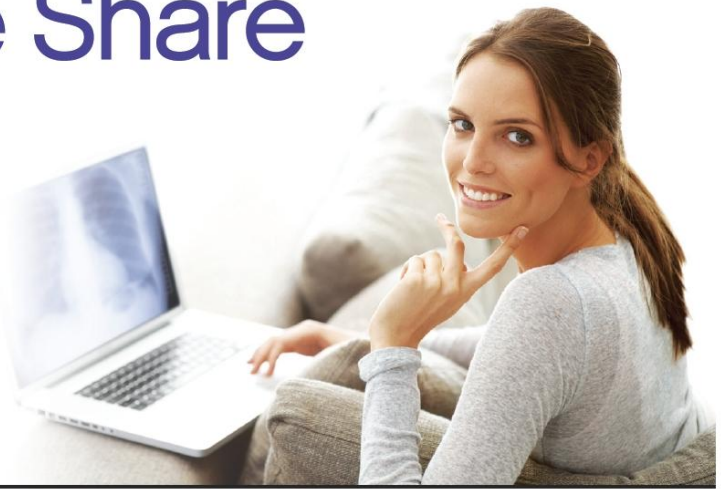# RSNA® Image Share

Letting patients
take control of their
medical images

Quick Start
User Guide

Version 3.0

Contents

1. Introduction: RSNA Image Share Network

The RSNA Image Share Network (ISN) is a pilot project involving radiology sites and patients across the US, made possible by funding from the National Institute of Biomedical Imaging and Bioengineering. The goal of the project is to enable sharing of medical images under patient control.

Radiology sites connect to the ISN using a device called the Edge Server. The Edge Server collects reports and accesses images from the site's radiology systems and lets site staff select a patient's studies and send them to the ISN. They are stored on a central document registry/repository called the Image Clearinghouse. The patient is provided with a security token she can use to retrieve her information into her account on one of the personal health record (PHR) systems participating in the project.

This document is intended to provide guidance to users of the Edge Server, typically radiology support staff at participating sites. A general description of the structure and function of the ISN is provided in ***Image Share Network Overview v3.0***. Detailed instructions installing and administering the Edge Server is available in ***Image Share Network Edge Server Installation and Administration v3.0***.

2. The Edge Server Web UI

The Edge Server web user interface provides both clinical and administrative functions. It is used to set up the DICOM devices that the Edge Server will use as sources for clinical studies, it is used to create and manage users, and it is used to create and track studies that are sent for clinical purposes. Administrative functions are documented in *__RSNA Image Share Network Edge Server Installation and Administration v3.0__*.

2.1 Normal Use

The Edge Server user interface (at URL http://localhost:3000 if you are the machine where the software is hosted**,** http://edge-hostname-or-ip:3000/ if you are on a remote machine) initially brings you to a standard login prompt.
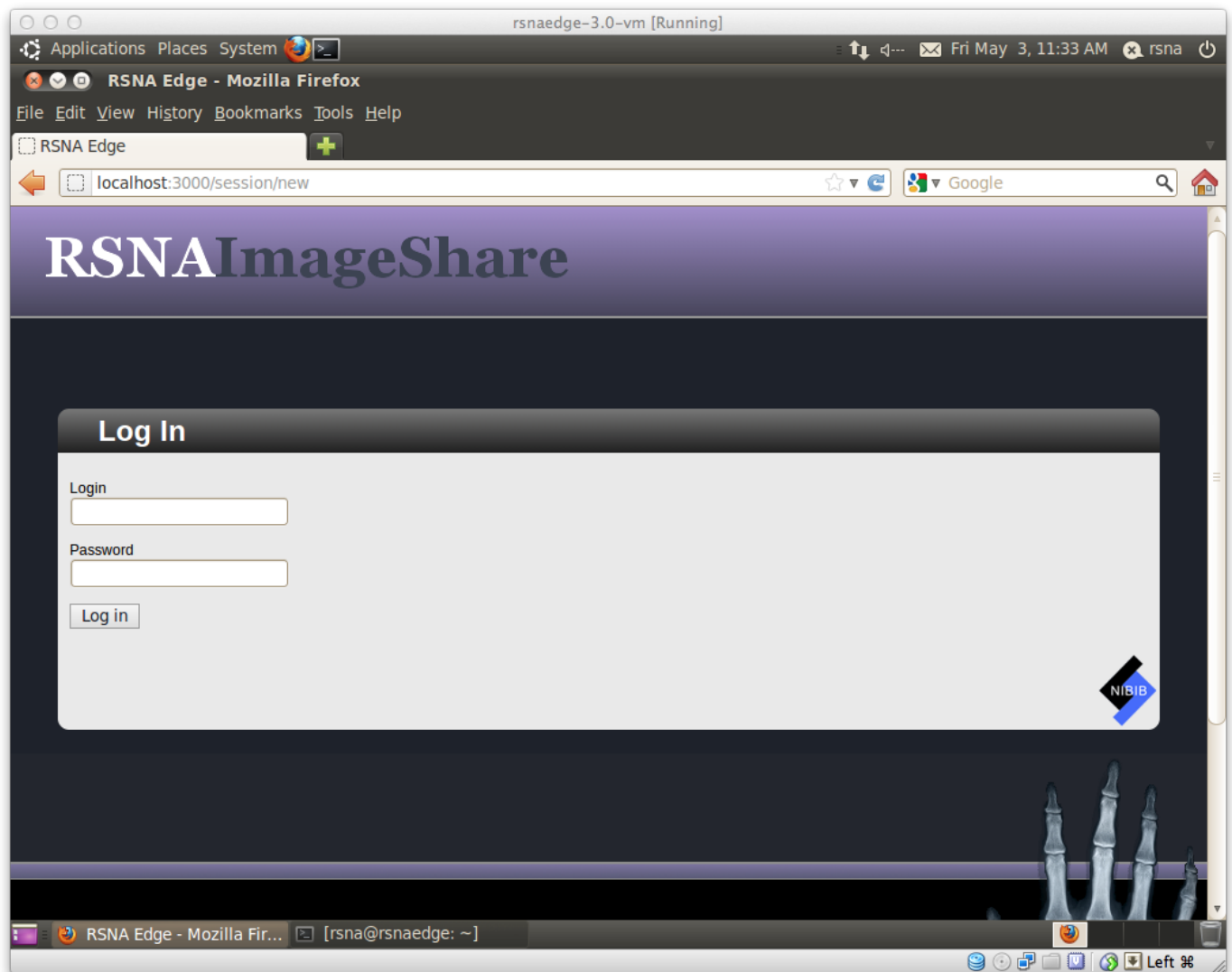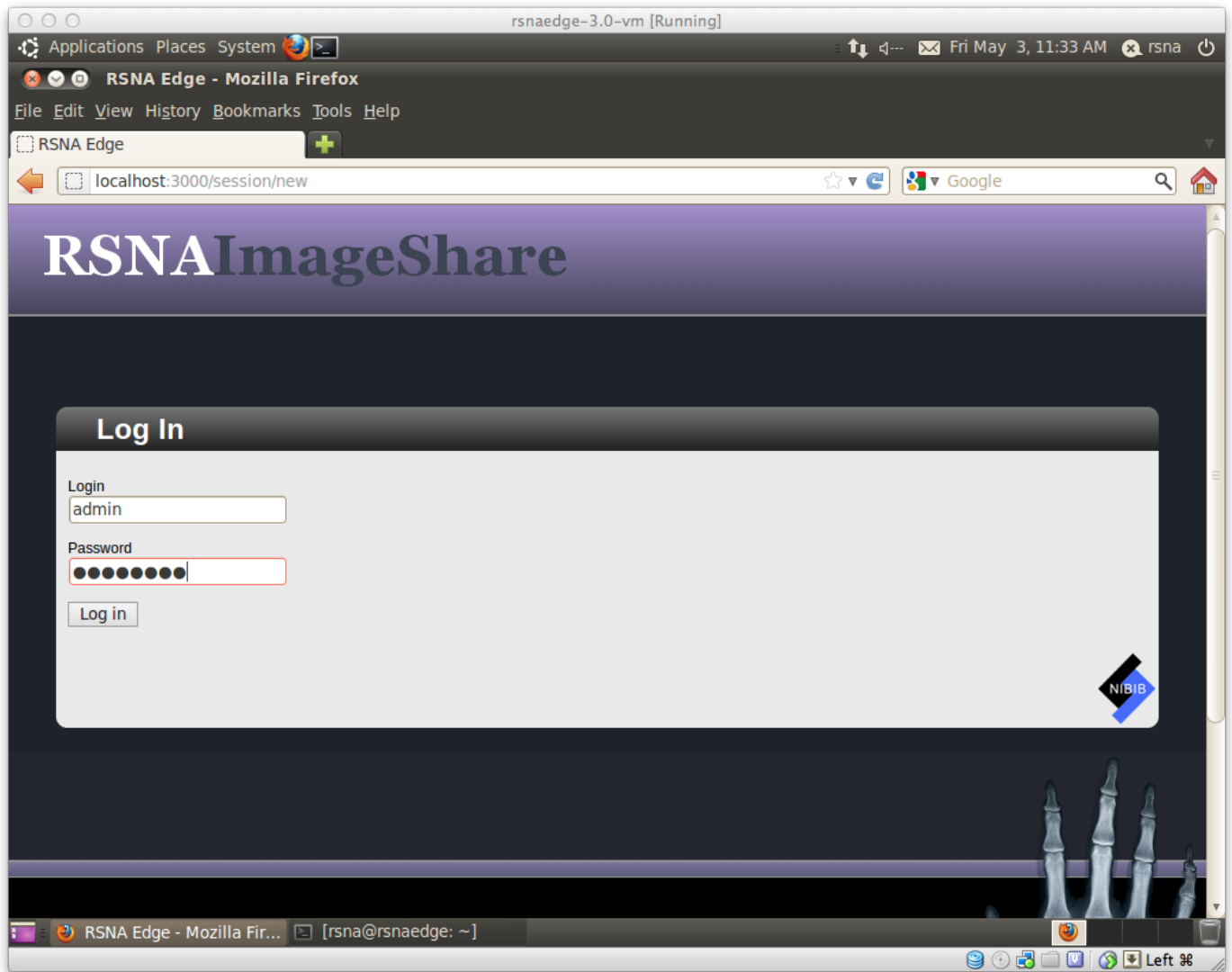
Figure 2-1: Login Screen

Figure 2-2: Login Information Entered

Search for a patient under the Clinical interface tab by clicking the "Patient Search" button. You can search on patient name or MRN. There is also an Advanced Search link you can use to search on more detailed criteria.
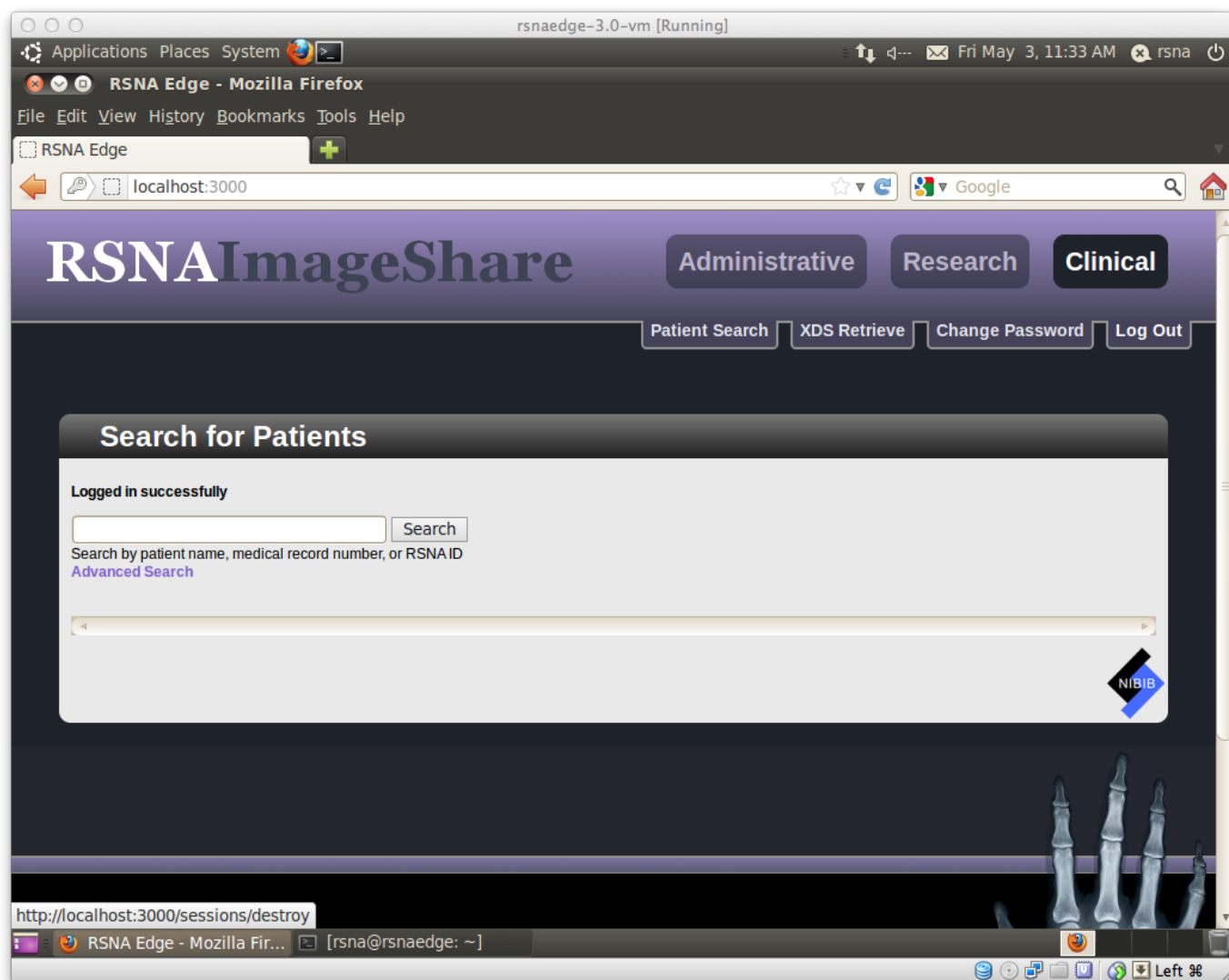
Figure 2-3: Patient Search

Once you search for a patient, matching results are presented and you can choose the one(s) relevant to the patient. Clicking the "Select" button prompts for a patient confirmation and consent acknowledgement. After the confirmation is acknowledged, a list of the selected patients exams are presented. These exams are added to a "shopping-cart" style interface.
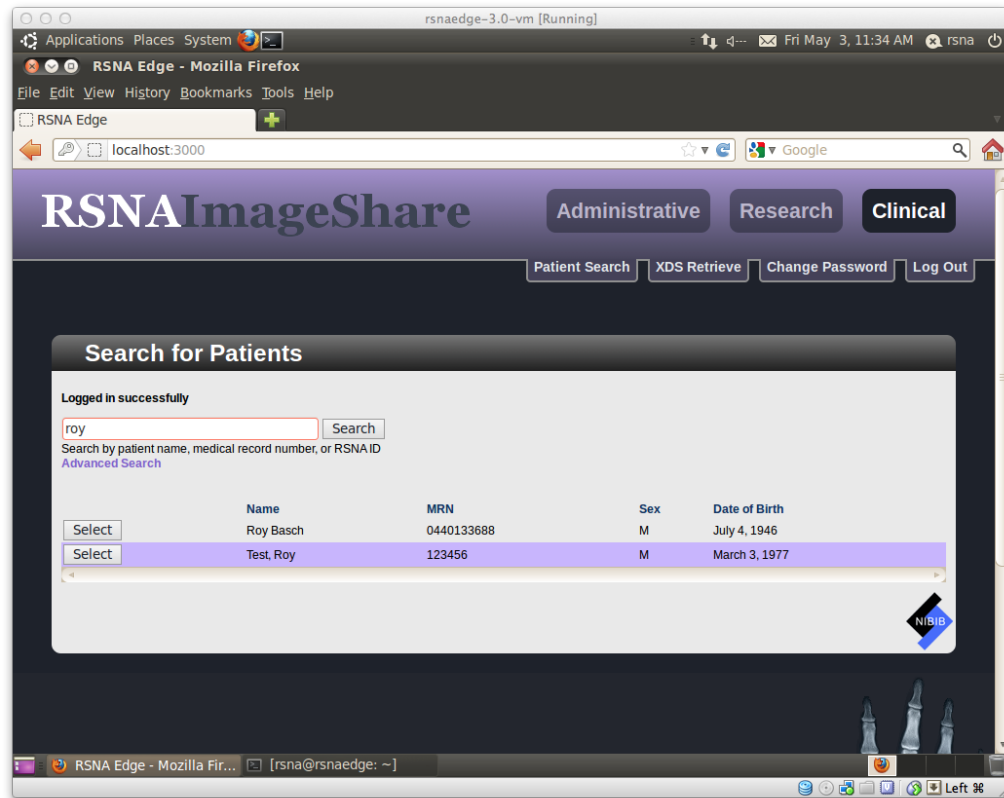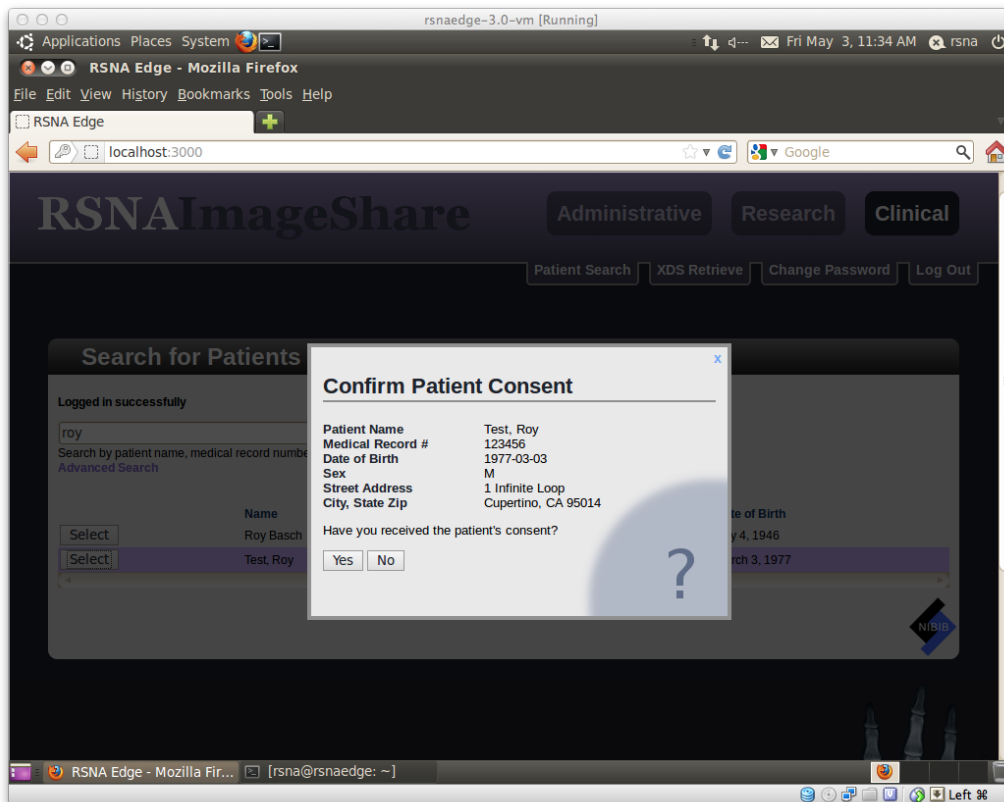
Figure 2-4: Search Results

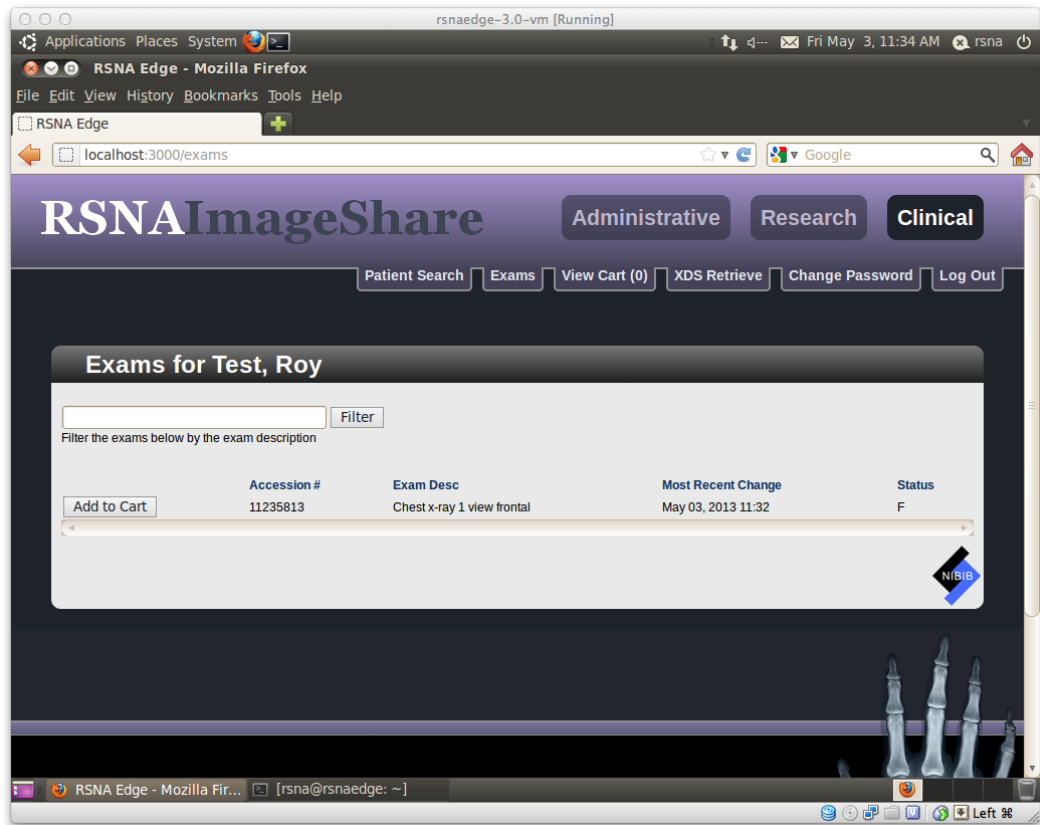**Figure 2-5: Patient Confirmation and Consent Acknowledgment**

Figure 2-6: Exam Selection
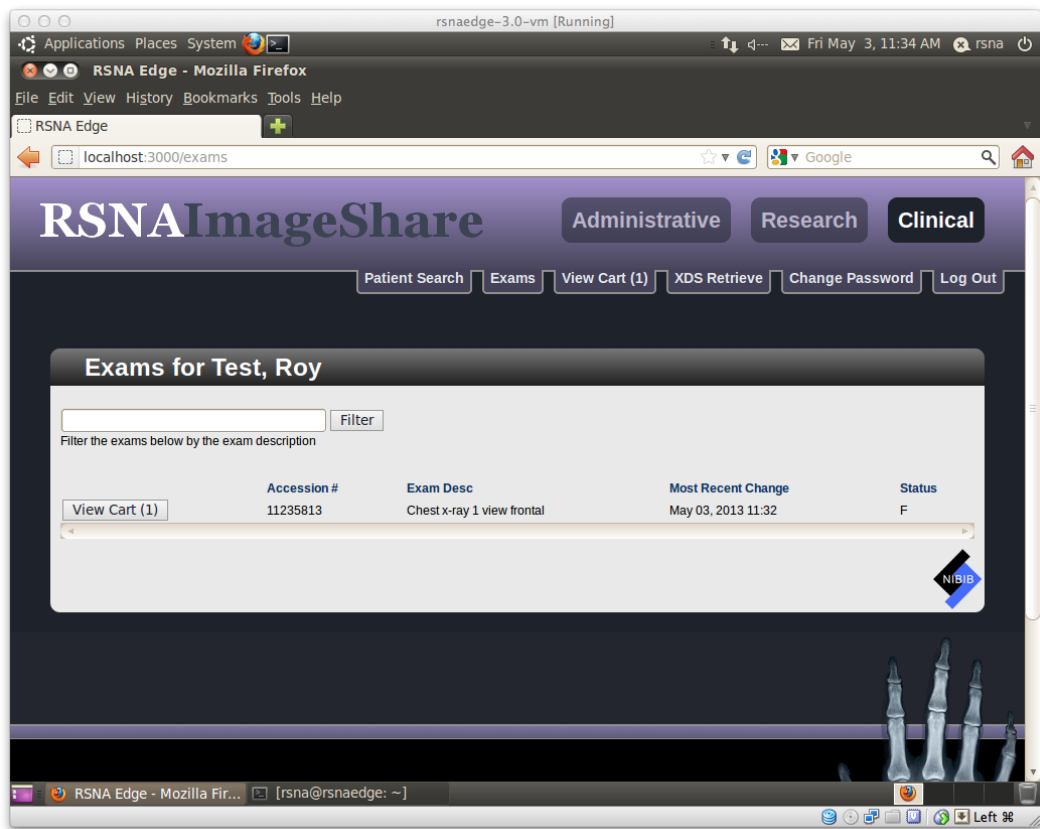
Figure 2-7: Selected Exams in the Cart

Clicking the "Send Cart" button will prompt you to create a password (let patients pick something they will remember) and enter the patient's email address. The system generates a unique eight-character Exam ID. After creation, the job is put in the queue and the user is prompted to print the Exam ID for the patient. **Please note that pop-up blockers are popular in modern browsers and an exception will need to be made to allow the PDF printout to appear.**

Figure 2-8: Sending Cart

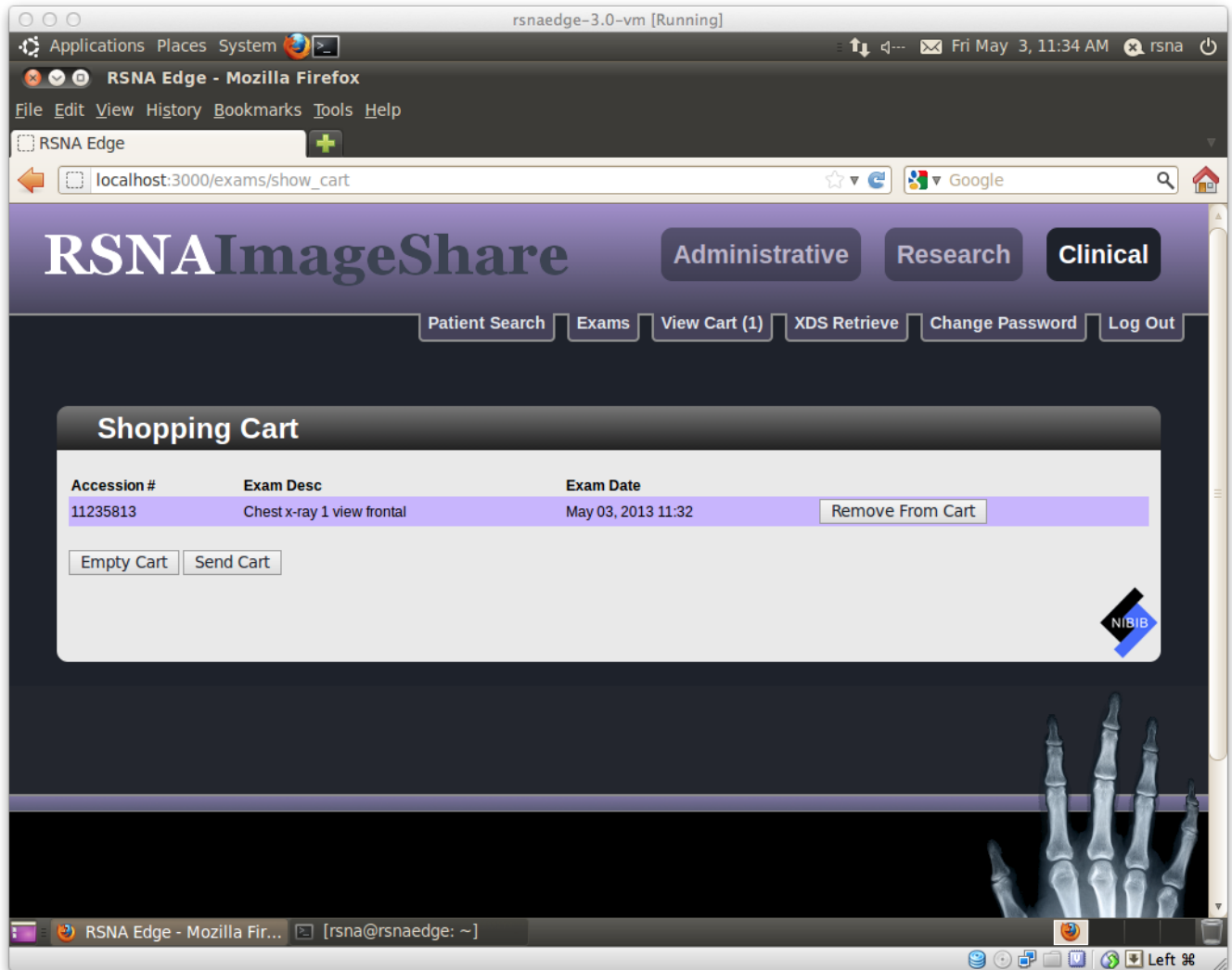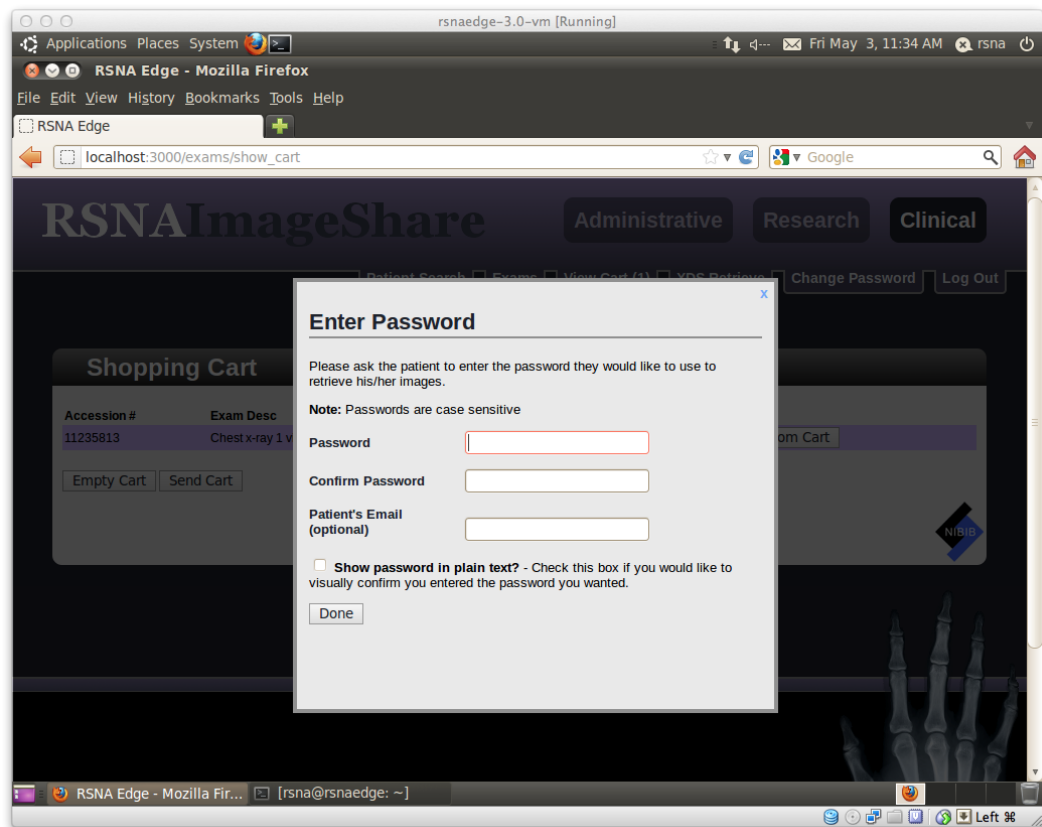**Figure 2-9: Creating the Exam ID**
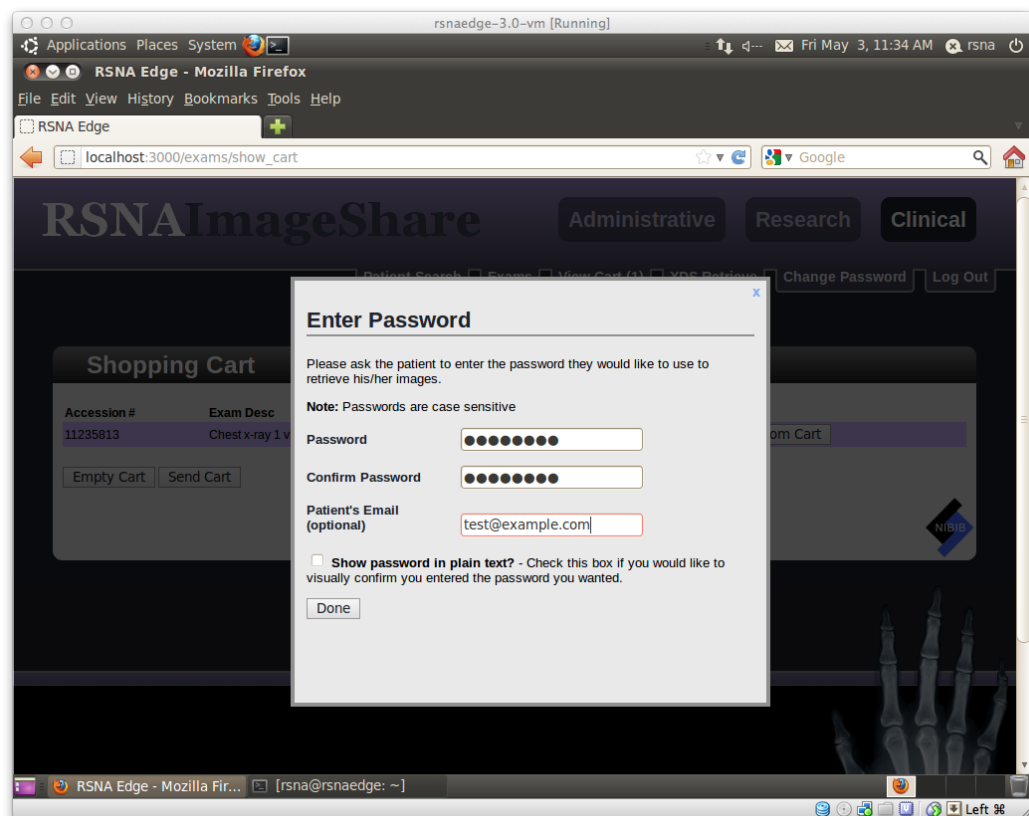
Figure 2-10: Exam ID Credentials Entered
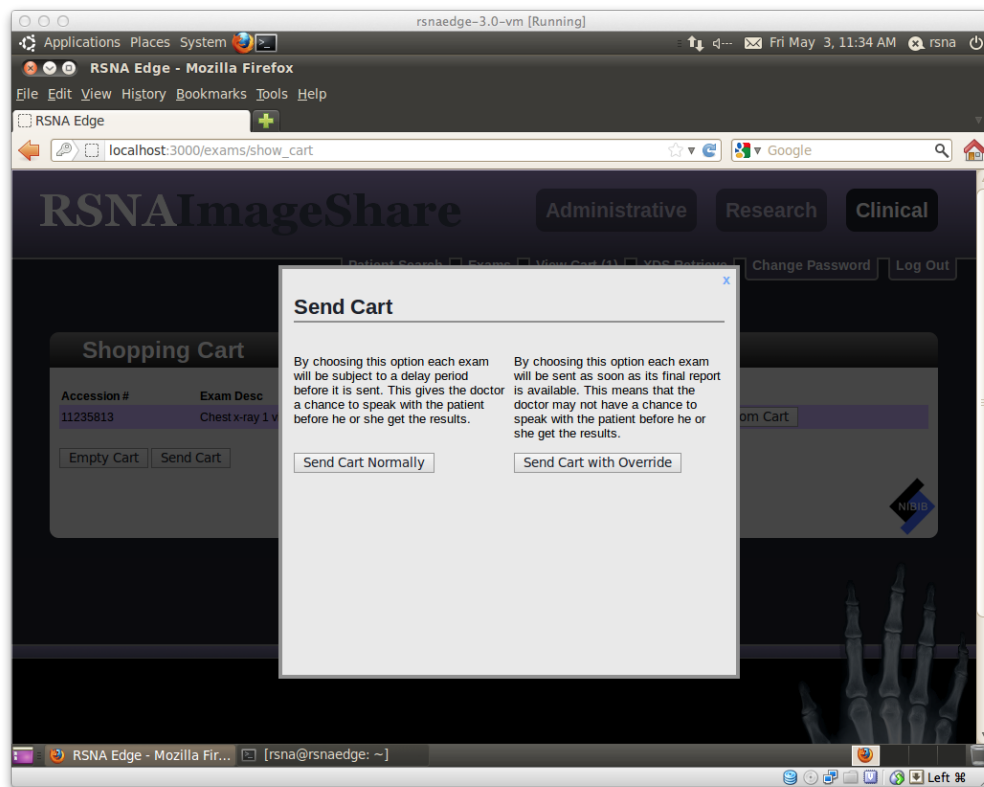
Figure 2-11: Option to override send delay
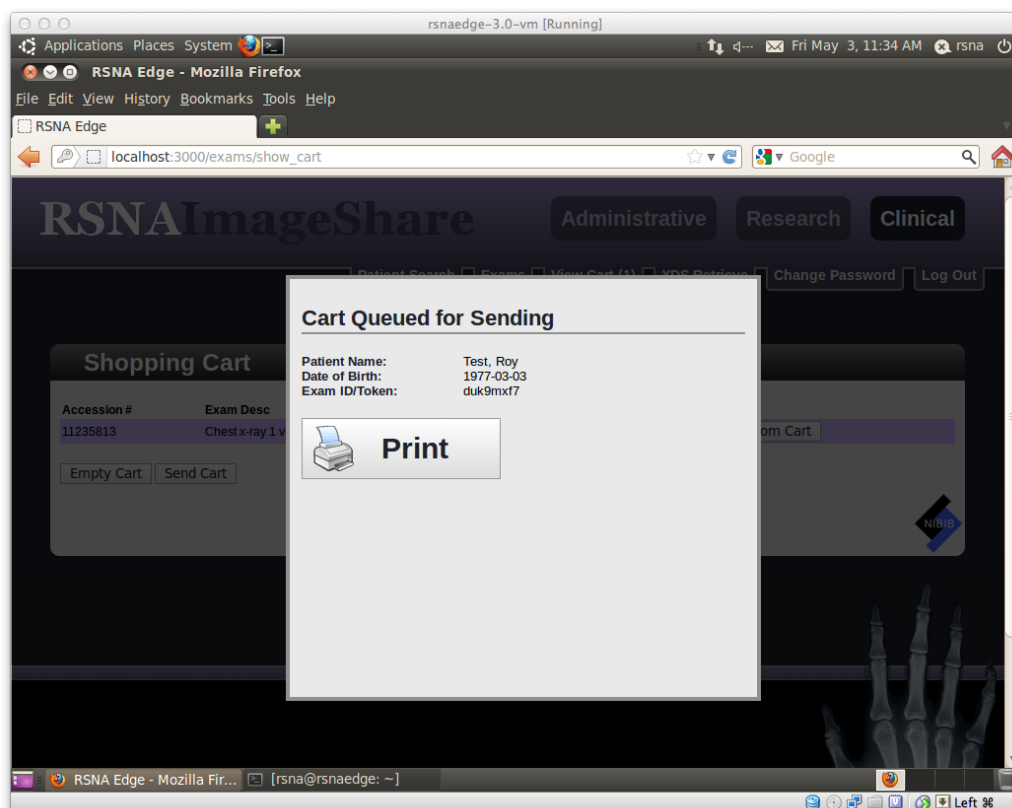
Figure 2-12: Exam Queued to be Sent, Print Dialog Prompt for Exam ID

Patient Name: Test, Roy
Date of Birth: 1977-03-03
Exam ID/Token: duk9mxf7
Password/PIN:

To help you remember it later, write your Password/PIN on the line above (remember it is case-sensitive). Keep this information private to protect the security of your health record. Use this information to retrieve your images into your account on one of the personal health record systems participating in the RSNA Image Share network. Radiology department staff can provide you with printed information on creating and accessing an account.

Figure 2-13: Sample Exam ID PDF print out

3. Retrieve Content and Research Sending Applications

Version 3.0 of the RSNA Edge Server replaces the V2.1 Retrieve Content Application with a new component that is integrated in the the Edge Server web administrati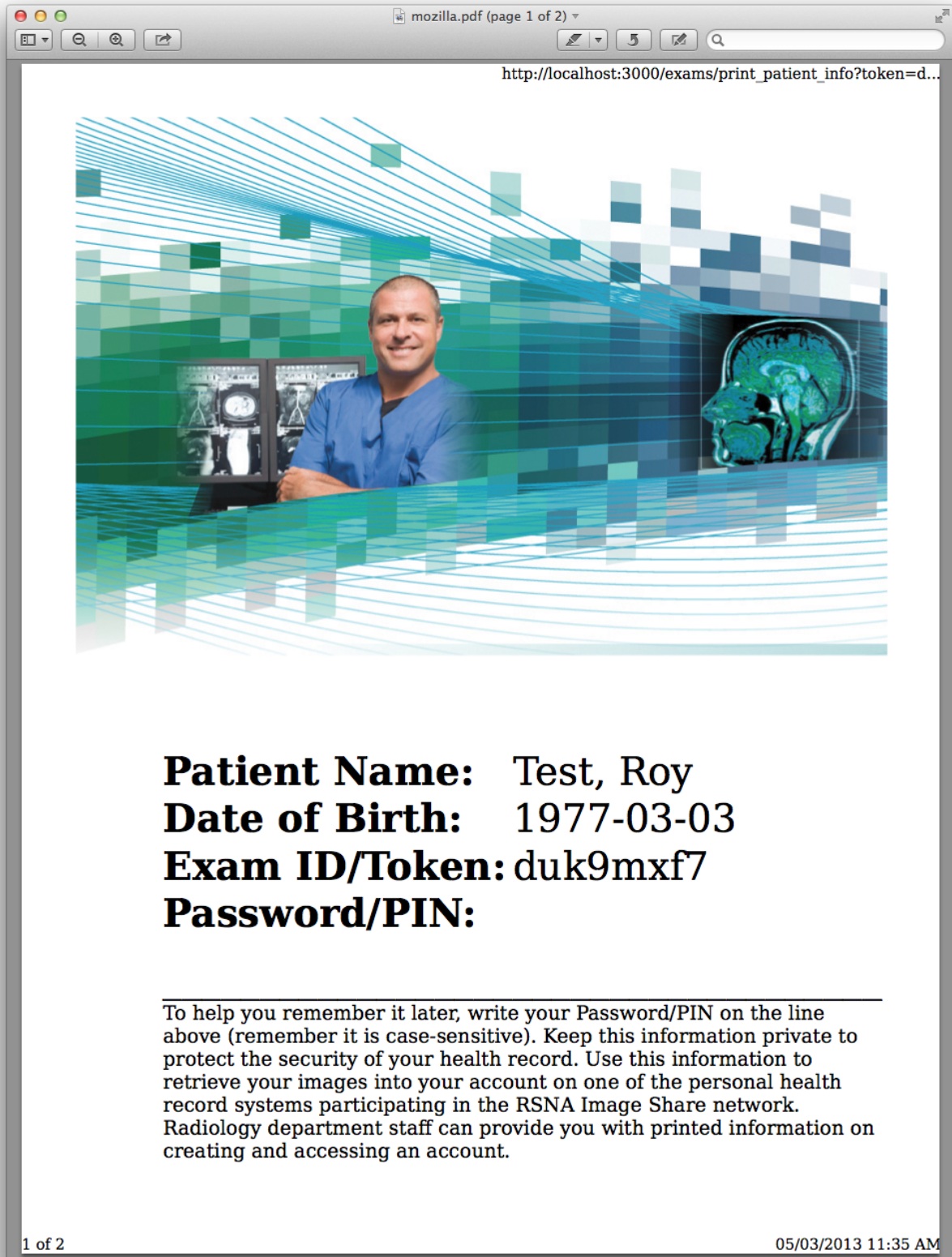on interface. This new component (CTP for Clinical Trials Processor) enables retrieval of studies that have been previously sent to the RSNA Image Clearinghouse [https://clearinghouse.lifeimage.com], enabling transfer of cases from site to site without going through a patient's Personal Health Record account. This uses the same security model as the PHR- that is the patient must provide the same security token and password at a participating site to enable this transfer.

In addition to retrieving PHI studies that have been sent the "normal way" to the Image Clearinghouse, the CTP module allows sending/receiving anonymized patient studies for research purposes. Figure 3.0 shows how this is accomplished.
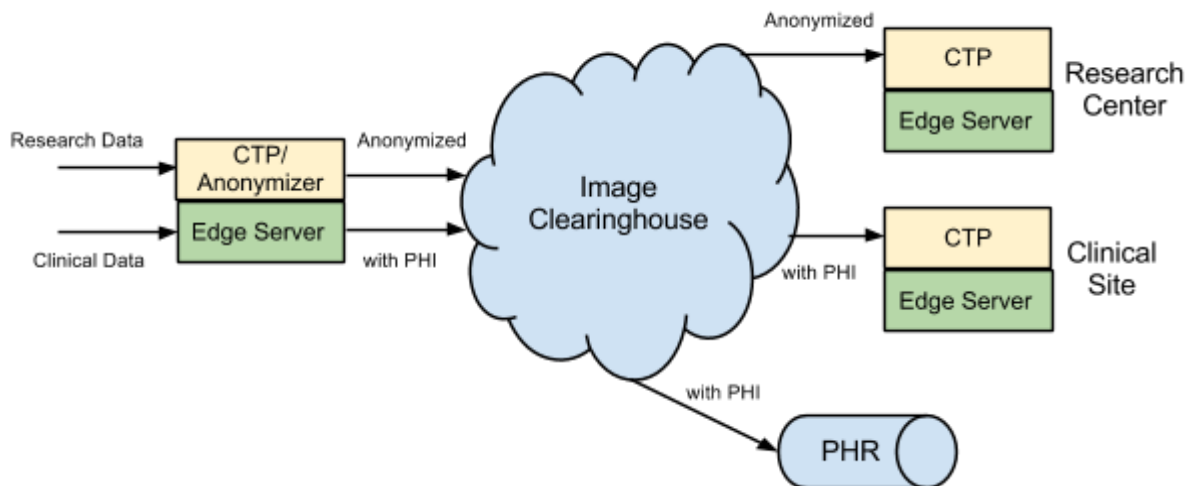

Figure 3.0 Conceptual relationship of CTP and the Edge Server. All data is encrypted in tranmission and storage. Personal Health Information (PHI) is maintained in data sent via the Edge Server for clinical care. Anonymized data for research purposes is sent via CTP.

3.1 Using the CTP Content Retrieval Application

In this versions (V3.0) of the Edge Server, the CTP application has been integrated to the Edge Server to support retrieval of research and/or clinical exams from the Image Clearinghouse.

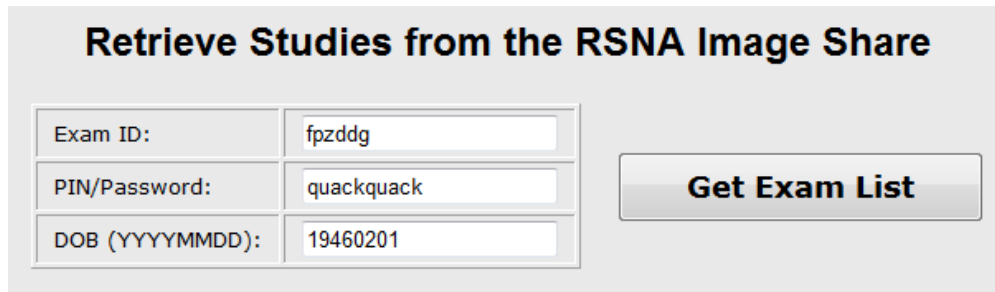### 3.1.1 Configuring the CTP Content Retrieval Application

Clinical Trials Processor, or CTP, is a stand-alone program that provides processing features for sending images to research clinical trials and for retrieving research image data and clinical imaging studies. CTP works in tandem with the Edge Server to address these use cases. Detailed information on

how to configure CTP for use in the Image Share network is available (on the RSNA Medical Imaging Resource Center [MIRC] wiki site) here:
http://mircwiki.rsna.org/index.php?title=CTP_Configuration_for_the_Image_Sharing_Project

3.1.2 Running the CTP Content Retrieval Application

To enter the content retrieval pane, click the "Clinical Button" as necessary followed by the "XDS Import" tab. [**Note: For this to work the user accounts created for the Edge Server must be synchronized to the same account names and passwords on the CTP instance. See the CTP Wiki for managing user accounts/passwords.]** The contents of the tab will appear as shown in Figure 3.1.2-1 below. Enter text in the three fields and click the Get Exam List button.

Figure 3.1.2-1 Enter Exam Search Parameters

After the Get Exam List button is clicked, the system will query the RSNA Image Share for all exams that match the specified text. When it receives the list of matching exams, the pane will update as shown in Figure 3.1.2-2 below.

Figure 3.1.2-2 Select Exams for Retrieval

When the available exams have been listed, select the checkboxes of the desired exams and then click the Get Exams button. The selected exams will be retrieved from the RSNA Image Share and processed as defined in the system configuration. This may, for example, flow the images to a workstation or a PACS.

3.1.3 Using the Research Sending Application

Another facet of the CTP tool is that it can be used to anonymize exams that are to be used in a research study. Such exams will all be sent to the Image Clearinghouse under a Token/Password Combination agreed to by the parties in that collaboration, allowing the receiving site to obtain the exams via the methods of section 3.1.2.

To enter the research sender pane, click the "Clinical Button" as necessary followed by the "XDS Export" tab. **Note: For this to work the user accounts created for the Edge Server must be synchronized to the same account names and passwords on the CTP instance. See the CTP Wiki for managing user accounts/passwords.]** The contents of the tab will appear as shown in Figure 3.1.3-1 below. Enter text in the three fields and click the Get Exam List button.

Send Studies to the RSNA Image Share

Select a destination: [▼]

Select	Patient ID	Patient Name	Study Date	Study	Study Size	Status
☐	23456	JETSON,GEORGE	2005.07.23	Head^04_CORONAL_SINUSES (Adult)	10	OPEN

Send

Study status values:

- OPEN: An object has been received for the study in the last five minutes.
- COMPLETE: An object has not been received for the study in the last five minutes.
- QUEUED: The study has been entered into the export queue, but transmission has not yet started.
- INTRANSIT: The study is actively being transmitted.
- SUCCESS: The transmission completed and was successful.
- FAILED: The transmission failed.

Figure 3.1.3-1

Select a destination in the drop-down list, check the boxes of the studies to be transmitted, and then click the Send button. The contents of the window will refresh as shown in figure 7.1.3-2:

Send Studies to the RSNA Image Share

Select a destination: [▼]

Select	Patient ID	Patient Name	Study Date	Study	Study Size	Status
☐	5400001	DBW-WHIMS-54	2005.12.25	MR	13	OPEN

Send

Sent Studies

Patient ID	Patient Name	Study Date	Study	Study Size	Files Sent	Destination	Status
23456	JETSON,GEORGE	2005.07.23	CT - HEAD	10	10	Trial T	SUCCESS

Study status values:

- OPEN: An object has been received for the study in the last five minutes.
- COMPLETE: An object has not been received for the study in the last five minutes.
- QUEUED: The study has been entered into the export queue, but transmission has not yet started.
- INTRANSIT: The study is actively being transmitted.
- SUCCESS: The transmission completed and was successful.
- FAILED: The transmission failed.

Figure 3.1.3-2

The Status field in the lower table will update periodically to indicate the progress of the transmission.