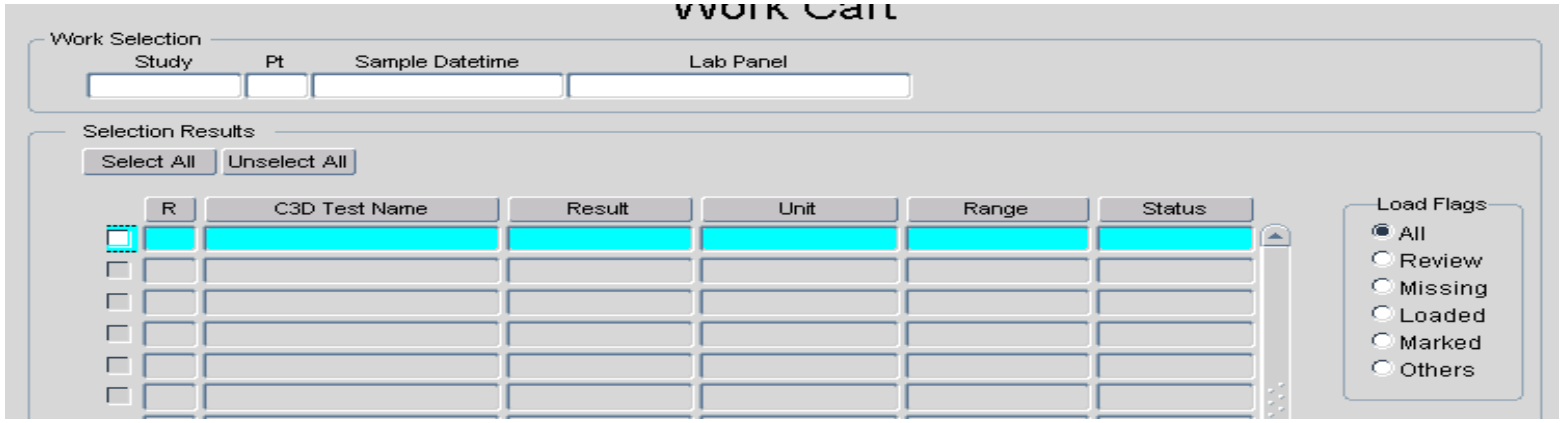

- **Searching**
  - Can search by Study, Patient Number, Lab Panel, OC Lab Question, Date and/or Time
    - Each search field contains Pick List.
    - Date and Time allows the '%' wild card
    - Date and Time provide the additional option of:
      - "On or Before", "On or After" and "LIKE" comparisons
      - Partial dates can be entered as %NOV%

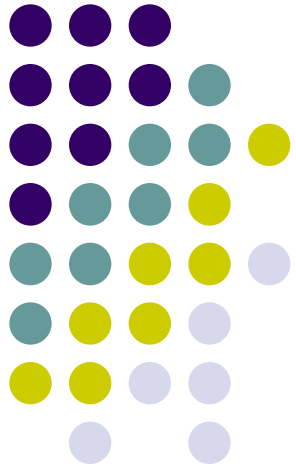
# LLI Search Screen Results




- **Search Results**
  - The result set lists Lab Panels that have at least one lab test available for loading that meet the criteria entered into the search fields.
  - The sort order can be changed using the column headings.
  - Results can be selected/deselected for processing by using the individual select check box or Select Buttons.
  - Entire panels of lab tests can then be moved to the Load Cart or Marked for Archive.
  - Clicking “View All…” button or by double clicking the record presents the Work Cart with specific Lab Test Results for that panel.

# LLI Work Cart




- **Work Cart**
  - Shows Entire Panel, including previously loaded and missing Lab Tests
  - The list can be filtered using the “Load Flag” radio buttons.
  - Sort by Lab Test Panel Order (R), Test Name, Results, etc.
  - Results can be selected/deselected for processing by using the individual select check box or Select Buttons.
  - Once selected, the lab tests can be moved to the Load Cart or Archived

# Question & Answer