NICU oromotor database

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Table of contents

1   NICU Database Setup

NICU Database is coded by Visual Basic 6.0 and SQL (20,469 coding lines). It defines a series of tables that describe patient information like Patient background, Patient experiment trial records, Birth order, Race, Feeding mode, Medication description, ROP stage, Oxymetry history, State control, Ethnicity, Patient type, Delivery type, Neurological exam, Gag reflex, Pacifier size, etc. Please follow the steps shown below to install NICU database:

1.   Uninstall any previous installed versions of **NICU Database** using **Control Panel > Add/Remove Programs**.

2.   Install **NICU Database** by running setup.exe from the installation package.

3.   Copy "nicu.mdb" (MS Access database file) into folder – "C:\Program Files\NICU Database"

Note: Take a backup of MS Access database file "nicu.mdb" periodically. Nicu.mdb contains all the patient data.

2   User manual

To run **NICU Database**, double click on the program icon. The main program window should appear with a menu bar along the top. As shown in Figure 1, the menu bar has five active options including **Patient, Configuration, Reports, User,** and **Help.** There are seven options at the bottom of the window program including **View, Add, Modify, Delete, Search, Sort,** and **Refresh** as shown in Figure 1**.**
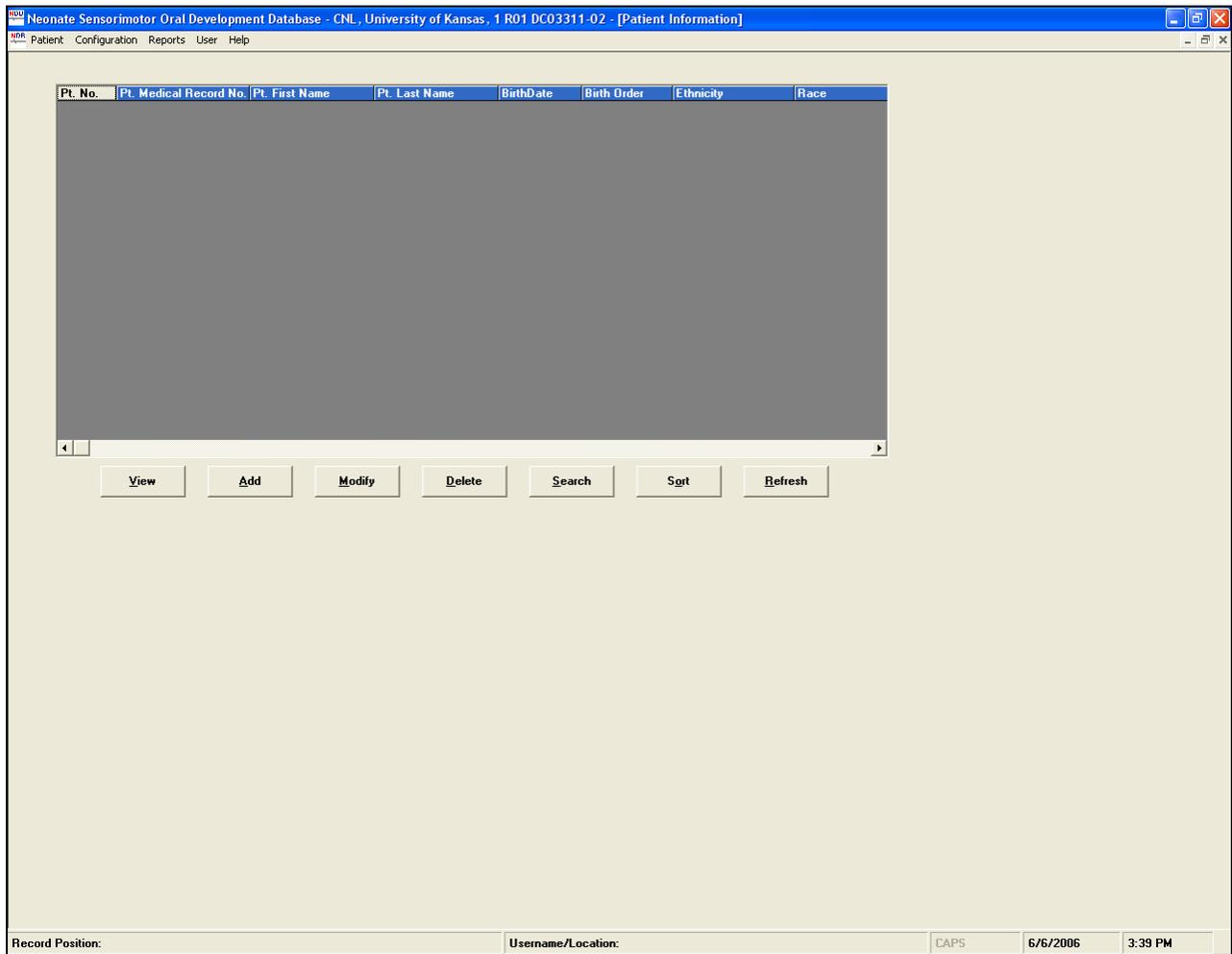
Figure 1. Main program window of the **NICU Database** user interface

2.1   Overview of menu bar options

Selecting the **<u>Patient</u>** allows the user with access to **Patient Info**, **Patient Test Info** submenus (see Figure 2). These two submenus enable user to view, add, and modify pertinent Patient information in two tables with different functionality.
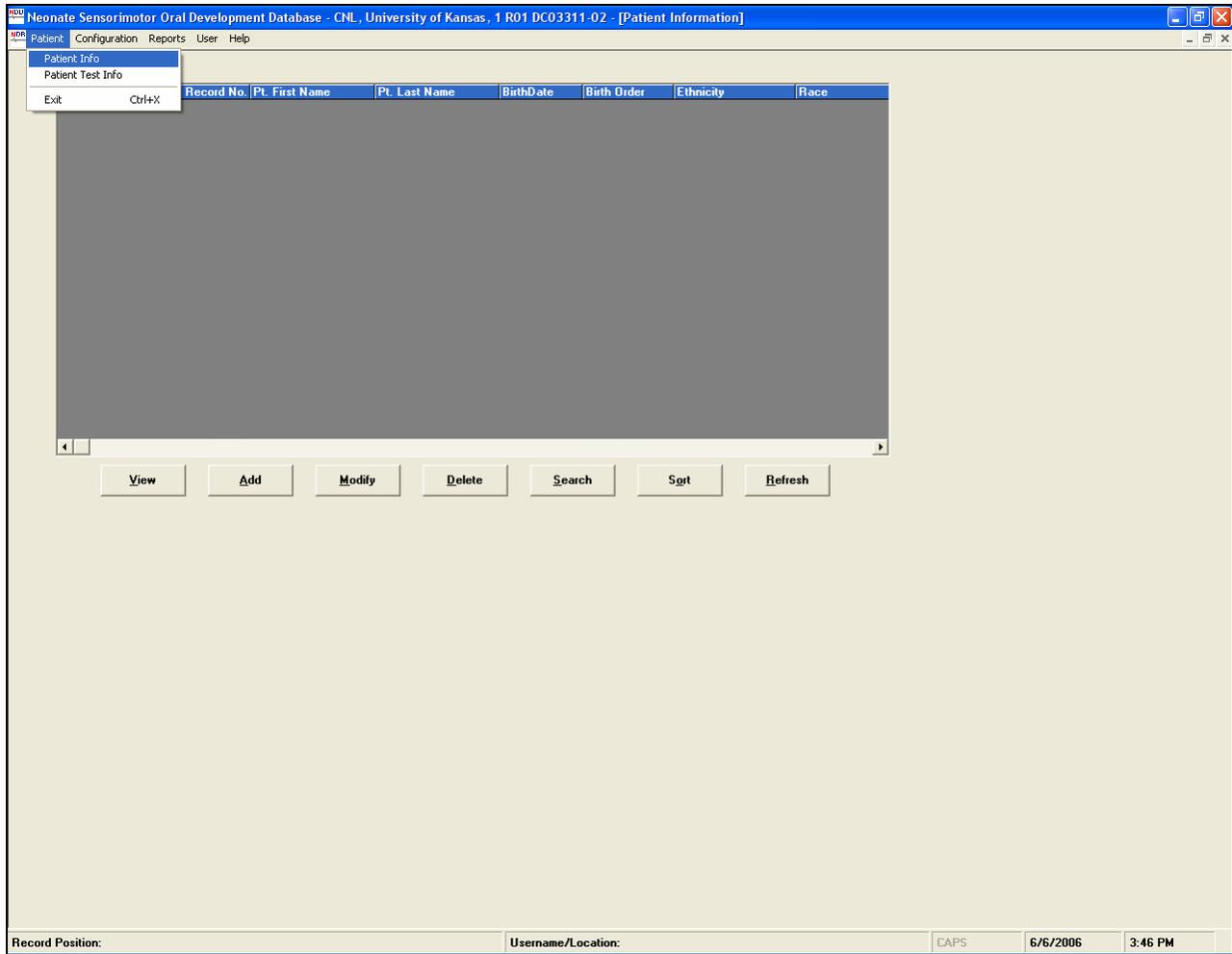
Figure 2. Main program window with the **<u>Patient</u>** menu options list displayed.

The submenu designated as **Configuration** contains **Status Info, Birth Order Info, Ethnicity Info, Race Info, Delivery Type, Patient Type, Feeding Mode Info, Medication Info, ROP Stage Info, Oxymetry Swallow Results Info, Oxymetry Swallow Indications Info, Neurologic Exam Info, Gag Reflex Info, State Control Info,** and **Pacifier Size Info** as shown in Figure 3.

Clicking on any of these submenus will enable a new table to popup, which allows the user to change or update the patient's information.
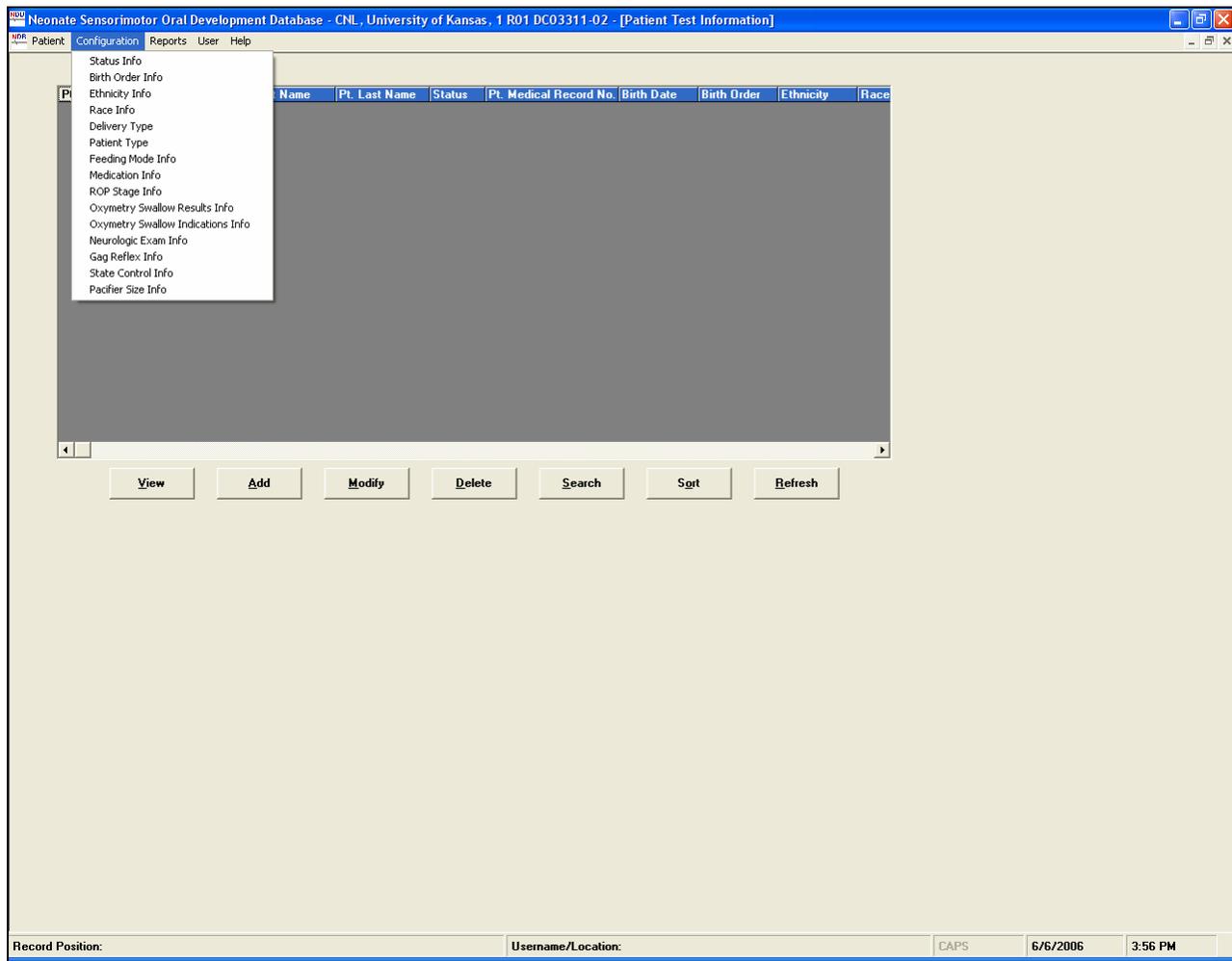
Figure 3. Main program window with the **Configuration** menu options list displayed

The **Reports** menu allows the user to generate a report of the cumulative distribution of patient race and ethnicity in separate files as shown in Figure 4. This is useful for completion of NIH minority/race inclusion reports for annual research progress reports.
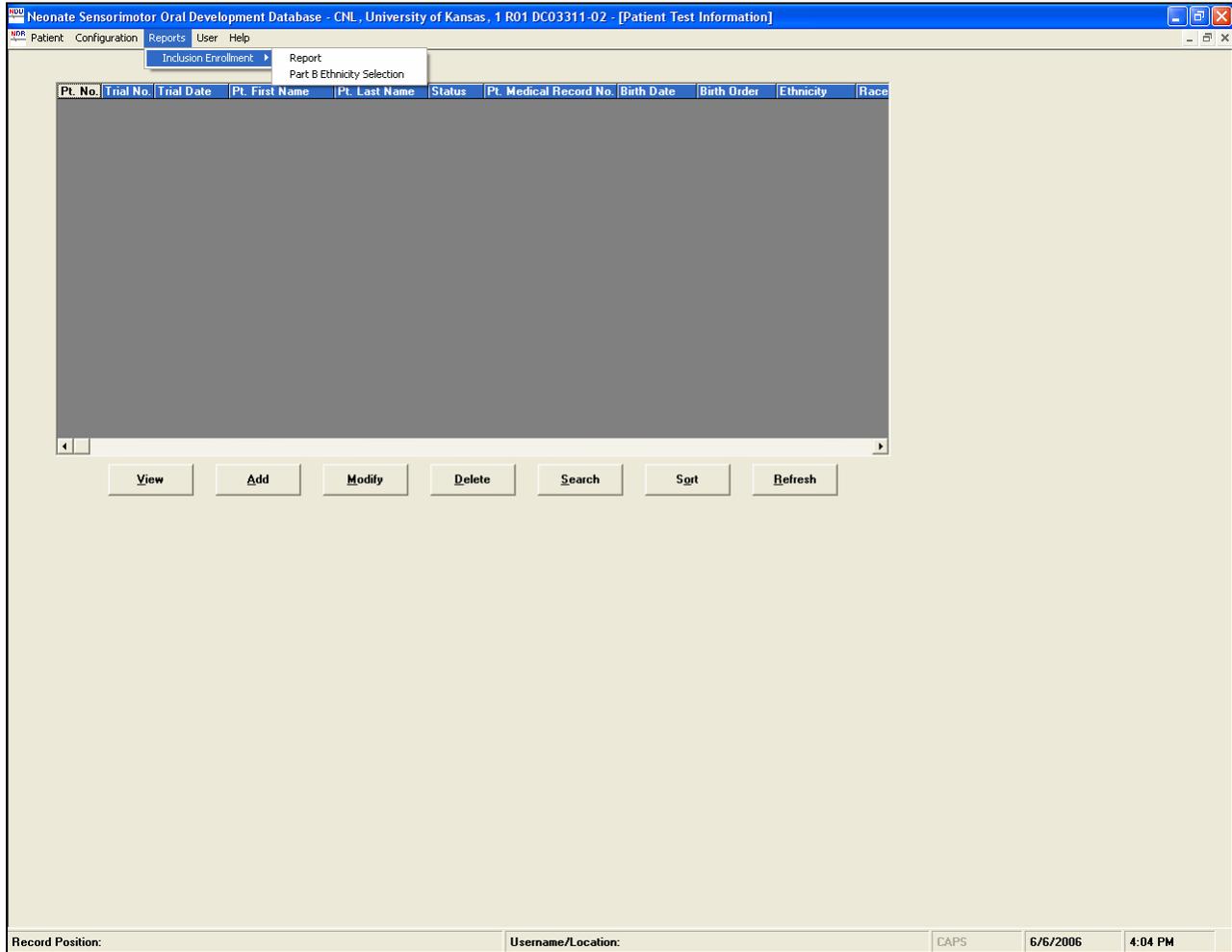
Figure 4. Main program window with the **Reports** menu options list displayed

The **User** submenu allows users to change the sites of data collections (refer Figure 5).
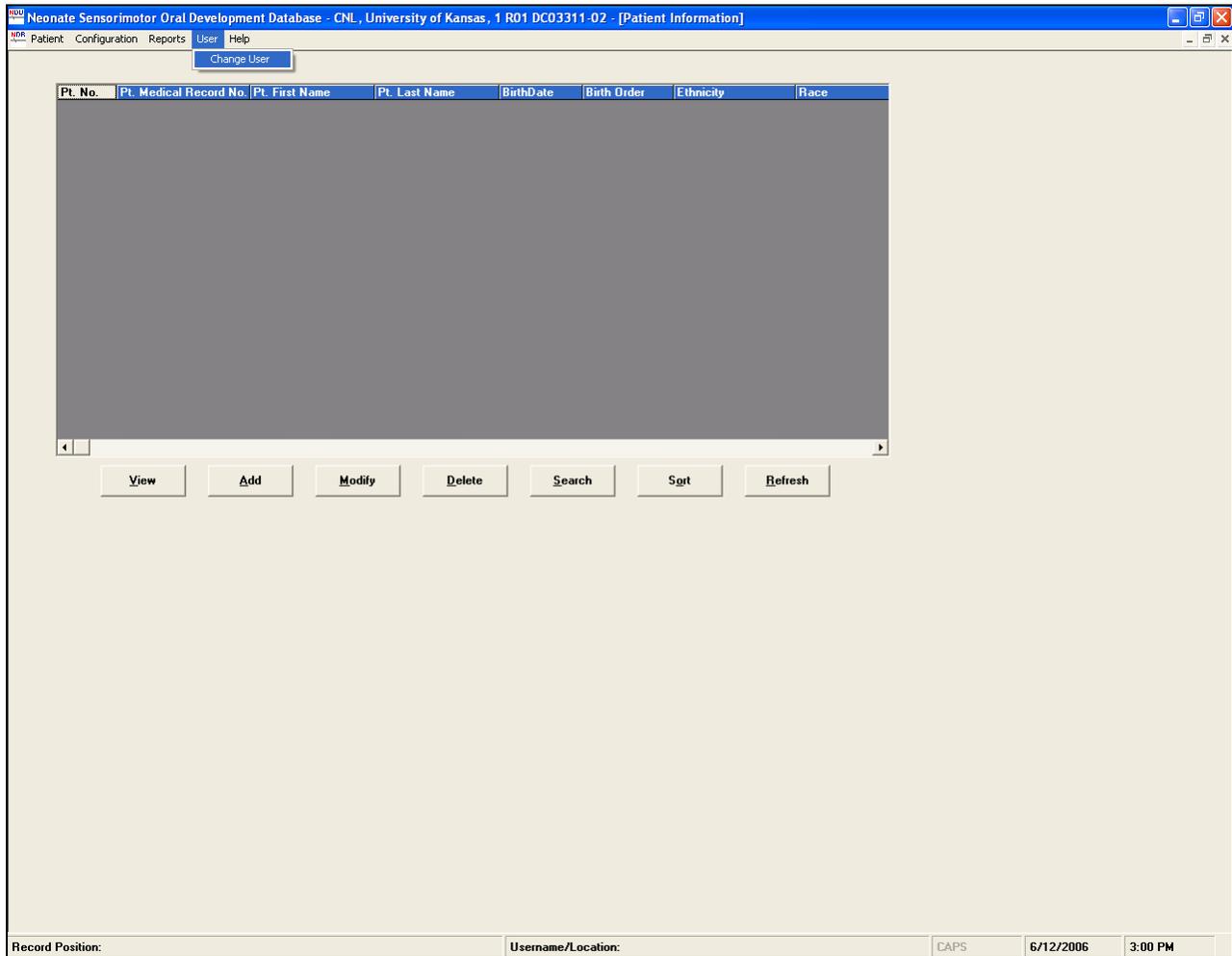
Figure 5. Main program window with the **User** menu option list displayed

2.2   Add new Patient in NICU database

In order to add new patient information, choose the **Patient → Patient Info**, and click the **Add** button (Figure 6). This permits the user to enter Patient information such as **Patient Number, Patient Medical Record, First Name, Last Name, Date of Birth, Birth Order, Ethnicity, Race, Gender, Patient Group,** and **Patient's Discharge Date.** Selecting **Save** will update the patient's information into the **NICU Database**.

Figure 6. Entering new patient's information

In **Patient → Patient Info,** there are some other buttons like **View**, **Modify**, **Delete**, etc. Clicking on those buttons will allow user to make changes for an individual patient in similar window as shown in Figure 6.

9

2.3 Add and modify medical information for existing patient

After setup and creation of the fundamental data file (outlined in section 2.2) for an individual patient, the **Patient Test Info** table will allow the user to view the patients' information database. The User can add or modify the patient's database by choosing **Modify** icon. This will allow the user to add new information to the patient's database as shown in Figure 7. Note that there are 7 pages tabs located along the top panel to allow the user to modify or add new information into the patient database. These are shown on the following panels.

1ˢᵗ page

2nd page

3rd page

Patient Configuration Reports User Help

| Page 1 | Page 2 | Page 3 | Page 4 | Page 5 | Page 6 | Page 7 |

MRI of head
Date
Add
○ Yes
Modify
◉ No
Delete

VP Shunt ○ Yes ◉ No

Mode of Feeding [5 ▾] NG/PO

Percent of feeding oral/by voulme [12.5]

Days of oral feedings prior to study [2]

Breast Milk ○ Yes ◉ No

Number of emesis/day in last 72 hours [0]

Scintiscan ○ Yes ◉ No

GER documented on scintiscan ○ Yes ◉ No

Delayed gastric emptying on scintiscan ○ Yes ◉ No

pH probe ○ Yes ◉ No

GER documented on pH probe ○ Yes ◉ No

Current Medications
| Medication |
| Caffeine |
Add
Delete

Past Medications
| Medication |
Add
Delete

NEC w/pneumotosis or surgery
Date
Add
○ Yes
Modify
◉ No
Delete

Blood Culture + Sepsis
Date
Add
○ Yes
Modify
◉ No
Delete

Save   Cancel

4ᵗʰ page

Patient Configuration Reports User Help

| Page 1 | Page 2 | Page 3 | Page 4 | Page 5 | Page 6 | Page 7 |

CSF culture positive meningitis
Date
Add
○ Yes
Modify
◉ No
Delete

ROP stage at last exam [1 ▾]

ROP zone at last exam [1 ▾]

ABR
Date
Add
○ Yes
Modify
◉ No
Delete

ABR Result [Pass ▾]

Oxymetry Swallow study
Date
Add
○ Yes
Modify
◉ No
Delete

Oxymetry swallow results [Pass ▾] No Aspiration

Indications for Oxymetry swallow [1 ▾] Cough or choke with feeding

At the time of study

Neurologic Exam [N ▾] Normal

Gag reflex [N ▾] Normal

State Control during study [1 ▾] Eyes Closed, normal Resp, absent movements

Save   Cancel

5ᵗʰ page

Patient   Configuration   Reports   User   Help

| Page 1 | Page 2 | Page 3 | Page 4 | Page 5 | Page 6 | Page 7 |

NEONATAL OROMOTOR ASSESSMENT SCALE

Jaw/N1/Continuous degree jaw depression   ○ Yes   ◉ No
Jaw/N1/Rhymth excursions   ○ Yes   ◉ No
Jaw/N1/Spontaneous jaw excursions   ○ Yes   ◉ No
Jaw/N1/Movements of 1/sec   ○ Yes   ◉ No
Jaw/N1/Sufficient closure for expression   ○ Yes   ◉ No
Jaw/Disorganized/Inconsistent depression   ○ Yes   ◉ No
Jaw/Disorganized/Arrythmic   ○ Yes   ◉ No
Jaw/Disorganized/Difficult initiation   ○ Yes   ◉ No
Jaw/Disorganized/Immature suck   ○ Yes   ◉ No

NEONATAL OROMOTOR ASSESSMENT SCALE

Jaw/Dysfunction/Wide excursion interrupting seal   ○ Yes   ◉ No
Jaw/Dysfunction/Minimal excursions, clenching   ○ Yes   ◉ No
Jaw/Dysfunction/Lat. deviation   ○ Yes   ◉ No
Jaw/Dysfunction/Absence of move   ○ Yes   ◉ No
Jaw/Dysfunction/Lack of rate change NNS to NS   ○ Yes   ◉ No
Tongue/N1/Cupped   ○ Yes   ◉ No
Tongue/N1/Ext-elv-retr. nl   ○ Yes   ◉ No
Tongue/N1/Rhythmical   ○ Yes   ◉ No
Tongue/N1/Rate of 1/sec   ○ Yes   ◉ No

Save   Cancel

6th page

Patient   Configuration   Reports   User   Help

| Page 1 | Page 2 | Page 3 | Page 4 | Page 5 | Page 6 | Page 7 |

NEONATAL OROMOTOR ASSESSMENT SCALE

Tongue/N1/EfficientSuck   ○ Yes   ◉ No
Tongue/Disorganized/protrusion   ○ Yes   ◉ No
Tongue/Disorganized/Arrhythmic   ○ Yes   ◉ No
Tongue/Disorganized/Unable to sustain 2 min   ○ Yes   ◉ No
Tongue/Disorganized/incoord suck-swallow-breathe   ○ Yes   ◉ No
Tongue/Dysfunctional/flattened or flaccid   ○ Yes   ◉ No
Tongue/Dysfunctional/Retracted   ○ Yes   ◉ No
Tongue/Dysfunctional/Asymmetrical, lateral deviation   ○ Yes   ◉ No

NEONATAL OROMOTOR ASSESSMENT SCALE

Tongue/Dysfunctional/Protrusion with down and out move   ○ Yes   ◉ No
Tongue/Dysfunctional/Absence of movement   ○ Yes   ◉ No

Save   Cancel

7th page

Figure 7 (Page Tabs 1 through 7). Permit the user to enter or modify patient's clinical information

2.4   Other functions in NICU database

In Patient Info table (by clicking Patient→Patient Info), selecting **Search** button will allow the user to search a patient in the database by **Patient Number, Medical Record Number, Last Name** or **First Name** (refer Figure 8)**.**
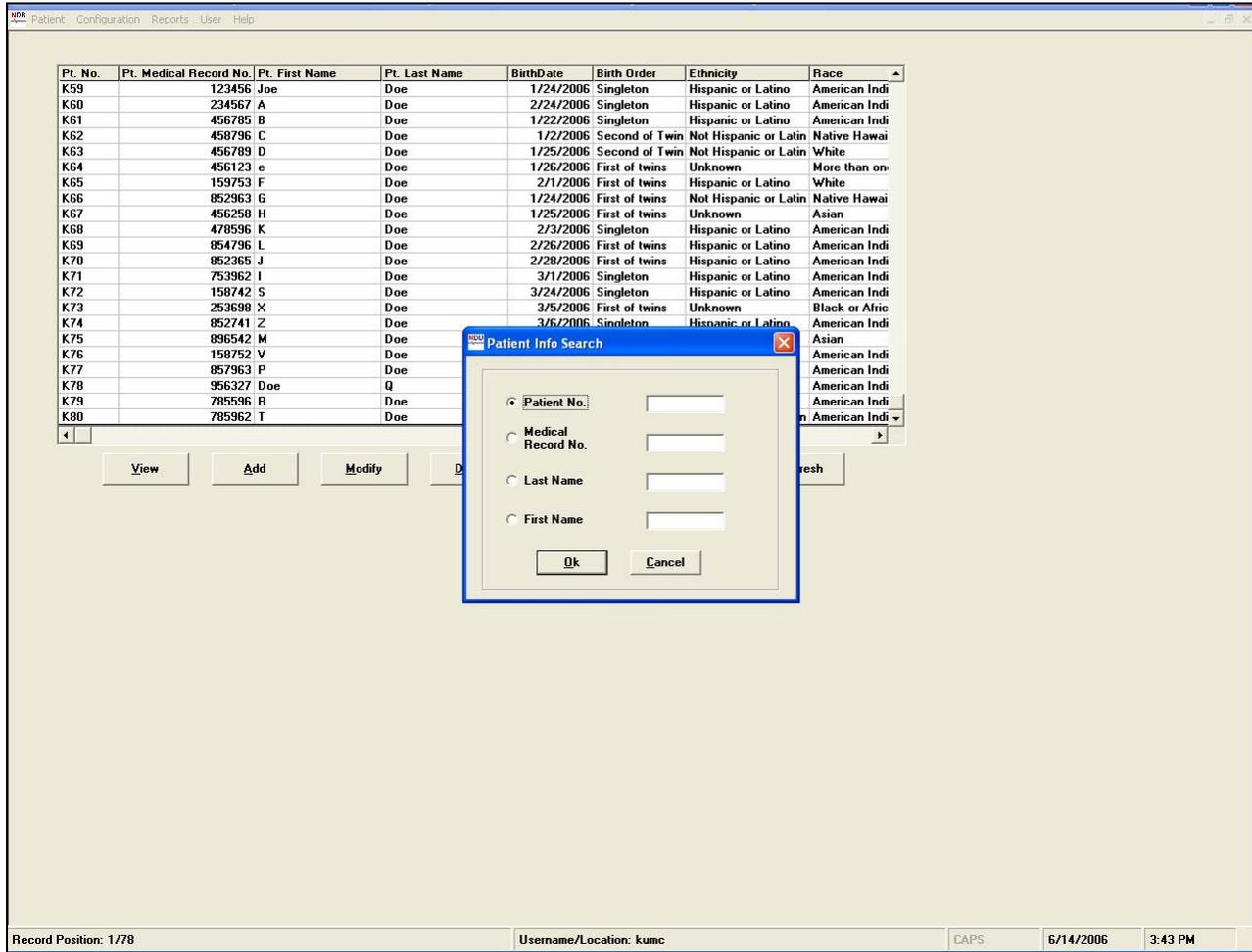
Figure 8. Search in **Patient Info**

The **Sort** button will also allow the user to sort the patients database by different options such as **Patient Number, Patient Medical Record, First Name, Last Name, Date of Birth, Birth Order, Ethnicity, Race,** or **Gender** (refer Figure 9)**.**
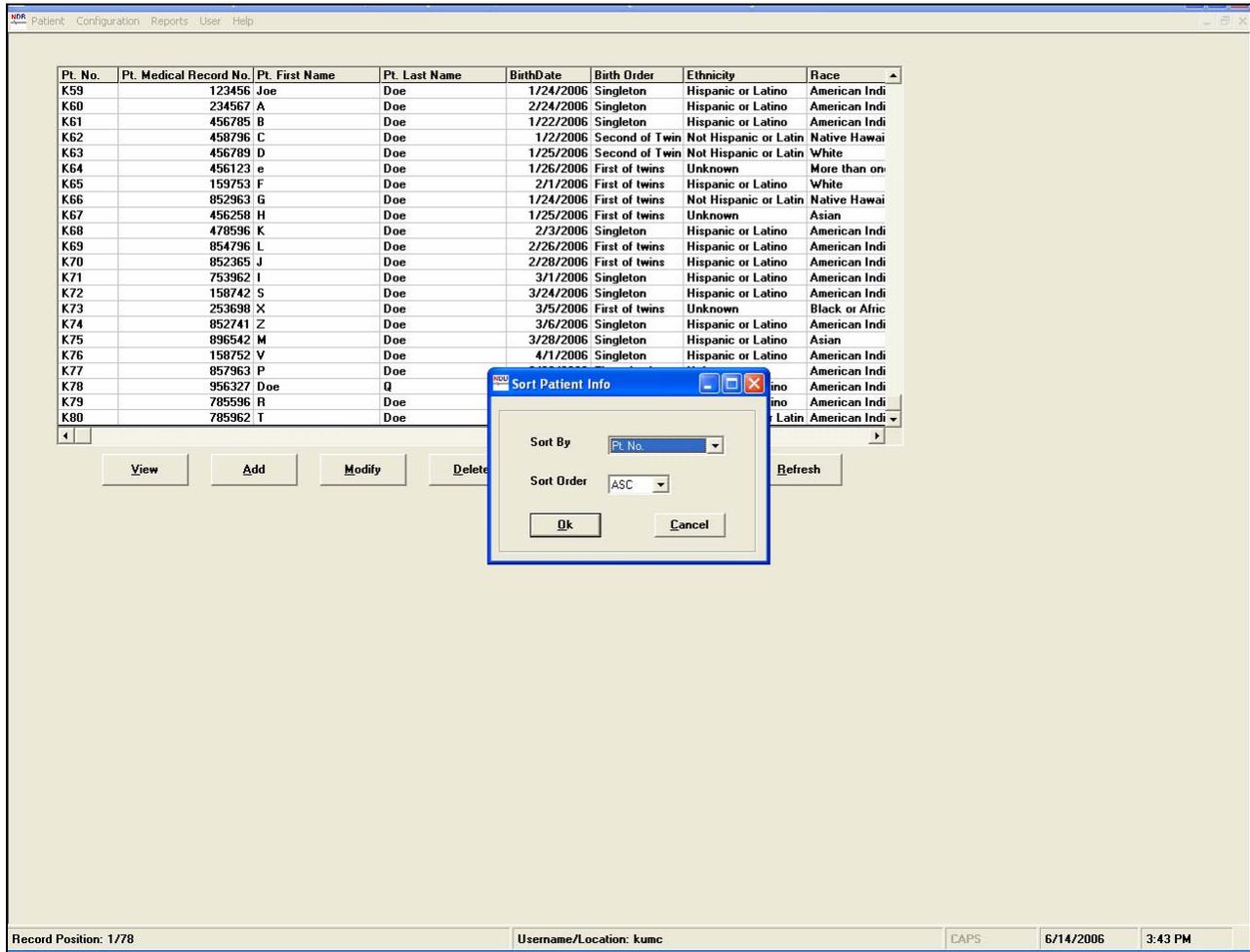
Figure 9. Sort Patient Info window is displayed.

3   Reference

NIH R01 DC 03311-05 (SM Barlow – Principal Investigator). Sensorimotor Control and Development of the Human Orofacial System. ($2,120,000 total costs).   01/15/02 – 12/31/06.