

TRALI Investigation:
A Web Data Entry Program Project

by

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Has been approved



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INTRODUCTION

This project addresses the need for transfusion-related acute lung injury (TRALI) research data accessibility. Sufficient data analysis cannot be achieved with data stored in paper format. Through the use of a web data-entry interface and relational database, however, rapid analysis will be possible.

BACKGROUND INFORMATION

TRALI occurs when blood plasma contains granulocyte specific antibodies or human leukocyte antigens, which correspond to antigens found on donor white blood cells. Sudden pulmonary edema is caused by increased capillary permeability due to granulocyte enzyme release. TRALI is most commonly associated with the administration of blood products that contain plasma, such as fresh frozen plasma.

Contributors to this project include Dr. Lynn Boshkov, director of Hemostasis and Thrombosis and Associate Professor of Pathology at OHSU, Dr. Judith Logan, Assistant Professor of the Department of Medical Informatics and Clinical Epidemiology, and Kevin Jorgensen, a graduate student in medical informatics. Dr. Boshkov broke new ground in TRALI research with her publication in the January 2003 edition of *Blood*. In it she emphasized the growing need for data on the demographics and treatment of TRALI. The purpose of this project is to allow statistical access to data that she had gathered but was available only on the original paper data collection forms. Specifically, Dr. Boshkov was interested in statistics on the following:

1. What is the average and range of the white cell count of patients with TRALI?
2. What associations exist between system complexes seen with TRALI?

3. What are the average changes in O2 saturation between pre- and post-TRALI states?
4. What are the primary and secondary underlying diagnosis frequencies of patients with TRALI?
5. Do patients with TRALI require central venous line access?

The project data consists of materials previously collected at two University of Alberta Hospitals in Edmonton. Dr. Boshkov and her collaborators, Linda Podlasky, and Dr. Gwen Clarke had collected patient data on paper evaluation forms, an example of which is seen in Figure 1. The form consists of 16 sections or topics, each consisting of checklists, specific write-in questions, and free text portions, which contain extra information such as numbers, unique tests, and notes. Figure 2 is an example of a completed patient evaluation form. The first step in this project was to create a relational database schema, which could appropriately store these collected data elements.

DESIGNATION OF DATA TYPES AND TABLES

Most of the data elements on the data collection forms could be represented as single attributes, which become columns in the database tables. Responses to every question in the paper form were categorized as either a single- or multi-value attribute. Single-value attributes were initially included in a primary data table and multi-value attributes resulted in the creation of multiple secondary tables. For example, gender is a single-value attribute and thus it would be placed in the primary data table. On the other hand, multiple answers were allowed for a question on medications taken by the patient.

Figure 1– Page 1 of blank collection form
Full form displayed in Appendix A

Detailed Evaluation of Transfusion Reaction

page 1/4

Patient Name: _____ Date of birth: _____ Age: _____

Hospital: _____ Hospital ID: _____

Date of Reaction: _____ Patient sex (circle): M F

Initial Classification of Reaction (circle 1 of the following 6):

Hemolytic Febrile non-hemolytic Allergic TRALI

Unrelated (symptoms coincidental) Other (specify): _____

Transfusion Interventions Recommended Due to Reaction

(specify): _____

1) Blood product(s) implicated in reaction:

- | | |
|---|---|
| <input type="checkbox"/> a) Red cell concentrate | <input type="checkbox"/> e) Plasma (circle product) |
| <input type="checkbox"/> b) Whole blood (includes autologous) | FFP FP SD-P CSP |
| <input type="checkbox"/> c) Random donor platelets | <input type="checkbox"/> f) Cryoprecipitate |
| <input type="checkbox"/> d) Apheresis platelets | <input type="checkbox"/> g) RhIg |
| Split product (circle) No Yes | <input type="checkbox"/> h) Other (specify): _____ |

2) Additional processing of implicated blood product(s) (check all that apply):

- a) Leukoreduced (circle applicable): Prestorage leukoreduced
 Bedside filter (specify): _____
 Filtered in transfusion service (specify): _____
- b) Pooled
- c) Platelet crossmatched or HLA matched (circle one or both as applicable)
- d) Autologous donation
- e) Directed donation
- f) Irradiated Date: _____
- g) Washed
- h) Other (specify): _____

3) Infusion characteristics (check/fill in all that apply):

- a) Each unit infused over _____ minutes
- b) Other fluid in blood line (circle type):
 Normal saline Ringers Plasma 5%Albumin Other (specify): _____
- c) Venous access used for transfusion (circle type):
 Peripheral IV Central line Broviac-type catheter IntravascAccessDevice (IVAD)
 Other (specify): _____
- d) Place transfusion given (circle):
 Ward ICU Intra-op Elsewhere (specify): _____
- e) Blood warmer used
- f) Rapid infusion device used
- g) Intraoperative salvage device in use
- h) Other medications in blood line with blood product (specify): _____

4) Patient premedication (check all that apply):

- a) None
- b) Tylenol
- c) Benadryl
- d) Other (specify): _____

Figure 2 – Page 1 of filled collection form
Full form displayed in Appendix B

UA-A1

page 1/4

9 Sept
14 Oct 1997

Detailed Evaluation of Transfusion Reaction

Patient Name: _____ Date of birth: _____ Age: 76
 Hospital: _____ Hospital ID: _____
 Date of Reaction: Sept 10 @ 10:50 AM Patient sex (circle): M F
 Initial Classification of Reaction (circle 1 of the following 6):
 Hemolytic Febrile non-hemolytic Allergic **TRALI**
 Unrelated (symptoms coincidental) Other (specify): _____
 Transfusion Interventions Recommended Due to Reaction (specify):
Single donors

1) Blood product(s) implicated in reaction:

PLS
 5213638974
 5216638980
 5216638985
 5218638986

a) Red cell concentrate
 b) Whole blood (includes autologous)
 c) Random donor platelets 4/6 units
 d) Apheresis platelets
 e) Plasma (circle product)
 FFP FP SD-P CSP
 f) Cryoprecipitate
 g) RhIg
 h) Other (specify): _____

2) Additional processing of implicated blood product(s) (check all that apply):

a) Leukoreduced (circle applicable): Prestorage leukoreduced
 Bedside filter (specify): _____
 Filtered in transfusion service (specify): _____
 b) Pooled
 c) Platelet crossmatched or HLA matched (circle one or both as applicable)
 d) Autologous donation
 e) Directed donation
 f) Irradiated Date: _____
 g) Washed
 h) Other (specify): _____

3) Infusion characteristics (check/fill in all that apply):

a) Each unit infused over 5-10 minutes 10:30 - 10:50 (4th unit)
 b) Other fluid in blood line (circle type):
 Normal saline Ringers Plasma 5%Albumin Other (specify): _____
 c) Venous access used for transfusion (circle type):
 Peripheral IV Central line **Broviac-type catheter** IntravascAccessDevice (IVAD)
 Other (specify): double lumen
 d) Place transfusion given (circle):
 Ward ICU Intra-op Elsewhere (specify): _____
 e) Blood warmer used
 f) Rapid infusion device used
 g) Intraoperative salvage device in use
 h) Other medications in blood line with blood product (specify): _____

4) Patient premedication (check all that apply):

a) None
 b) Tylenol
 c) Benadryl
 d) Other (specify): _____

This answer is designated as a multi-value attribute and was placed in a separate table with a key linking it to the primary data table.

In order to decrease the overall size of the primary data table, a second method was applied to determine sets of attributes, which could be placed in separate tables. As an example, a CBC panel is a large set of single-value attributes with a logical association. Thus, a separate table was used for capturing data on the components of a CBC panel. . These procedures resulted in the compression of the 16 sections into 11 tables. An overview of the table structure is illustrated with an Entity-Relationship diagram in Figure 3.

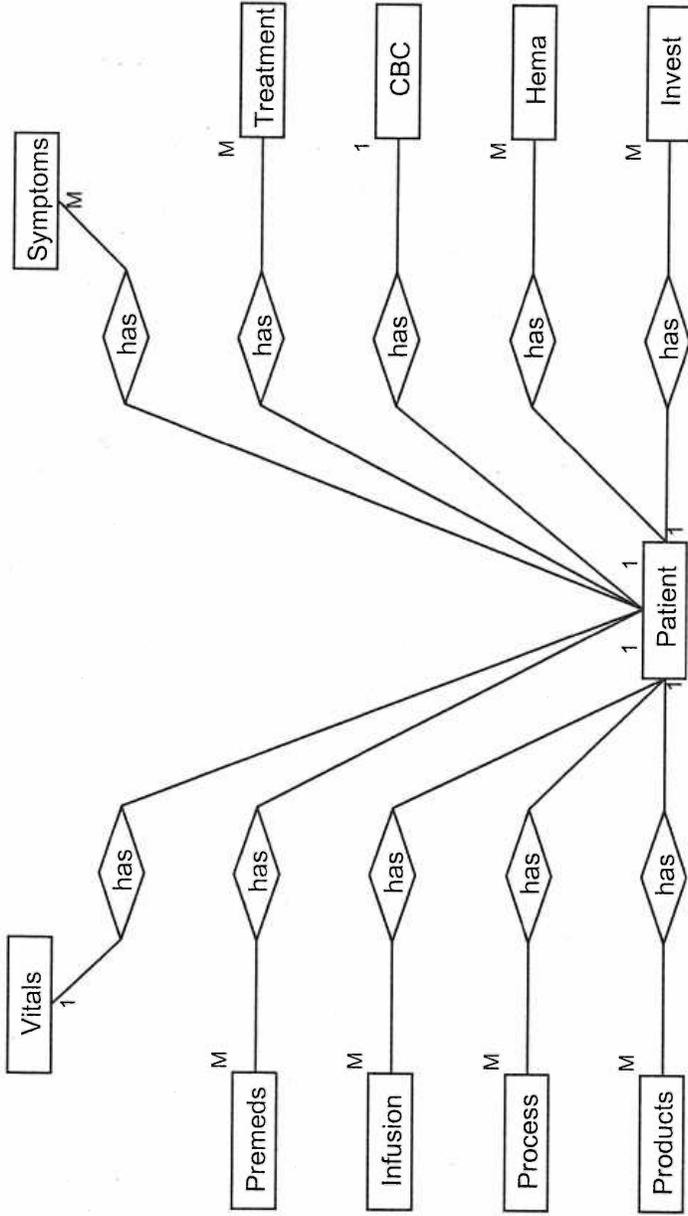
CREATION OF A DATA DICTIONARY

For the next step in the project, a data dictionary was created in a Microsoft Excel spreadsheet. The purposes of the data dictionary are to enhance understanding of the data elements, to track the data elements that were being created, and to be a communication tool for future users of this system. Appendix C contains the full data dictionary.

The data dictionary categorizes every data variable used in the TRALI database, servlets, or HTML code. Each row represents one attribute, while each column describes an aspect of that attribute. The data dictionary served as a vital organizational checkpoint tying together the variables across servlets, HTML pages and TRALI database. Variable names were maintained across programming languages. This conservation of variable names made the development process more efficient and less complicated. Explanation of the column headers is as follows:

- **Table Name:** Name of TRALI database table.

Figure 3 - Entity relationship diagram

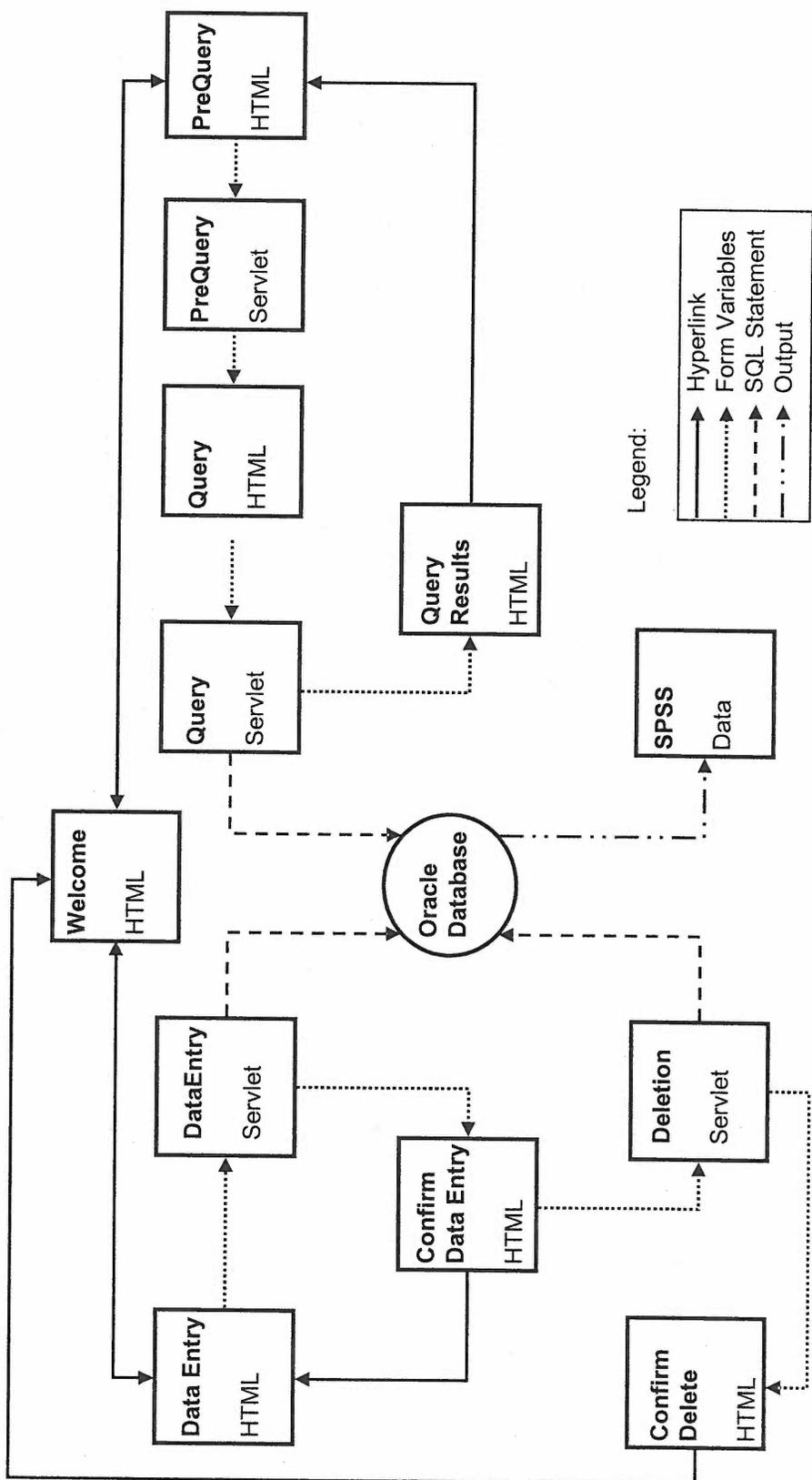


- **Form:** Describes which questions from the paper data form the attribute represents.
- **Attribute Name:** Descriptive name of the attribute.
- **Details:** Illustrates which attributes are Primary or Foreign Keys in the database, as well as default settings (yes/no, checked/unchecked) or data format.
- **Variable Name:** Actual name of variable used in the code or database. Not every variable was used in each setting. For example the variables DOB_M, DOB_D, DOB_Y for Date of Birth are variables used exclusively in the HTML and Java programs to construct a single DOB variable in the database.).
- **Oracle Type:** The data type of each variable in the database can be seen in Appendix E.
- **Examples:** Selected examples of the expected data.
- **HTML Construct:** Form variable used in the HTML code (select, checkbox, etc.)
- **Explanations:** Any notes needed to aid understanding of the attribute.

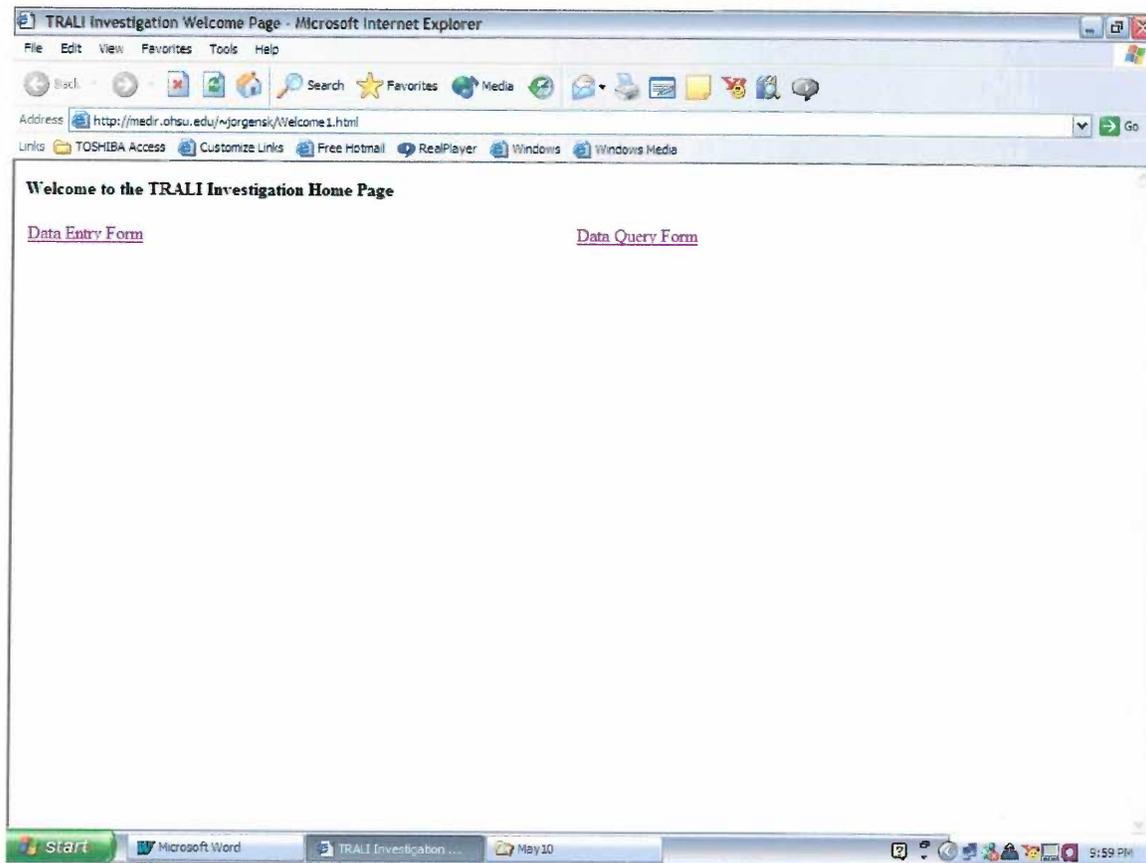
OVERVIEW OF THE PROGRAM

The program navigation scheme is illustrated in Figure 4. The navigation scheme illustrates every HTML page and servlet in the program. Color-coded arrows represent the interactions between each element, such as form variable transmission, SQL statement submission and hyperlinks.

Figure 4 - Navigation scheme



**Figure 5 – Welcome page screen shot
Code for Welcome.html is in Appendix F**



The user begins with a welcome page, as seen in Figure 5, that gives the option to proceed either to data entry or to the data query function. The data entry link leads to an HTML form, seen in Figure 6, which accepts patient data from the user. Submission of the data with this form generates two possible results. If database errors occur, the database error statements will be presented to the user. If there are no errors, a confirmation page containing the patient data entered will be produced as seen in Figure 7. This confirmation page allows the user to view the data that was entered, and presents an option to delete the entered data.

Figure 6 – Data entry form screen shot
Code for Reaction.html is in Appendix G
See entire form in Appendix D

DETAILED EVALUATION OF TRANSFUSION REACTION

Patient ID:

Date of Birth: Month Day Year

Age:

Hospital:

Hospital ID:

Date of Reaction: Month Day Year

Sex:

Initial Classification of Reaction:

Other:

Transfusion Interventions Recommended Due to Reaction:

Basic Patient Notes:

1) Blood Product(s) implicated in reaction:

Red Cell Concentrate Plasma (choose product):

Whole blood (includes autologous) Cryoprecipitate

Random donor platelets RhIg

Apheresis Platelets: Split Product Other Classification (specify):

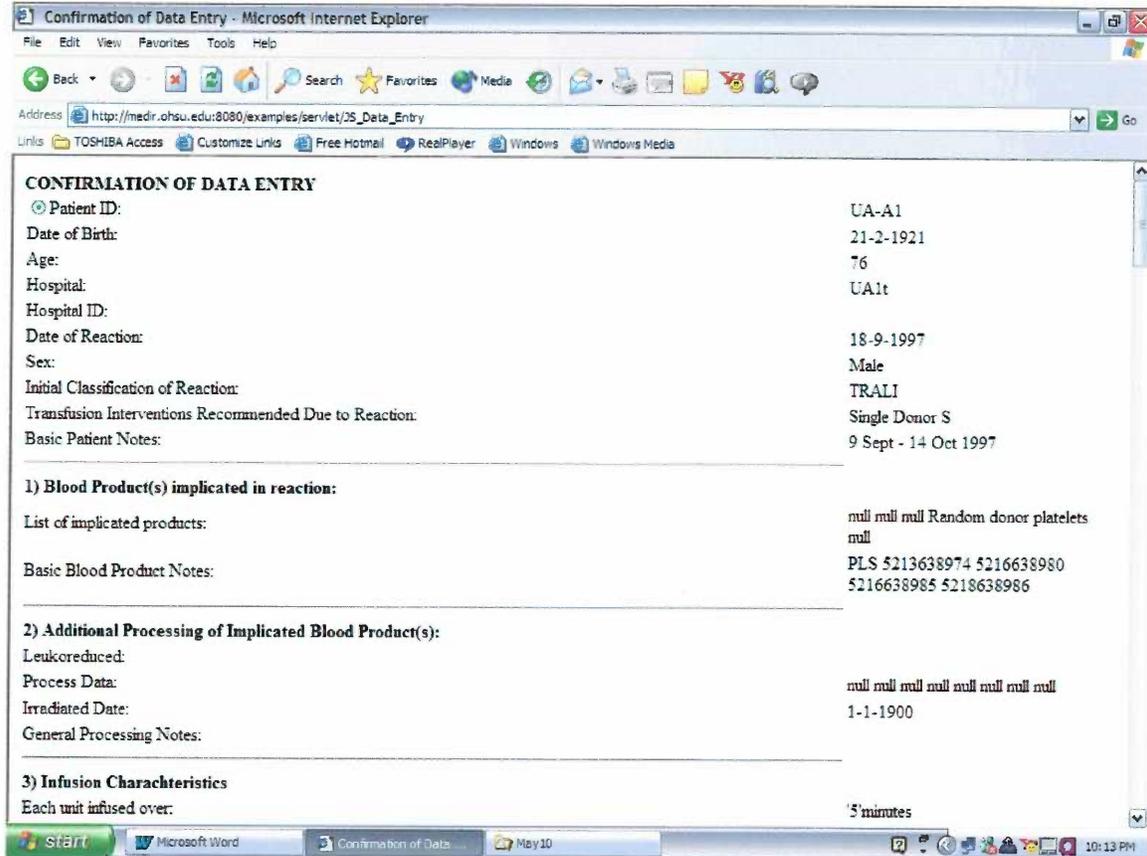
Basic Blood Product Notes:

2) Additional Processing of Implicated Blood Product(s):

The data query HTML form presents pre-query options to the user as seen in Figure 9. Basic patient data can be joined with only one other table, such as the CBC or Vital Signs table. Additional patient data, such as “Patient transfusion history,” can also be included in the query. Following submittal of the pre-query information, the user is presented with specific attributes from which to select. Submittal of the finished query causes the database to return the data with the query output in HTML.

Creation and functionality of the data entry components of this project was successfully completed. Patient data can be entered into the database and deleted if necessary.

Figure 7 – Data confirmation screen shot

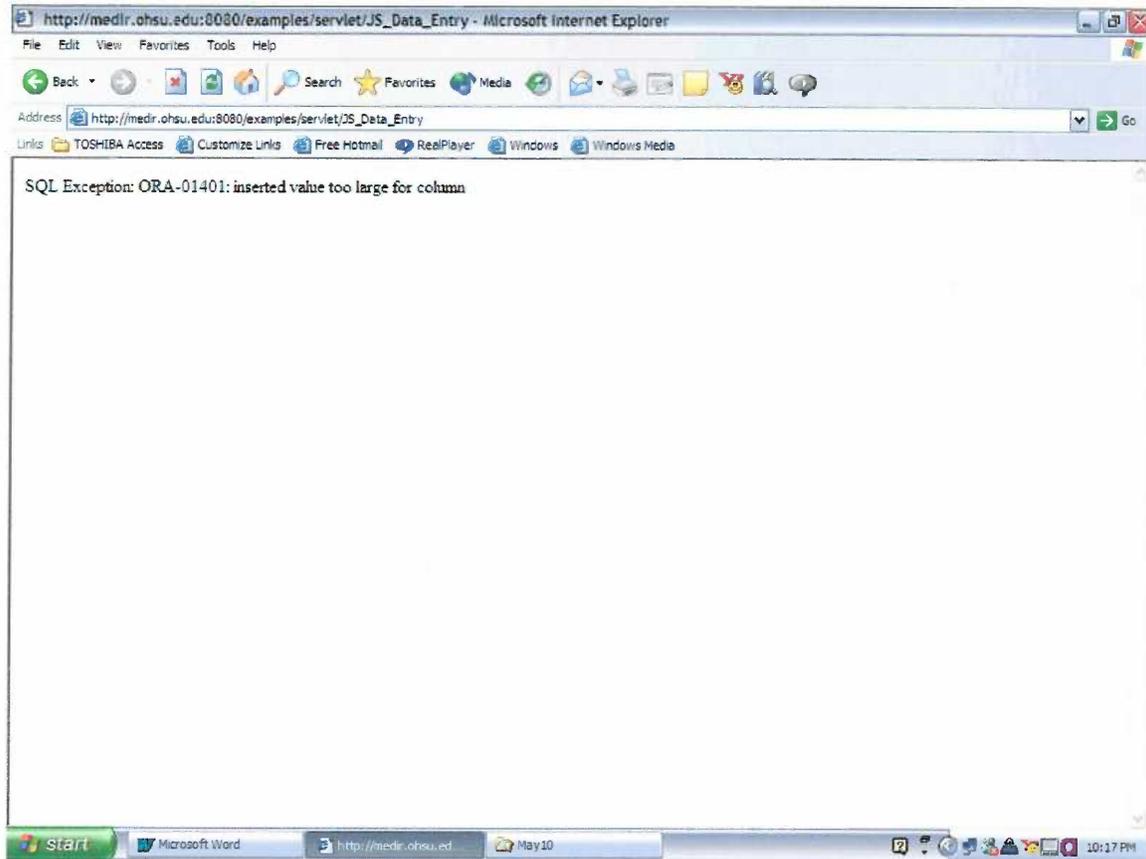


The ability to query the data from the web interface was not accomplished, however in order to answer suggested queries, either the database must be queried directly or the data set must be pulled from the TRALI database and then entered into a statistical program such as SPSS or SAS.

Welcome Screen

This screen is presented in Figure 5. After accomplishing data entry, deletion or query the user is returned to this screen. HTML code for this page is available in Appendix F.

Figure 8 – Database error screen shot



Data Entry Form

This page was designed to reflect the format of the paper collection form as can be seen by comparing Figure 6 with Figure 1. As a single page HTML form, the number of servlets needed to submit the patient data to the database is minimized.

The option to clear the form is available if upon review multiple mistakes are found and starting with a “clean slate” is the best option. Code for this page can be found in Appendix G.

Figure 9 – Data pre-query form screen shot
Code for Pre-Query.html is in Appendix L

The screenshot shows a Microsoft Internet Explorer browser window displaying a web form. The browser's address bar shows the URL: <http://medir.ohsu.edu/~rjorgensky/Pre-Query.html>. The form is titled "DETAILED EVALUATION OF TRANSFUSION REACTION QUERY A".

The form contains two main sections of radio button options:

Select Table of Data To Be Joined With "Basic Patient Data":
(see Data Dictionary for Table Attributes)

- No other data desired
- Blood Products Implicated in reaction
- Additional Processing of Implicated Blood Products
- Infusion Characteristics
- Premedication
- Symptoms or Signs
- Vital Signs
- Treatment of Reaction
- Reaction Investigation: Transfusion Services Information
- Reaction Investigation: Donor Blood Type
- CBC only
- Recipient Medications

Select Additional Data to be viewed:

No Yes

- Time interval from Start of transfusion to onset of symptoms
- Duration of Reaction
- Reaction Outcome
- Patient transfusion history
- Recipient Current Major Medical Diagnoses
- Other potentially pertinent info not elsewhere covered

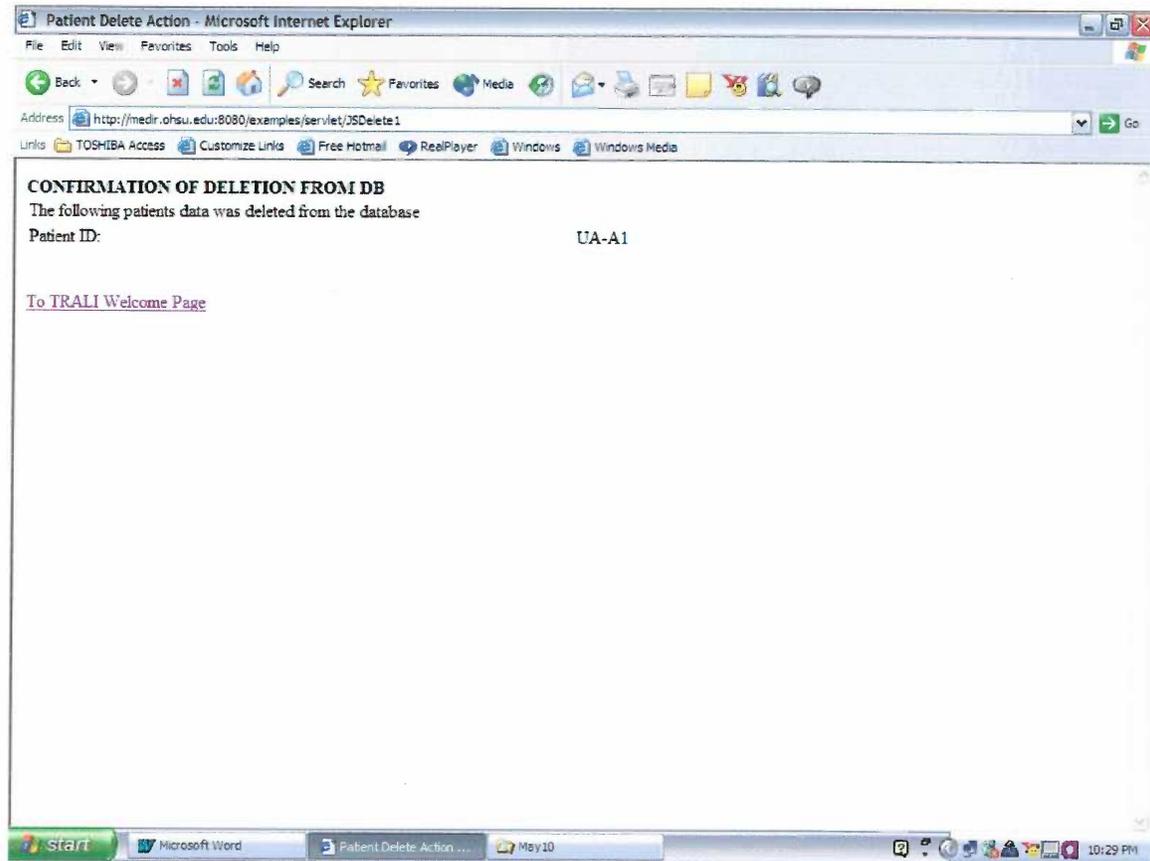
At the bottom of the form, there are two buttons: "Update Patient Query" and "Reset".

Data Entry Servlet

The Data Entry servlet receives and processes posted HTML data entry form variables. After submittal to the database, an HTML page is generated which displays either database errors, as seen in Figure 8, or a patient data confirmation page, as seen in Figure 7.

Patient data has already been entered into the TRALI database when the confirmation page is presented. Upon review of the patient data, the patient information

Figure 10 – Delete confirmation screen shot



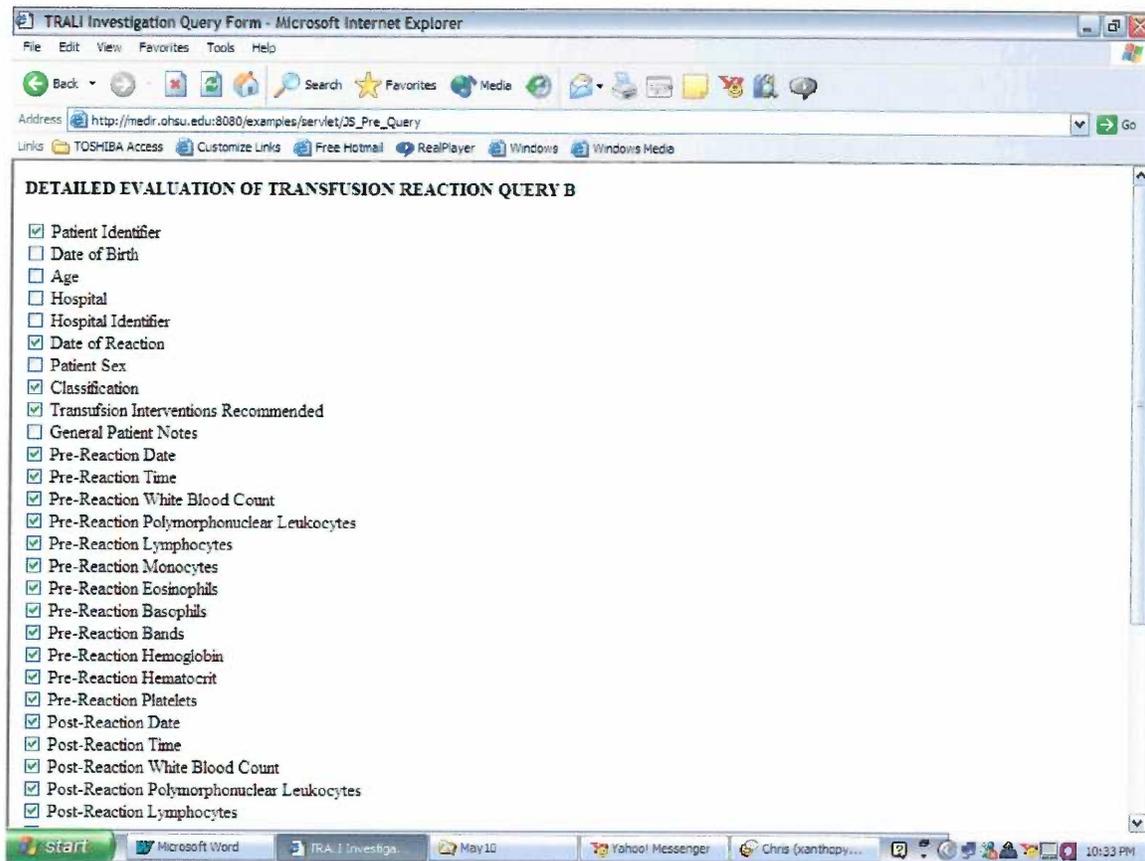
can be deleted if any aspect is incorrect. This action sends the patient identification to the deletion servlet.

If all patient data is confirmed to be accurate, the user is linked back to the Welcome screen. The code for this servlet can be seen in Appendix H, and the algorithm in Appendix I.

Delete Patient Servlet

When data is deleted from the database the entire patient record is removed. This servlet accepts the patient identification from the confirmation page and submits an SQL delete statement to the TRALI database. Successful removal of patient data from the

Figure 11 – Data query form screen shot



database produces a confirmation message stating which patient was deleted from the database, as in Figure 10. The code for this servlet can be seen in Appendix J, and the algorithm in Appendix K.

Data Pre-Query Form

There are 175 attributes in the TRALI database. Four pages of checkbox attributes are needed to represent each variable available for query. Such an interface would be cumbersome to navigate when querying the data. The Data Pre-Query Form allows for the selection of logically grouped data sets. Each data set represents a group of attributes that can be selected from on the final query form.

For example, the user may only be interested in basic patient data, the CBC, and patient transfusion history information. Selection of "CBC" data and "Patient transfusion history" will instigate the representation of only those specific attributes on the final query form. Thus, instead of all 175 attributes being presented, the user will have 35 choices for the final query. This event can be followed in Figures 9 and 11.

The page layout is split into two sections. The first section allows for the user to select a single secondary table to be joined with the basic patient data. A limit was placed on the number of tables the user could query at one time to simplify the SQL statements in the servlet.

The user is also given the option to add additional data to the query. This additional data is readily available in the primary data table. The addition of this data to the query does not dramatically impact the complexity of the SQL statement. Code for this page can be found in Appendix L.

Pre-Query Servlet

The Pre-Query servlet receives form variables from the Pre-Query page and produces the final Query page. The code for the Pre-Query servlet can be found in Appendix M. The algorithm for the Pre-Query servlet can be found in Appendix N.

Query Form

The attribute checkboxes in the final Query form appear pre-selected minimizing the number of mouse clicks for the user.

Query Servlet

The code for this servlet was not created. The algorithm for this servlet is found in Appendix O.

DISCUSSION

The success of this project must be viewed from the perspective of a non-computer scientist creating a clinical research support program. From this viewpoint success was achieved in the development of the data entry aspect of the project.

Delays resulting from various technical problems were much more difficult to overcome than the educational challenge. The numerous delays highlighted the potential problems inherent in a programming project. A more experienced programmer would have been able to better plan for delays leading to a smoother creative process.

Furthermore, valuable insight was gained into data collection techniques. The collection style incorporated by Dr. Boshkov and her colleagues is designed to gather as large of a data set as possible. The data collection form is very non-restrictive in nature, allowing for a wide variety of data types to be collected.

A fundamental problem in the data collection forms is the use of unstructured free text due to poorly designed collection fields. As seen in Appendix B, there are several questions that require free text responses. Note that there are no instructions as to what format the answer should take. The lack of structure for text responses brought about inconsistency in the answers to questions in this investigation. This inconsistency forces the data types used in the database to be vague. For example, Figure 12 shows question 12a on page 3 of a filled data collection form. This question requires free text responses for "When" the patient was previously transfused and "What" was the patient transfused with. There are no restrictions on the structure of the answer.

Ideally the "When" field would be restricted to a date format, for example 'dd/mm/yyyy'. If this structure is consistent throughout data collection, this question

would be associated with a very specific date data-type. If this field is not consistent, data accuracy problems develop. For example, if only the day and month are presented, in order to use the date data-type a false or estimated year must be used. A similar problem arises if only the year is given. When comparing data collected on various patients, it can be seen that answers are recorded in variable manners. To account for the variability of the response, this question must be associated with a vague data-type such as a long string of characters.

This issue of variation in text response is compounded when a question has two aspects to it, as seen in Figure 12, Question 12a. The aspects of “When” and “What” are logically tied together, as in “When were the Platelets transfused?” Due to response variability, a clear pairing of when and what cannot be achieved. Each question is assigned a vague string data type which causes the loss of analytical value as it will be impossible to do statistics on these fields without processing the data by hand.

This same question illustrates a second difficulty presented by free text, that of having "extra" data. A large amount of text is not uncommonly written in the white space to the right of the question. This extra data is valuable to the researcher, but cannot be appropriately accounted for in the database due to its random occurrence. Thus, this data is stored as a string of characters in the database and adds relatively little to the analytical value of the data.

The final difficulty presented by free text is one of translation. Unstructured text can easily be interpreted incorrectly due to vagueness or poor handwriting. In Figure 12,

Figure 12 – Page 3 of filled collection form

- ___ m) Recipient IgA levels done Result: _____
 If low anti-IgA antibodies done (circle) No Yes Result: _____
- ___ n) Other pertinent lab investigations (specify): _____
- ___ o) CXR done during reaction: Result: _____
- p) O₂ saturations or ABG done during reaction:
 Result: O₂ sat'n 50-55 On what FIO₂? 10L NP
 Baseline value: 97%0 On what FIO₂? R.A.
 Post reaction resolution: 95%0 On what FIO₂? R.A.

___ q) Patient CBC pre and post reaction:

	Date and time of CBC	WBC and Differential	Hb / Hct	Platelets
Pre-Reaction	Sept 18, 1997 @ 0600	0.3 } no	97/0.28	18
Post-Reaction	Sept 19 97 @ 0608	0.2 } diff.	92/0.26	20

___ r) Other pertinent clinical investigations (specify): _____

9) Time interval from start of transfusion to onset of symptoms:

- a) < 15 mins
 ___ b) 15 mins – 1 hr
 ___ c) 1 hr – 24 hrs

10) Duration of reaction:

- a) < 1 hr
 ___ b) 1 – 6 hrs
 ___ c) 6 – 24 hrs
 ___ d) > 24 hrs

11) Reaction outcome:

- a) Complete clinical resolution
 ___ b) Patient with residual morbidity (specify): _____
 ___ c) Patient died—reaction contributed to death

12) Patient transfusion history (check all that apply):

- a) Patient previously transfused (circle) No Yes

When: Index admission Sept 10, 11, 17
 What: Aggluts + RBC's + CSF

Antibodies present
 Hemia Surg April 93 misc. ends
 GB + hemia May 93 "
 Hemia Sept 92 "
 Hemia + melingim Sept 91 RAN

- ___ b) Patient previously pregnant (circle) No Yes If yes, # of Pregnancies: _____
 ___ c) Previous transfusion reaction(s) (specify type, product, and approx date if possible): _____

Question 12a also illustrates both vague and potentially indecipherable handwriting. This problem can lead to inaccurate data entry.

These problems are due to the design of the data collection forms. As a result, there is a potential decrease in analytical quality of the TRALI database. This exercise stresses the importance of a focused data collection method.

When creating a data collection instrument, the exact questions and responses needed to confirm the research hypotheses must be considered. In this manner, the questions can be appropriately formatted to elicit the most productive response and that response can then be structured in a way that is most suitable for the method of analyses.

Future Functionality

A number of functions that were either not accomplished or would be desirable to add to this program in the future are as follows:

1. Welcome Page: A link to a list of the cases that have already been entered into the database, acting through a Patient List Servlet is appropriate. The additional capacity to delete any patient from the database at any time would be desirable as well.
2. Confirmation Page: The ability to modify patient data following data entry would be preferable over the current method of deleting the entire patient record.
3. Query Engine: A fully functioning query interface needs to be developed.

CONCLUSIONS

The TRALI investigation database and web interface were successfully created. The database contains 175 attributes spread across 11 tables. Design of the database was centered on answering a set of designated queries. The web interface lacks a completed query function, however. To answer the queries the data set must be extracted from the database and entered into a statistical program such as SPSS.

This project highlighted the value of appropriate data collection and the technical difficulties that arise in building a database from clinical data. The TRALI data collection forms were not designed with hypotheses-confirming questions as a focal point. This has caused a potential loss of analytical quality in the TRALI. To avoid similar quality issues, clinical data collection forms must bear in mind the exact research questions that are being asked. This in turn allows the response variables to be appropriately structured for both data storage and analyses.

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Appendix A – Blank collection form

Detailed Evaluation of Transfusion Reaction

page 1/4

Patient Name: _____ Date of birth: _____ Age: _____

Hospital: _____ Hospital ID: _____

Date of Reaction: _____ Patient sex (circle): M F

Initial Classification of Reaction (circle 1 of the following 6):

Hemolytic Febrile non-hemolytic Allergic TRALI

Unrelated (symptoms coincidental) Other (specify): _____

Transfusion Interventions Recommended Due to Reaction

(specify): _____

2) Blood product(s) implicated in reaction:

- | | |
|---|---|
| <input type="checkbox"/> a) Red cell concentrate | <input type="checkbox"/> e) Plasma (circle product) |
| <input type="checkbox"/> b) Whole blood (includes autologous) | FFP FP SD-P CSP |
| <input type="checkbox"/> c) Random donor platelets | <input type="checkbox"/> f) Cryoprecipitate |
| <input type="checkbox"/> d) Apheresis platelets | <input type="checkbox"/> g) RhIg |
| Split product (circle) No Yes | <input type="checkbox"/> h) Other (specify): _____ |

2) Additional processing of implicated blood product(s) (check all that apply):

- a) Leukoreduced (circle applicable): Prestorage leukoreduced
 Bedside filter (specify): _____
 Filtered in transfusion service (specify): _____
- b) Pooled
- c) Platelet crossmatched or HLA matched (circle one or both as applicable)
- d) Autologous donation
- e) Directed donation
- f) Irradiated Date: _____
- g) Washed
- h) Other (specify): _____

3) Infusion characteristics (check/fill in all that apply):

- a) Each unit infused over _____ minutes
- b) Other fluid in blood line (circle type):
 Normal saline Ringers Plasma 5%Albumin Other (specify): _____
- c) Venous access used for transfusion (circle type):
 Peripheral IV Central line Broviac-type catheter IntravascAccessDevice (IVAD)
 Other (specify): _____
- d) Place transfusion given (circle):
 Ward ICU Intra-op Elsewhere (specify): _____
- e) Blood warmer used
- f) Rapid infusion device used
- g) Intraoperative salvage device in use
- h) Other medications in blood line with blood product (specify): _____

4) Patient premedication (check all that apply):

- a) None
- b) Tylenol
- c) Benadryl
- d) Other (specify): _____

5) Symptoms and signs of reaction (Check all that apply):

- a) Fever (>1°C rise)
- b) Chills
- c) Rigors (shaking chills)
- d) Urticaria Where? _____
systolic<90)
- e) Rash Where? _____
- f) Wheezing, bronchospasm
- g) Shortness of breath
- h) Cyanosis (blue, purple)
- i) Hypoxemia (O₂ desaturation)
- j) Pulmonary edema
- k) Back pain
- l) Abdominal pain
- m) Myalgia / diffuse aches
- n) New onset hypotension (bp _____)
- o) Hemoglobinemia
- p) Hemoglobinuria
- q) Other (specify) _____

6) Vital signs:

	Temp (°C)	BP	Pulse	Resp Rate	O ₂ satn-if done
Pretransfusion:					
Posttransfusion:					

7) Treatment of reaction (Check all that apply):

- a) Tylenol
- b) Benadryl
- c) Corticosteroids
- d) Demerol
- e) Supplemental O₂:
Route: (circle) prongs mask
Rate or FIO₂: _____
- f) Ventolin / bronchodilators
- g) Intubation / mechanical ventilation
- h) Diuretics
- i) Volume expansion
Product(s) and volumes _____
- j) Adrenalin
- j) Other(specify): _____

8) Reaction investigation (Check all that apply):

- a) Blood product sent back to Transfusion Service
- b) Patient post transfusion blood sample sent to Transfusion Service
- c) Patient post transfusion urine sample sent to Transfusion Service
- d) ABO of recipient (circle) O A B AB
- e) ABO of donor(s) (circle all that apply) O A B AB
- f) Hemolytic work-up done
Results (circle): Neg Pos (specify): _____
- g) Patient blood cultures done Result: _____
- h) Product cultures done Result: _____
- i) Products or donor(s) checked for anti-granulocyte and anti-HLA antibodies:
Result: _____
- j) Recipient checked for anti-granulocyte and anti-HLA antibodies
Result: _____
- k) Product(s) assayed for PMN priming activity
- l) Patient pre and post transfusion plasma assayed for PMN priming activity

- ___ m) Recipient IgA levels done Result: _____
 If low anti-IgA antibodies done (circle) No Yes Result: _____
- ___ n) Other pertinent lab investigations (specify): _____
- ___ o) CXR done during reaction: Result: _____
- ___ p) O₂ saturations or ABG done during reaction:
 Result: _____ On what FIO₂? _____
 Baseline value: _____ On what FIO₂? _____
 Post reaction resolution: _____ On what FIO₂? _____
- ___ q) Patient CBC pre and post reaction:

	Date and time of CBC	WBC and Differential	Hb / Hct	Platelets
Pre-Reaction				
Post-Reaction				

___ r) Other pertinent clinical investigations (specify): _____

9) Time interval from start of transfusion to onset of symptoms:

- ___ a) < 15 mins
 ___ b) 15 mins – 1 hr
 ___ c) 1 hr – 24 hrs

10) Duration of reaction:

- ___ a) < 1 hr
 ___ b) 1 – 6 hrs
 ___ c) 6 – 24 hrs
 ___ d) > 24 hrs

11) Reaction outcome:

- ___ a) Complete clinical resolution
 ___ b) Patient with residual morbidity (specify): _____
 ___ c) Patient died—reaction contributed to death

12) Patient transfusion history (check all that apply):

- ___ a) Patient previously transfused (circle) No Yes
 When: _____
 What: _____
- ___ b) Patient previously pregnant (circle) No Yes If yes, # of Pregnancies: _____
- ___ c) Previous transfusion reaction(s) (specify type, product, and approx date if possible):

13) Recipient's Current Major Medical Diagnoses (check all that apply)

- a) Admitting diagnosis (specify): _____
- b) Surgery—if yes indicate: Date: _____ Type: _____
- c) Malignancy—if yes indicate: Date diagnosed: _____ Type: _____
- d) GI bleed—Due to: _____
- e) Liver disease—Due to: _____
- f) Infection—Indicate: Date diagnosed: _____
Culture pos? (circle): No Yes (specify): _____
- g) Massive transfusion—Specify products infused: _____
- h) Patient febrile prior to transfusion
- i) Patient critically ill prior to transfusion (specify): _____
- j) Cardiac disease (pretransfusion) —Specify: _____
- k) Pulmonary disease (specify): Pretransfusion: _____
Postransfusion: _____

14) Recipient medications (check all that apply)

- a) Chemotherapy—Circle: Induction Consolidation Maintenance
Agents given (specify): _____
Date(s) given: _____
- b) Antibiotics and antimicrobials:
Agents given: _____
Dates given: _____
- c) Hematopoietic growth factors—Circle all applicable: G-CSF GM-CSF Epo
Other (specify): _____
- d) Acetylcholinesterase (ACE) inhibitor
- e) Other major medications (specify): _____

15) Other potentially pertinent info not elsewhere covered: _____

Appendix B – Filled collection form

9 Sept -
14 Oct 1997

UA-A1

Detailed Evaluation of Transfusion Reaction

page 1/4

Patient Name: Date of birth: Age: 76
 Hospital: Hospital ID:
 Date of Reaction: Sept 18 @ 10:50 AM Patient sex (circle): (M) F
 Initial Classification of Reaction (circle 1 of the following 6):
 Hemolytic Febrile non-hemolytic Allergic TRALI
 Unrelated (symptoms coincidental) Other (specify): _____
 Transfusion Interventions Recommended Due to Reaction (specify):
Single donor

PLS
5213638974
5216638980
5216638985
5218638986

- 1) Blood product(s) implicated in reaction:

<input type="checkbox"/> a) Red cell concentrate	<input type="checkbox"/> e) Plasma (circle product) FFP FP SD-P CSP
<input type="checkbox"/> b) Whole blood (includes autologous)	<input type="checkbox"/> f) Cryoprecipitate
<input checked="" type="checkbox"/> c) Random donor platelets <u>4/6 units</u>	<input type="checkbox"/> g) Rhlg
<input type="checkbox"/> d) Apheresis platelets	<input type="checkbox"/> h) Other (specify): _____
Split product (circle) No Yes	

- 2) Additional processing of implicated blood product(s) (check all that apply):

<input type="checkbox"/> a) Leukoreduced (circle applicable):	Prestorage leukoreduced _____
	Bedside filter (specify): _____
	Filtered in transfusion service (specify): _____
<input type="checkbox"/> b) Pooled	
<input type="checkbox"/> c) Platelet crossmatched or HLA matched (circle one or both as applicable)	
<input type="checkbox"/> d) Autologous donation	
<input type="checkbox"/> e) Directed donation	
<input type="checkbox"/> f) Irradiated Date: _____	
<input type="checkbox"/> g) Washed	
<input type="checkbox"/> h) Other (specify): _____	

- 3) Infusion characteristics (check/fill in all that apply):

<input checked="" type="checkbox"/> a) Each unit infused over <u>5-10</u> minutes <u>10:30 → 10:50 (14 min unit)</u>
<input checked="" type="checkbox"/> b) Other fluid in blood line (circle type): <u>Normal saline</u> Ringers Plasma 5%Albumin Other (specify): _____
<input type="checkbox"/> c) Venous access used for transfusion (circle type): Peripheral IV Central line <u>Broviac-type catheter</u> Intravasc Access Device (IVAD) Other (specify): <u>double lumen</u>
<input checked="" type="checkbox"/> d) Place transfusion given (circle): <u>Ward</u> ICU Intra-op Elsewhere (specify): _____
<input type="checkbox"/> e) Blood warmer used
<input type="checkbox"/> f) Rapid infusion device used
<input type="checkbox"/> g) Intraoperative salvage device in use
<input type="checkbox"/> h) Other medications in blood line with blood product (specify): _____

- 4) Patient premedication (check all that apply):

<input checked="" type="checkbox"/> a) None
<input type="checkbox"/> b) Tylenol
<input type="checkbox"/> c) Benadryl
<input type="checkbox"/> d) Other (specify): _____

5) Symptoms and signs of reaction (Check all that apply):

- a) Fever (>1°C rise)
- b) Chills
- c) Rigors (shaking chills)
- d) Urticaria Where? _____
- e) Rash Where? _____
- f) Wheezing, bronchospasm
- g) Shortness of breath
- h) Cyanosis (blue, purple)
- i) Hypoxemia (O₂ desaturation)
- j) Pulmonary edema
- k) Back pain
- l) Abdominal pain
- m) Myalgia / diffuse aches
- n) New onset hypotension (bp systolic < 90)
- o) Hemoglobinemia
- p) Hemoglobinuria
- q) Other (specify) Php.

6) Vital signs:

	Temp (°C)	BP	Pulse	Resp Rate	O ₂ satn-if done
Pretransfusion:	37.4	140/90	100		97% R.A.
Posttransfusion:	37.9	190/105	195-205		50-55% 10L <u>NP</u>

7) Treatment of reaction (Check all that apply):

- a) Tylenol
- b) Benadryl $\times 2$
- c) Corticosteroids
- d) Demerol
- e) Supplemental O₂:
Route: (circle) prongs (mask)
Rate or FIO₂: 10L
- f) Ventolin / bronchodilators
- g) Intubation / mechanical ventilation
- h) Diuretics
- i) Volume expansion
Product(s) and volumes _____
- j) Adrenalin
- k) Other (specify): _____

8) Reaction investigation (Check all that apply):

- a) Blood product sent back to Transfusion Service
- b) Patient post transfusion blood sample sent to Transfusion Service
- c) Patient post transfusion urine sample sent to Transfusion Service
- d) ABO of recipient (circle) O A (B) AB 105
- e) ABO of donor(s) (circle all that apply) O A (B) AB
- f) Hemolytic work-up done
Results (circle): Neg Pos (specify): _____
- g) Patient blood cultures done Result: _____
- h) Product cultures done Result: _____
- i) Products or donor(s) checked for anti-granulocyte and anti-HLA antibodies
Result: _____
- j) Recipient checked for anti-granulocyte and anti-HLA antibodies
Result: _____
- k) Product(s) assayed for PMN priming activity
- l) Patient pre and post transfusion plasma assayed for PMN priming activity

- ___ m) Recipient IgA levels done Result: _____
 If low anti-IgA antibodies done (circle) No Yes Result: _____
- ___ n) Other pertinent lab investigations (specify): _____
- ___ o) CXR done during reaction: Result: _____
- p) O₂ saturations or ABG done during reaction:
 Result: O₂ satn 50-55 On what FIO₂? 10L NP
 Baseline value: 9790 On what FIO₂? R.A.
 Post reaction resolution: 9590 On what FIO₂? R.A.

___ q) Patient CBC pre and post reaction:

	Date and time of CBC	WBC and Differential	Hb / Hct	Platelets
Pre-Reaction	Sept 18, 1997 @ 0600	0.3 } no	97/0.28	18
Post-Reaction	Sept 19 97 @ 0600	0.2 } diff	92/0.26	20

___ r) Other pertinent clinical investigations (specify): _____

9) Time interval from start of transfusion to onset of symptoms:

- a) < 15 mins
 ___ b) 15 mins - 1 hr
 ___ c) 1 hr - 24 hrs

10) Duration of reaction:

- a) < 1 hr
 ___ b) 1 - 6 hrs
 ___ c) 6 - 24 hrs
 ___ d) > 24 hrs

11) Reaction outcome:

- a) Complete clinical resolution
 ___ b) Patient with residual morbidity (specify): _____
 ___ c) Patient died—reaction contributed to death

12) Patient transfusion history (check all that apply):

- a) Patient previously transfused (circle) No **Yes**
 When: Index admission Sept 10, 11, 17
 What: AGHLETS + RBCK + CSPL
*Also check previously:
 Hemica Surg April 93 Michigan
 GB + hema May 93 "
 Hema Sept 92 "
 Hemica + meningitis Sept 91 RAH*
- ___ b) Patient previously pregnant (circle) No Yes If yes, # of Pregnancies: _____
- ___ c) Previous transfusion reaction(s) (specify type, product, and approx date if possible): _____

13) Recipient's Current Major Medical Diagnoses (check all that apply)

- a) Admitting diagnosis (specify): Leukemia
- b) Surgery—if yes indicate: Date: Sept 11/97 Type: Bronch. insert.
- c) Malignancy—if yes indicate: Date diagnosed: not Type: AML-M2
- d) GI bleed—Due to: _____
- e) Liver disease--Due to: _____
- f) Infection—Indicate: Date diagnosed: Sept 26 - Fungemia - after Rx
Culture pos? (circle): No Yes (specify): Enterococcal UTI - 7/16/97
Sept 16
- g) Massive transfusion—Specify products infused: _____
- h) Patient febrile prior to transfusion - low grade.
- i) Patient critically ill prior to transfusion (specify): _____
- j) Cardiac disease (pretransfusion) —Specify: _____
- k) Pulmonary disease (specify): Pretransfusion: _____
Postransfusion: _____

14) Recipient medications (check all that apply)

- a) Chemotherapy—Circle: Induction Consolidation Maintenance
Agents given (specify): Idarubicin + Ara-C began Sept 12
Date(s) given: _____
Sept 12 = last day
- b) Antibiotics and antimicrobials:
Agents given: Ceftazidime, tub. n, vanco - thru Sept 26
Dates given: _____
- c) Hematopoietic growth factors—Circle all applicable: G-CSF GM-CSF Epo
Other (specify): _____
- d) Acetylcholinesterase (ACE) inhibitor
- e) Other major medications (specify): _____

15) Other potentially pertinent info not elsewhere covered: _____

Appendix C - Data dictionary

Table Name	Form	Attribute Name	Details	Variable Name	Oracle Type	Examples	HTML	Explanations
PATIENT	Q0	Patient Identifier	Primary Key dd-mm-yyy	PT_ID	Varchar2(10)	UA-A1	Text	Unique Patient Identifier
	Q0	Date of birth		DOB	date	13/6/1977	--	Created from following HTML variables
	Q0	Temp Date of Birth Month		DOB_M	--		Select	Used to Create DOB
	Q0	Temp Date of Birth Date		DOB_D	--		Select	Used to Create DOB
	Q0	Temp Date of Birth Year		DOB_Y	--		Select	Used to Create DOB
	Q0	Age		AGE	int	26	Select	Used to Create DOB
	Q0	Hospital		HOSP	Varchar2(64)	UA1	Text	
	Q0	Hospital Identifier		HOSP_ID	Varchar2(10)	20/8/2004	Text	
	Q0	Date of Reaction		DAT_RXN	date		--	Created from following HTML variables
	Q0	Temp Date of Reaction Month		DAT_RXN_M	--		Select	Used to Create DOB
	Q0	Temp Date of Reaction Date		DAT_RXN_D	--		Select	Used to Create DOB
	Q0	Temp Date of Reaction Year		DAT_RXN_Y	--		Select	Used to Create DOB
	Q0	Patient Sex		PAT_SEX	Varchar2(6)	M,F	Select	
	Q0	Classification		CLASS	Varchar2(64)	Hemolytic	Select	
	Q0	Transfusion Interventions Recommended Due to Reaction		TIRDR	Varchar2(64)		Text	
	Q0	General Patient Notes		PT_NOTES	Varchar2(1000)	<Free Notes>	Text	
	Q0	General Product Notes		PROD_NOTES	Varchar2(1000)	<Free Notes>	Text	
	Q1	Leukoreduced		LEUKO	Varchar2(64)	Bedside,etc	Text	
	Q2	Irradiated Date		IRR_DATE	date	20/8/2004	Text	
	Q2	Temp Date of Reaction Month		IRR_DATE_M	--		Select	Created from following HTML variables
	Q2	Temp Date of Reaction Date		IRR_DATE_D	--		Select	Used to Create DOB
	Q2	Temp Date of Reaction Year		IRR_DATE_Y	--		Select	Used to Create DOB
	Q2	General Processing Notes		PROC_NOTES	Varchar2(1000)	<Free Notes>	Text	
	Q3	Each Unit Infused Over:		INF_OVR	Varchar2(64)	5	Text	
	Q3	Blood Line Fluid		BL_LL_FL	Varchar2(64)	Normal	Select;Text	
	Q3	Venous Access		VEN_ACC	Varchar2(64)	Central	Select;Text	
	Q3	Transfusion Place		TRA_PLA	Varchar2(64)	Ward	Select;Text	
	Q3	What Other meds in blood line		OTH_MED	Varchar2(1000)		Text	
	Q3	General Infusion Notes		INF_NOTES	Varchar2(1000)	<Free Notes>	Text	
	Q4	General Premeds Notes		PREM_NOTES	Varchar2(1000)	<Free Notes>	Text	
	Q5	Urticaria Where		URTICARIA	Varchar2(64)		Text	
	Q5	Rash Where		RASH	Varchar2(64)		Text	
	Q5	General Premeds Notes		SYMP_NOTES	Varchar2(1000)	<Free Notes>	Text	
Q7	Route		ROUTE	Varchar2(10)		Text		
Q7	Rate FIO2		RAT_FIO2	Varchar2(10)		Select		
Q71	Volume Expansion Product		V_EX_PR	Varchar2(10)		Text		
Q7	General Treatment Notes		TREAT_NOTES	Varchar2(1000)	<Free Notes>	Text		
Q8	Recipient		ABO_RE	Varchar2(2)	A;B;O	Select		
Q8	Donor		ABO_DO	Varchar2(64)	A;B;O	Text		
Q8	Hemolytic work up?		TR_SR_HE	Varchar2(64)	Neg/<Results>	Text		
Q8	Blood culture (specific)		TR_SR_BC	Varchar2(64)		Text		
Q8	Product culture (specific)		TR_SR_PC	Varchar2(64)		Text		
Q8	Products anti-gran/HLA (specific)		PR_HLA	Varchar2(64)		Text		
Q8	Recipient anti-gran/HLA (specific)		RE_HLA	Varchar2(64)		Text		
Q8	Product(s) assayed for PMN		PR_PMN	Varchar2(64)	No/Yes	Select		

Q#	Question	Field Name	Data Type	Format	Default	Created from following HTML variables
Q8	Patient pre&post assayed for PMN	PT_PMN	VarChar2(64)	No/Yes	Select	
Q8	Recipient IGA levels done (specific)	RE_IGA	VarChar2(64)		Text	
Q8	Anti-IGA results	ANT_IGA	VarChar2(64)	No/<Results>	Text	
Q8	Other lab results (specific)	OT_LB_RE	VarChar2(1000)		Text	
Q8	CXR Result (specific)	CXR_RE	VarChar2(64)		Text	
Q8	O2 saturations Result	O2_SAT	VarChar2(64)		Text	
Q8	What FIO2	O2_FIO2	VarChar2(64)		Text	
Q8	FIO2 Type	O2_FIO2_TY	VarChar2(64)		Text	
Q8	Baseline Value	BASE_VAL	VarChar2(64)		Text	
Q8	What FIO2	BASE_FIO2	VarChar2(64)		Text	
Q8	FIO2 Type	BASE_FIO2_TY	VarChar2(64)		Text	
Q8	Post reaction resolution	PST_RES	VarChar2(64)		Text	
Q8	What FIO2	PST_FIO2	VarChar2(64)		Text	
Q8	FIO2 Type	PST_FIO2_TY	VarChar2(64)		Text	
Q8	Other clinical results (specific)	OT_CL_RE	VarChar2(1000)		Text	
Q8	General Investigation Notes	INVEST_NOTES	VarChar2(1000)	<Free Notes>	Text	
Q9	Transfusion to Symptoms	INI_INT	VarChar2(16)		Select	
Q10	Reaction Duration	INI_DUR	VarChar2(16)		Select	
Q11	Reaction Outcome	REA_OUT	VarChar2(16)		Select;Text	
Q11	General Time Notes	TIME_NOTES	VarChar2(1000)		Text	
Q12	Patient previously transfused?	PT_PR_TR	VarChar2(3)	No/Yes	Select	
Q12	When transfused	WHN_TR	date	20/8/2004	--	Created from following HTML variables
Q12	Temp Date of Transfusion Month	WHN_TR_M	--		Select	Used to Create DOB
Q12	Temp Date of Transfusion Day	WHN_TR_D	--		Select	Used to Create DOB
Q12	Temp Date of Transfusion Year	WHN_TR_Y	--		Select	Used to Create DOB
Q12	Date of Transfusion	WHN_TR	VarChar2(64)		Text	
Q12	What transfused	WHT_TR	VarChar2(64)		Text	
Q12	Number of pregnancies	NO_PREG	int	3	Select	
Q12	General History Notes	HIST_NOTES	VarChar2(1000)	<Free Notes>	Text	
Q13	Admitting diagnosis?	ADM_DX	VarChar2(64)		Text	
Q13	Surgery Date	SUR_DT	date	20/8/2004	--	Created from following HTML variables
Q13	Temp Date of Surgery Month	SUR_DT_M	--		Select	Used to Create DOB
Q13	Temp Date of Surgery Day	SUR_DT_D	--		Select	Used to Create DOB
Q13	Temp Date of Surgery Year	SUR_DT_Y	--		Select	Used to Create DOB
Q13	Surgery Type	SUR_TY	VarChar2(64)		Text	
Q13	Malignancy Date	MAL_DT	date	20/8/2004	--	Created from following HTML variables
Q13	Temp Date of Malignancy Month	MAL_DT_M	--		Select	Used to Create DOB
Q13	Temp Date of Malignancy Date	MAL_DT_D	--		Select	Used to Create DOB
Q13	Temp Date of Malignancy Year	MAL_DT_Y	--		Select	Used to Create DOB
Q13	Malignancy Type	MAL_TY	VarChar2(64)		Text	
Q13	GI Bleed due to (Specific)	GI_DUE	VarChar2(64)		Text	
Q13	Liver disease due to (specific)	LI_DUE	VarChar2(64)		Text	
Q13	Infection Diagnosis Date	IN_DX_DA	date	20/8/2004	--	Created from following HTML variables
Q13	Temp Date of Infection Month	IN_DX_DA_M	--		Select	Used to Create DOB
Q13	Temp Date of Infection Day	IN_DX_DA_D	--		Select	Used to Create DOB
Q13	Temp Date of Infection Year	IN_DX_DA_Y	--		Select	Used to Create DOB
Q13	Culture result (specific)	CUL_RES	VarChar2(64)		Text	
Q13	Massive Transfusion Products	MA_TR_PR	VarChar2(64)		Text	

Table Name	Form	Form	Attribute	Details	Variable_Name	Oracle_Type	Exampless	HTML	
PREMEDS	Q4		Unique Identifier	PK	rowid			--	Used to Insert into DEVICE
			Device Option 1		DEVICE0			Select	Used to Insert into DEVICE
			Device Option 2		DEVICE1			Select	Used to Insert into DEVICE
			Device Option 3		DEVICE2			Select	Used to Insert into DEVICE
			Device Used		DEVICE			Checkbox	

Table Name	Form	Form	Attribute	Details	Variable_Name	Oracle_Type	Exampless	HTML	
PREMEDS	Q4		Patient Identifier	PK	PT_ID		UA-A1	--	
			Unique Identifier		rowid			--	
			Premedication Option 0		PREM 0			Select	Used to Insert into PREM
			Premedication Option 1		PREM 1			Select	Used to Insert into PREM
			Premedication Option 2		PREM 2			Select	Used to Insert into PREM
			Premedication Option 3		PREM 3			Select	Used to Insert into PREM
			Premedication		PREM		Tyelenol	Checkbox;Text	

Table Name	Form	Form	Attribute	Details	Variable_Name	Oracle_Type	Exampless	HTML	
SYMPTOMS	Q5		Patient Identifier	PK	PT_ID		UA-A1	--	
			Unique Identifier		rowid			--	
			Symptom Option 0		S_or_S0			Select	Used to Insert into S_OR_S
			Symptom Option 1		S_or_S1			Select	Used to Insert into S_OR_S
			Symptom Option 2		S_or_S2			Select	Used to Insert into S_OR_S
			Symptom Option 3		S_or_S3			Select	Used to Insert into S_OR_S
			Symptom Option 4		S_or_S4			Select	Used to Insert into S_OR_S
			Symptom Option 5		S_or_S5			Select	Used to Insert into S_OR_S
			Symptom Option 6		S_or_S6			Select	Used to Insert into S_OR_S
			Symptom Option 7		S_or_S7			Select	Used to Insert into S_OR_S
			Symptom Option 8		S_or_S8			Select	Used to Insert into S_OR_S
			Symptom Option 9		S_or_S9			Select	Used to Insert into S_OR_S
			Symptom Option 10		S_or_S10			Select	Used to Insert into S_OR_S
			Symptom Option 11		S_or_S11			Select	Used to Insert into S_OR_S
			Symptom Option 12		S_or_S12			Select	Used to Insert into S_OR_S
			Symptom Option 13		S_or_S13			Select	Used to Insert into S_OR_S
			Symptom or Sign		S_or_S		Fever	Checkbox;Text	

Table Name	Form	Form	Attribute	Details	Variable_Name	Oracle_Type	Exampless	HTML	
VITALS	Q6		Patient Identifier	PK	PT_ID		UA-A1	--	
			Unique Identifier		rowid			--	
			Pretransfusion Temp		PRE_TP	Varchar2(64)		Text	
			Pretransfusion BP		PRE_BP	Varchar2(64)		Text	
			Pretransfusion Pulse		PRE_PU	Varchar2(64)		Text	
			Pretransfusion Resp Rate		PRE_RR	Varchar2(64)		Text	
			Pretransfusion O2		PRE_O2	Varchar2(64)		Text	
			Pretransfusion O2 L		PRE_O2_L	Varchar2(64)		Text	
			Pretransfusion O2 Type		PRE_O2_TY	Varchar2(64)		Text	
			Posttransfusion Temp		PST_TP	Varchar2(64)		Text	
			Posttransfusion BP		PST_BP	Varchar2(64)		Text	
			Posttransfusion Pulse		PST_PU	Varchar2(64)		Text	
			Posttransfusion Resp Rate		PST_RR	Varchar2(64)		Text	

Posttransfusion O2
 Posttransfusion O2
 Posttransfusion O2 Type
 General Vitals Notes

Table Name	Form	Attribute	Details	Variable Name	Oracle Type	Example	HTML
TREATMENT Q7	Q7	Patient Identifier	FK (PATIENT)	PT_ID	--	UA-A1	--
		Unique Identifier	PK	rowid	--		--
		Treatment Option 0		TREAT0	--		Select
		Treatment Option 1		TREAT1	--		Select
		Treatment Option 2		TREAT2	--		Select
		Treatment Option 3		TREAT3	--		Select
		Treatment Option 4		TREAT4	--		Select
		Treatment Option 5		TREAT5	--		Select
		Treatment Option 6		TREAT6	--		Select
		Treatment Option 7		TREAT7	--		Select
		Treatment Option 8		TREAT8	--		Select
		Treatment Option 9		TREAT9	--		Select
		Reaction Treatment		TREAT	Varchar2(64)	Tylenol	Checkbox; Text

Table Name	Form	Attribute	Details	Variable Name	Oracle Type	Example	HTML
INVEST	Q8abc	Patient Identifier	FK (PATIENT)	PT_ID	--	UA-A1	--
		Unique Identifier	PK	rowid	--		--
		Transfusion Option 0		TRA_SRV0	--		Select
		Transfusion Option 1		TRA_SRV1	--		Select
		Transfusion Option 2		TRA_SRV2	--		Select
		Transfusion Services		TRA_SRV	Varchar2(64)	Blood Sent	Checkbox

Table Name	Form	Attribute	Details	Variable Name	Oracle Type	Example	HTML
CBC	Q8q	Patient Identifier	FK (PATIENT)	PT_ID	--	UA-A1	--
		Unique Identifier	PK	rowid	--		--
		Prereaction Date	dd-mm-yyy	PRE_DAT	date	20/8/2004	--
		Temp Prereaction Month		PRE_DAT_M	--		Select
		Temp Prereaction Day		PRE_DAT_D	--		Select
		Temp Prereaction Year		PRE_DAT_Y	--		Select
		Prereaction Time		PRE_TIM	Varchar2(64)		Text
		Prereaction WBC		PRE_WBC	Varchar2(64)		Text
		Prereaction PMN		PRE_PMN	Varchar2(64)		Text
		Prereaction Lymphs		PRE_LYM	Varchar2(64)		Text
		Prereaction Monocytes		PRE_MON	Varchar2(64)		Text
		Prereaction Eosinophils		PRE_EOS	Varchar2(64)		Text
		Prereaction Basophils		PRE_BAS	Varchar2(64)		Text
		Prereaction Bands		PRE_BAND	Varchar2(64)		Text
		Prereaction HB		PRE_HB	Varchar2(64)		Text
		Prereaction Hct		PRE_HCT	Varchar2(64)		Text
		Prereaction Platelets		PRE_PLA	Varchar2(64)		Text
		Postreaction Date	dd-mm-yyy	PST_DAT	date	20/8/2004	--

Created from following HTML variables

Table Name	Form	Attribute	Details	Variable_Name	Oracle_Type	Exampless	HTML	
HEMA	Q14c	Patient Identifier	FK (PATIENT)	PT_ID	--	UA-A1	--	
		Unique Identifier	PK	rowid	--		--	
		Hema Factor 0		HEM_FACT0	--		Select	Used to Insert into HEM_FACT
		Hema Factor 1		HEM_FACT1	--		Select	Used to Insert into HEM_FACT
		Hema Factor 2		HEM_FACT2	--		Select	Used to Insert into HEM_FACT
		Hema Factor 3		HEM_FACT3	--		Select	Used to Insert into HEM_FACT
		Hematopoietic factors?		HEM_FACT	VarChar2(64)	G-CSF	Checkbox:txt	
		Temp Postreaction Month		PST_DAT_M	--		Select	Used to Create PST_DAT
		Temp Postreaction Day		PST_DAT_D	--		Select	Used to Create PST_DAT
		Temp Postreaction Year		PST_DAT_Y	--		Select	Used to Create PST_DAT
		Postreaction Time		PST_TIM	VarChar2(64)		Text	
		Postreaction WBC		PST_WBC	VarChar2(64)		Text	
		Postreaction PMN		PST_PMN	VarChar2(64)		Text	
		Postreaction Lymphs		PST_LYM	VarChar2(64)		Text	
		Postreaction Monocytes		PST_MON	VarChar2(64)		Text	
		Postreaction Eosinophils		PST_EOS	VarChar2(64)		Text	
		Postreaction Basophils		PST_BAS	VarChar2(64)		Text	
		Postreaction Bands		PST_BAND	VarChar2(64)		Text	
		Postreaction HB		PST_HB	VarChar2(64)		Text	
		Postreaction Hct		PST_HCT	VarChar2(64)		Text	
		Postreaction Platelets		PST_PLA	VarChar2(64)		Text	
		General CBC Notes		CBC_NOTES	String	<Free Notes>	Text	

Appendix D – Full Data Entry Page

DATA ENTRY: DETAILED EVALUATION OF TRANSFUSION REACTION

0) Basic Patient Data:

Patient ID:	<input type="text"/>
Date of Birth:	Month <input type="text"/> Day <input type="text"/> Year <input type="text"/>
Age:	<input type="text"/>
Hospital:	<input type="text"/>
Hospital ID:	<input type="text"/>
Date of Reaction:	Month <input type="text"/> Day <input type="text"/> Year <input type="text"/>
Sex:	<input type="text"/>
Initial Classification of Reaction:	<input type="text"/>
Other:	<input type="text"/>
Transfusion Interventions Recommended Due to Reaction:	<input type="text"/>
Basic Patient Notes:	<input type="text"/>

1) Blood Product(s) implicated in reaction:

Red Cell Concentrate	<input type="checkbox"/>
Plasma (choose product):	<input type="text"/>
Whole blood (includes autologous)	<input type="checkbox"/>
Cryoprecipitate	<input type="checkbox"/>
Random donor platelets	<input type="checkbox"/>
RhIg	<input type="checkbox"/>
Apheresis Platelets: Split Product	<input type="text"/>
Other Classification (specify):	<input type="text"/>
Basic Blood Product Notes:	<input type="text"/>

2) Additional Processing of Implicated Blood Product(s):

Prestorage Leukoreduced	<input type="checkbox"/>
Bedside Filter	<input type="text"/>

Filtered in Transfusion Service
 Pooled
 Platelet crossmatched
 HLA Matched
 Autologous Donation
 Directed Donation
 Irradiated Date: Month Day Year
 Washed
 Other (specify):
 No addition processing
 General Processing Notes:

3) Infusion Characteristics

Each unit infused over minutes
 Other fluid in blood line (choose type)
 Other (specify)
 Venous access used for transfusion (choose type)
 Other (specify)
 Place transfusion given (choose):
 Elsewhere (specify)
 Blood warmer used
 Rapid infusion device used
 Interoperative salvage device in use
 Other medications in blood line with blood product:
 General Infusion Characteristic Notes:

4) Patient Premedication(s)

None
 Tylenol

Benadryl
Other (specify):
General Premedication Notes:

5) Symptoms and signs of reaction (Check all that apply):

Fever (>1°C rise)
Chills
Rigors
Urticaria Where?
Rash Where?
Wheezing, bronchospasm
Shortness of breath
Cyanosis
Hypoxemia
Pulmonary edema
Back Pain
Abdominal Pain
Myalgia
New onset hypotension
Hemoglobinuria
Other
General Symptoms Notes:

6) Vital signs

Pretransfusion

Temp (°C)
Blood Pressure
Pulse
Respiratory Rate
O2 saturation % L Type

Posttransfusion

Temp ('C)	<input type="text"/>
Blood Pressure	<input type="text"/>
Pulse	<input type="text"/>
Respiratory Rate	<input type="text"/>
O2 saturation	<input type="text"/> % <input type="text"/> L Type <input type="text"/>
General Vitals Notes	<input type="text"/>

7) Treatment of reaction

Tylenol	<input type="checkbox"/>
Diuretics	<input type="checkbox"/>
Benadryl	<input type="checkbox"/>
Corticosteroids	<input type="checkbox"/>
Demerol	<input type="checkbox"/>
Supplemental O2:	<input type="text"/>
Rate of FIO2	<input type="text"/>
Ventolin / bronchodilators	<input type="checkbox"/>
Intubation / mechanical ventilation	<input type="checkbox"/>
Diuretics	<input type="checkbox"/>
Volume Expansion Product(s) and Volumes:	<input type="text"/>
Adrenalin	<input type="checkbox"/>
Other	<input type="text"/>
General Treatment Notes	<input type="text"/>

8) Reaction investigation

Blood product sent back to Transfusion Service	<input type="checkbox"/>
Patient Post Transfusion BLOOD sample sent to Transfusion Service	<input type="checkbox"/>
Patient post transfusion URINE sample sent to Transfusion Service	<input type="checkbox"/>

ABO of recipient	<input type="text"/>
ABO of donor(s):	<input type="text"/>
Hemolytic work-up results: "Neg" for Negative	<input type="text"/>
Patient blood culture result "Neg" for Negative	<input type="text"/>
Product culture result "Neg" for Negative	<input type="text"/>
Products or donor(s) checked for anti-granulocyte and anti-HLA antibodies: Result	<input type="text"/>
Recipient checked for anti-granulocytes and anti-HLA antibodies: Result	<input type="text"/>
Product(s) assayed for PMN priming activity	<input type="text"/>
Patient pre and post transfusion plasma assayed for PMN priming activity	<input type="text"/>
Recipient IgA levels Results	<input type="text"/>
If low anti-IgA antibodies Result	<input type="text"/>
Other pertinent lab investigations	<input type="text"/>
CXR done during reaction: Result	<input type="text"/>
O2 saturations or ABG done during reaction:	
Result:	<input type="text"/>
On what FIO2?	<input type="text"/>
On what FIO2 Type?	<input type="text"/>
Baseline value	<input type="text"/>
On what FIO2?	<input type="text"/>
On what FIO2 Type?	<input type="text"/>
Post reaction resolution	<input type="text"/>
On what FIO2?	<input type="text"/>
On what FIO2 Type?	<input type="text"/>
Pre-Reaction CBC	
Date:	Month <input type="text"/> Day <input type="text"/> Year
Time	<input type="text"/>

WBC	
PMN	
Lymphs	
Monocytes	
Eosionphils	
Basophils	
Bands	
HB	
Hct	
Platelets	

Post-Reaction CBC

Date: Month Day Year

Time	
WBC	
PMN	
Lymphs	
Monocytes	
Eosionphils	
Basophils	
Bands	
HB	
Hct	
Platelets	
General CBC Notes	
Other pertinent clinical investigations	
General Investigation notes	

9) Time interval from start of transfusion to onset of symptoms:

10) Duration of reaction

11) Reaction outcome

Patient with residual morbidity (specify)

12) Patient transfusion history

Patient previously transfused

When:

Month Day Year

What:

Number of previous pregnancies

Previous transfusion reaction notes:

13) Recipient's Current Major Medical Diagnoses

Admitting diagnosis

Surgery Date

Month Day Year

Surgery Type

Malignancy Date Diagnosed

Month Day Year

Malignancy Type

GI Bleed-Due to:

Liver Disease-Due to:

Infection Date Diagnosed

Month Day Year

Infection Culture results

Massive transfusion products

Patient febrile PRIOR to transfusion	<input type="text"/>
Patient critically ill prior to transfusion	<input type="text"/>
Cardiace disease	<input type="text"/>
Pulmonary disease - Pretransfusion	<input type="text"/>
Pulmonary disease - Postransfusion	<input type="text"/>
General MMD Notes:	<input type="text"/>

14) Recipient Medications

Chemotherapy	<input type="text"/>
Agent(s) given	<input type="text"/>
Date(s) given	<input type="text"/>
Antibiotics and antimicrobials	
Agent(s) given:	<input type="text"/>
Date(s) given:	<input type="text"/>
Hematopietic growth factors	
G-CSF	<input type="checkbox"/>
GM-CSF	<input type="checkbox"/>
EPO	<input type="checkbox"/>
Other	<input type="checkbox"/>
Acetylcholinesterase (ACE) inhibitor	<input type="text"/>
Other major medications	<input type="text"/>
General Recipient Medications notes:	<input type="text"/>

15) Other potentially pertinent info not elsewhere covered:

Click Here to Submit Patient	Click Here to clear the form
--	--

Appendix E – Database creation file

```
create table PATIENT (  
  PT_ID Varchar2(10) primary key,  
  DOB date,  
  AGE int,  
  HOSP Varchar2(64),  
  HOSP_ID Varchar2(10),  
  DAT_RXN date,  
  PAT_SEX Varchar2(6),  
  CLASS Varchar2(64),  
  TIRDR Varchar2(64),  
  PT_NOTES Varchar2(1000),  
  PROD_NOTES Varchar2(1000),  
  LEUKO Varchar2(64),  
  IRR_DATE date,  
  PROC_NOTES Varchar2(1000),  
  INF_OVR Varchar2(64),  
  BL_LI_FL Varchar2(64),  
  VEN_ACC Varchar2(64),  
  TRA_PLA Varchar2(64),  
  OTH_MED Varchar2(1000),  
  INF_NOTES Varchar2(1000),  
  PREM_NOTES Varchar2(1000),  
  URTICARIA Varchar2(64),  
  RASH Varchar2(64),  
  SYMP_NOTES Varchar2(1000),  
  ROUTE Varchar2(10),  
  RAT_FIO2 Varchar2(10),  
  V_EX_PR Varchar2(10),  
  TREAT_NOTES Varchar2(1000),  
  ABO_RE Varchar2(2),  
  ABO_DO Varchar2(64),  
  TR_SR_HE Varchar2(64),  
  TR_SR_BC Varchar2(64),  
  TR_SR_PC Varchar2(64),  
  PR_HLA Varchar2(64),  
  RE_HLA Varchar2(64),  
  PR_PMN Varchar2(64),  
  PT_PMN Varchar2(64),  
  RE_IGA Varchar2(64),  
  ANT_IGA Varchar2(64),  
  OT_LB_RE Varchar2(1000),  
  CXR_RE Varchar2(64),  
  O2_SAT Varchar2(64),  
  O2_FIO2 Varchar2(64),
```

O2_FIO2_TY Varchar2(64),
BASE_VAL Varchar2(64),
BASE_FIO2 Varchar2(64),
BASE_FIO2_TY Varchar2(64),
PST_RES Varchar2(64),
PST_FIO2 Varchar2(64),
PST_FIO2_TY Varchar2(64),
OT_CL_RE Varchar2(1000),
INVEST_NOTES Varchar2(1000),
INI_INT Varchar2(16),
INI_DUR Varchar2(16),
REA_OUT Varchar2(64),
TIME_NOTES Varchar2(1000),
PT_PR_TR Varchar2(3),
WHN_TR Varchar2(64),
WHT_TR Varchar2(64),
NO_PREG int,
HIST_NOTES Varchar2(1000),
ADM_DX Varchar2(64),
SUR_DT date,
SUR_TY Varchar2(64),
MAL_DT date,
MAL_TY Varchar2(64),
GI_DUE Varchar2(64),
LI_DUE Varchar2(64),
IN_DX_DA date,
CUL_RES Varchar2(64),
MA_TR_PR Varchar2(64),
FE_PR_TR Varchar2(3),
CRT_ILL Varchar2(64),
CAR_DIS Varchar2(64),
PRP_DI_T Varchar2(64),
PSP_DI_T Varchar2(64),
MMD_NOTES Varchar2(1000),
CHEMO Varchar2(16),
AGNT_GIV Varchar2(64),
DATE_GIV Varchar2(64),
CHEMO_NOTES Varchar2(1000),
ANTI_GIV Varchar2(64),
GIV_DATE Varchar2(64),
ANTI_NOTES Varchar2(1000),
ACE_INH Varchar2(3),
OTH_MEDS Varchar2(1000),
REC_MED__NOTES Varchar2(1000),
FREE_TXT Varchar2(1000));

```
create table PRODUCTS (  
  PT_ID Varchar2(10),  
  PROD Varchar2(64),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table PROCESS (  
  PT_ID Varchar2(10),  
  PROCESS Varchar2(64),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table INFUSION (  
  PT_ID Varchar2(10),  
  DEVICE Varchar2(64),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table PREMEDS (  
  PT_ID Varchar2(10),  
  PREM Varchar2(64),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table SYMPTOMS (  
  PT_ID Varchar2(10),  
  S_or_S Varchar2(64),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table VITALS (  
  PT_ID Varchar2(10),  
  PRE_TP Varchar2(64),  
  PRE_BP Varchar2(64),  
  PRE_PU Varchar2(64),  
  PRE_RR Varchar2(64),  
  PRE_O2 Varchar2(64),  
  PRE_O2_L Varchar2(64),  
  PRE_O2_TY Varchar2(64),  
  PST_TP Varchar2(64),  
  PST_BP Varchar2(64),  
  PST_PU Varchar2(64),  
  PST_RR Varchar2(64),  
  PST_O2 Varchar2(64),  
  PST_O2_L Varchar2(64),  
  PST_O2_TY Varchar2(64),  
  VITAL_NOTES Varchar2(1000),  
  foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table TREATMENT (  
  PT_ID Varchar2(10),
```

```
TREAT Varchar2(64),  
foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table INVEST (  
PT_ID Varchar2(10),  
TRA_SRV Varchar2(64),  
foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table CBC (  
PT_ID Varchar2(10),  
PRE_DAT date,  
PRE_TIM Varchar2(64),  
PRE_WBC Varchar2(64),  
PRE_PMN Varchar2(64),  
PRE_LYM Varchar2(64),  
PRE_MON Varchar2(64),  
PRE_EOS Varchar2(64),  
PRE_BAS Varchar2(64),  
PRE_BAN Varchar2(64),  
PRE_HB Varchar2(64),  
PRE_HCT Varchar2(64),  
PRE_PLA Varchar2(64),  
PST_DAT date,  
PST_TIM Varchar2(64),  
PST_WBC Varchar2(64),  
PST_PMN Varchar2(64),  
PST_LYM Varchar2(64),  
PST_MON Varchar2(64),  
PST_EOS Varchar2(64),  
PST_BAS Varchar2(64),  
PST_BAN Varchar2(64),  
PST_HB Varchar2(64),  
PST_HCT Varchar2(64),  
PST_PLA Varchar2(64),  
CBC_NOTES Varchar2(1000),  
foreign key (PT_ID) references PATIENT (PT_ID));
```

```
create table HEMA (  
PT_ID Varchar2(10),  
HEM_FACT Varchar2(64),  
foreign key (PT_ID) references PATIENT (PT_ID));
```

Appendix F – Welcome page HTML code

```
<html>
<head><title>TRALI Investigation Welcome Page</title>
</head>

<body>

<B>Welcome to the TRALI Investigation Home Page</B>
<br>
<br>

<table width="100%" border="0" cellpadding="2"
cellspacing="0">
<tr><td width="50%"><A
HREF="http://medir.ohsu.edu/~jorgensk/Data_Entry.html">
Data Entry Form </A></td><td><A
HREF="http://medir.ohsu.edu/~jorgensk/Pre-Query.html">
Data Query Form </A></td></tr>

</table>
</form>
</body>
</html>
```

Appendix G – Data entry HTML code

```
<html>
<head><title>Detailed Evaluation of Transfusion Reaction Form</title>
</head>

<body>
<form method="POST"
action="http://medir.ohsu.edu:8080/examples/servlet/JS_Data_Entry">

<h4>DATA ENTRY: DETAILED EVALUATION OF TRANSFUSION
REACTION</h4>

<h4>0) Basic Patient Data:</h4>
<table width="100%" border="0" cellpadding="2" cellspacing="0">
<tr><td width="50%">Patient ID:</td><td><input type="text"
value="" name="PT_ID"></td></tr>
<tr><td width="50%">Date of Birth: </td>
    <td>Month <select name="DOB_M"> <option> 1 <option> 2 <option> 3
<option> 4
        <option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
        Day <select name="DOB_D"><option> 1 <option> 2 <option> 3 <option> 4
<option> 5 <option> 6 <option> 7 <option> 8
        <option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
14 <option> 15 <option> 16 <option>
        17 <option> 18 <option> 19 <option> 20 <option> 21 <option> 22
<option> 23 <option> 24 <option> 25 <option>
        26 <option> 27 <option> 28 <option> 29 <option> 30 <option> 31
</select>
        Year <select name="DOB_Y"> <option> 1900 <option> 1901 <option> 1902
<option> 1903 <option> 1904 <option> 1905
        <option> 1906 <option> 1907 <option> 1908 <option> 1909 <option>
1910 <option> 1911 <option> 1912 <option>
        1913 <option> 1914 <option> 1915 <option> 1916 <option> 1917
<option> 1918 <option> 1919 <option> 1920
        <option> 1921 <option> 1922 <option> 1923 <option> 1924 <option>
1925 <option> 1926 <option> 1927 <option>
        1928 <option> 1929 <option> 1930 <option> 1931 <option> 1932
<option> 1933 <option> 1934 <option> 1935
        <option> 1936 <option> 1937 <option> 1938 <option> 1939 <option>
1940 <option> 1941 <option> 1942 <option>
        1943 <option> 1944 <option> 1945 <option> 1946 <option> 1947
<option> 1948 <option> 1949 <option> 1950
        <option> 1951 <option> 1952 <option> 1953 <option> 1954 <option>
1955 <option> 1956 <option> 1957 <option>
```

```

1958 <option> 1959 <option> 1960 <option> 1961 <option> 1962
<option> 1963 <option> 1964 <option> 1965
    <option> 1966 <option> 1967 <option> 1968 <option> 1969 <option>
1970 <option> 1971 <option> 1972 <option>
    1973 <option> 1974 <option> 1975 <option> 1976 <option> 1977
<option> 1978 <option> 1979 <option> 1980
    <option> 1981 <option> 1982 <option> 1983 <option> 1984 <option>
1985 <option> 1986 <option> 1987 <option>
    1988 <option> 1989 <option> 1990 <option> 1991 <option> 1992
<option> 1993 <option> 1994 <option> 1995
    <option> 1986 <option> 1997 <option> 1998 <option> 1999 <option>
2000 <option> 2001 <option> 2002 <option>
    2003 </select> </td></tr></td></tr>
<tr><td width="50%">Age:</td><td><select name="AGE"> <option> 0 <option> 1
<option> 2 <option> 3 <option> 4 <option> 5
    <option> 6 <option> 7 <option> 8 <option> 9 <option> 10 <option> 11
<option> 12 <option> 13 <option> 14
    <option> 15 <option> 16 <option> 17 <option> 18 <option> 19 <option>
20 <option> 21 <option> 22 <option>
    23 <option> 24 <option> 25 <option> 26 <option> 27 <option> 28
<option> 29 <option> 30 <option> 31 <option>
    32 <option> 33 <option> 34 <option> 35 <option> 36 <option> 37
<option> 38 <option> 39 <option> 40 <option>
    41 <option> 42 <option> 43 <option> 44 <option> 45 <option> 46
<option> 47 <option> 48 <option> 49 <option>
    50 <option> 51 <option> 52 <option> 53 <option> 54 <option> 55
<option> 56 <option> 57 <option> 58 <option>
    59 <option> 60 <option> 61 <option> 62 <option> 63 <option> 64
<option> 65 <option> 66 <option> 67 <option>
    68 <option> 69 <option> 70 <option> 71 <option> 72 <option> 73
<option> 74 <option> 75 <option> 76 <option>
    77 <option> 78 <option> 79 <option> 80 <option> 81 <option> 82
<option> 83 <option> 84 <option> 85 <option>
    86 <option> 87 <option> 88 <option> 89 <option> 90 <option> 91
<option> 92 <option> 93 <option> 94 <option>
    95 <option> 96 <option> 97 <option> 98 <option> 99 <option> 100
<option> 101 <option> 102 <option> 103
    <option> 104 <option> 105 <option> 106 <option> 107 <option> 108
<option> 109 <option> 110 </Select></td>
</tr>
<tr><td width="50%">Hospital:</td><td><input type="text" value=""
name="HOSP"></td></tr>
<tr><td width="50%">Hospital ID:</td><td><input type="text" value=""
name="HOSP_ID"></td></tr>
<tr><td width="50%">Date of Reaction:

```

```

        <td>Month <select name="DATE_RXN_M"> <option> 1 <option> 2 <option> 3
<option> 4
        <option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
        Day <select name="DATE_RXN_D"><option> 1 <option> 2 <option> 3
<option> 4 <option> 5 <option> 6 <option> 7 <option> 8
        <option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
14 <option> 15 <option> 16 <option>
        17 <option> 18 <option> 19 <option> 20 <option> 21 <option> 22
<option> 23 <option> 24 <option> 25 <option>
        26 <option> 27 <option> 28 <option> 29 <option> 30 <option> 31
</select>
        Year <select name="DATE_RXN_Y"> <option> 1900 <option> 1901 <option>
1902 <option> 1903 <option> 1904 <option> 1905
        <option> 1906 <option> 1907 <option> 1908 <option> 1909 <option>
1910 <option> 1911 <option> 1912 <option>
        1913 <option> 1914 <option> 1915 <option> 1916 <option> 1917
<option> 1918 <option> 1919 <option> 1920
        <option> 1921 <option> 1922 <option> 1923 <option> 1924 <option>
1925 <option> 1926 <option> 1927 <option>
        1928 <option> 1929 <option> 1930 <option> 1931 <option> 1932
<option> 1933 <option> 1934 <option> 1935
        <option> 1936 <option> 1937 <option> 1938 <option> 1939 <option>
1940 <option> 1941 <option> 1942 <option>
        1943 <option> 1944 <option> 1945 <option> 1946 <option> 1947
<option> 1948 <option> 1949 <option> 1950
        <option> 1951 <option> 1952 <option> 1953 <option> 1954 <option>
1955 <option> 1956 <option> 1957 <option>
        1958 <option> 1959 <option> 1960 <option> 1961 <option> 1962
<option> 1963 <option> 1964 <option> 1965
        <option> 1966 <option> 1967 <option> 1968 <option> 1969 <option>
1970 <option> 1971 <option> 1972 <option>
        1973 <option> 1974 <option> 1975 <option> 1976 <option> 1977
<option> 1978 <option> 1979 <option> 1980
        <option> 1981 <option> 1982 <option> 1983 <option> 1984 <option>
1985 <option> 1986 <option> 1987 <option>
        1988 <option> 1989 <option> 1990 <option> 1991 <option> 1992
<option> 1993 <option> 1994 <option> 1995
        <option> 1986 <option> 1997 <option> 1998 <option> 1999 <option>
2000 <option> 2001 <option> 2002 <option>
        2003 </select> </td></tr></td></tr>
<tr><td width="50%">Sex:</td><td><select name="PAT_SEX">
        <Option> <Option> Male <Option> Female </Select></td></tr>
<tr><td width="50%">Initial Classification of Reaction:</td><td><select
name="CLASS">

```

```

        <Option> <Option> Hemolytic <Option> Febrile non-hemolytic
<Option> Allergic <Option> TRALI <Option>
        Unrelated <Option> No Classification Insinuated </select></td></tr>
<tr><td width="50%">Other:</td><td><input type="text" value=""
name="CLASS"></td></tr>
<tr><td width="50%">Transfusion Interventions Recommended Due to
Reaction:</td><td> <input type="text" value="" name="TIRDR">
        </td></tr>
<tr><td width="50%">Basic Patient Notes:</td><td><input type="text" value=""
name="PT_NOTES"></td></tr>
</table>
<hr>

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<h4>1) Blood Product(s) implicated in reaction:</h4>
<table width="100%" border="0" cellpadding="2" cellspacing="0">
<tr><td width="50%">Red Cell Concentrate</td><td> <input type="checkbox"
name="PROD0" value="Red Cell Concentrate"></td></tr>
<tr><td width="50%">Plasma (choose product): </td><td><select name="PROD1">
<option> <option> FFP <option> FP <option> SD-P <option> CSP </select> </td></tr>
<tr><td width="50%">Whole blood (includes autologous) </td><td><input
type="checkbox" name="PROD2" value="Whole blood"></td></tr>
<tr><td width="50%">Cryoprecipitate </td><td><input type="checkbox"
name="PROD3" value="Cryoprecipitate"></td></tr>
<tr><td width="50%">Random donor platelets </td><td><input type="checkbox"
name="PROD4" value="Random donor platelets"></td></tr>
<tr><td width="50%">RhIg </td><td><input type="checkbox" name="PROD5"
value="RhIg"></td></tr>
<tr><td width="50%">Apheresis Platelets: Split Product </td><td><select
name="PROD6"><option> <option> Split Product Yes <option>
        Split Product No </select></td></tr>
<tr><td width="50%">Other Classification (specify):</td><td><input type="text"
name="PROD7" value=""></td></tr>
<tr><td width="50%">Basic Blood Product Notes: </td><td><input type="text"
name="PROD_NOTES" value=""></td></tr>
</table>
<hr>

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<h4>2) Additional Processing of Implicated Blood Product(s):</h4>
<table width="100%" border="0" cellpadding="2" cellspacing="0">
<tr><td width="50%">Prestorage Leukoreduced </td><td><input type="checkbox"
name="PROCESS0" value="Prestorage"></td></tr>
<tr><td width="50%">Bedside Filter </td><td><input type="text" name="LEUKO"
value=""></td></tr>

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<tr><td width="50%">Filtered in Transfusion Service </td><td><input type="text"
name="LEUKO2" value=""></td></tr>
<tr><td width="50%">Pooled </td><td><input type="checkbox" name="PROCESS1"
value="Pooled"></td></tr>
<tr><td width="50%">Platelet crossmatched </td><td><input type="checkbox"
name="PROCESS2" value="Crossmatched"></td></tr>
<tr><td width="50%">HLA Matched </td><td><input type="checkbox"
name="PROCESS3" value="HLA Matched"></td></tr>
<tr><td width="50%">Autologous Donation </td><td><input type="checkbox"
name="PROCESS4" value="Autologous Donation"></td></tr>
<tr><td width="50%">Directed Donation </td><td><input type="checkbox"
name="PROCESS5" value="Directed Donation"></td></tr>
<tr><td width="50%">Irradiated Date: </td>
<td>Month <select name="IRR_DAT_M"> <option> 1 <option> 2 <option> 3
<option> 4
<option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
Day <select name="IRR_DAT_D"><option> 1 <option> 2 <option> 3 <option>
4 <option> 5 <option> 6 <option> 7 <option> 8
<option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
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<option> 23 <option> 24 <option> 25 <option>
26 <option> 27 <option> 28 <option> 29 <option> 30 <option> 31
</select>
Year <select name="IRR_DAT_Y"> <option> 1900 <option> 1901 <option>
1902 <option> 1903 <option> 1904 <option> 1905
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<option> 1951 <option> 1952 <option> 1953 <option> 1954 <option>
1955 <option> 1956 <option> 1957 <option>
1958 <option> 1959 <option> 1960 <option> 1961 <option> 1962
<option> 1963 <option> 1964 <option> 1965
<option> 1966 <option> 1967 <option> 1968 <option> 1969 <option>
1970 <option> 1971 <option> 1972 <option>

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1973 <option> 1974 <option> 1975 <option> 1976 <option> 1977
 <option> 1978 <option> 1979 <option> 1980
 <option> 1981 <option> 1982 <option> 1983 <option> 1984 <option>
 1985 <option> 1986 <option> 1987 <option>
 1988 <option> 1989 <option> 1990 <option> 1991 <option> 1992
 <option> 1993 <option> 1994 <option> 1995
 <option> 1986 <option> 1997 <option> 1998 <option> 1999 <option>
 2000 <option> 2001 <option> 2002 <option>
 2003 </select> </td></tr></td></tr><tr><td width="50%">Washed
 </td><td><input type="checkbox" name="PROCESS6" value="Washed"></td></tr>
 <tr><td width="50%">Other (specify): </td><td><input type="text"
 name="PROCESS7" value=""></td></tr>
 <tr><td width="50%">No addition processing </td><td><input type="checkbox"
 name="PROCESS8" value="NO_PROC"></td></tr>
 <tr><td width="50%">General Processing Notes: </td><td><input type="text"
 name="PROC_NOTES" value=""></td></tr>
 </table>
 <hr>

<h4>3) Infusion Characteristics</h4>

<table width="100%" border="0" cellpadding="2" cellspacing="0">
 <tr><td width="50%">Each unit infused over <td><select name="INF_OVR"> <option>
 <option> 1 <option> 2 <option> 3 <option> 4 <option> 5 <option> 6
 <option> 7 <option> 8 <option> 9 <option> 10 <option> 11 <option> 12
 <option> 13 <option> 14 <option> 15
 <option> 16 <option> 17 <option> 18 <option> 19 <option> 20 <option>
 21 <option> 22 <option> 23 <option> 24
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 30 <option> 31 <option> 32 <option> 33
 <option> 34 <option> 35 <option> 36 <option> 37 <option> 38 <option>
 39 <option> 40 <option> 41 <option> 42
 <option> 43 <option> 44 <option> 45 <option> 46 <option> 47 <option>
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 <option> 52 <option> 53 <option> 54 <option> 55 <option> 56 <option>
 57 <option> 58 <option> 59 <option> 60
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 66 <option> 67 <option> 68 <option> 69
 <option> 70 <option> 71 <option> 72 <option> 73 <option> 74 <option>
 75 <option> 76 <option> 77 <option> 78
 <option> 79 <option> 80 <option> 81 <option> 82 <option> 83 <option>
 84 <option> 85 <option> 86 <option> 87
 <option> 88 <option> 89 <option> 90 <option> 91 <option> 92 <option>
 93 <option> 94 <option> 95 <option> 96
 <option> 97 <option> 98 <option> 99 <option> 100 </select> minutes
 </td></tr>

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<tr><td width="50%">Other fluid in blood line (choose type) <td><select
name="BL_LI_FL"> <option> <option> Normal Saline <option> Ringers <option>
      Plasma <option> 5%Albumin <select></td></tr>
<tr><td width="50%">Other (specify) </td><td><input type="text" name="BL_LI_FL"
value=""></td></tr><br>
<tr><td width="50%">Venous access used for transfusion (choose type) <td><select
name="VEN_ACC"> <option> <option> Peripheral IV <option>
      Central line <option> Broviac-type catheter <option> IVAD
<select></td></tr>
<tr><td width="50%">Other (specify) </td><td><input type="text" name="VEN_ACC"
value=""></td></tr>
<tr><td width="50%">Place transfusion given (choose): <td><select
name="TRA_PLA"> <option> <option> Ward <option> ICU <option> Inta-op </select>
<tr><td width="50%">Elsewhere (specify) </td><td><input type="text"
name="TRA_PLA" value=""></td></tr>
<tr><td width="50%">Blood warmer used </td><td><input type="checkbox"
name="DEVICE0" value="Blood Warmer"></td></tr>
<tr><td width="50%">Rapid infusion device used </td><td><input type="checkbox"
name="DEVICE1" value="Rapid Infusion"></td></tr>
<tr><td width="50%">Interoperative salvage device in use </td><td><input
type="checkbox" name="DEVICE2" value="Interoperative Salvage"></td></tr>
<tr><td width="50%">Other medications in blood line with blood product:
</td><td><input type="text" name="OTH_MED" value=""></td></tr>
<tr><td width="50%">General Infusion Characteristic Notes: </td><td><input
type="text" name="INF_NOTES" value=""></td></tr>
</table>
<hr>

```

<h4>4) Patient Premedication(s)</h4>

```

<table width="100%" border="0" cellpadding="2" cellspacing="0">
<tr><td width="50%">None </td><td><input type="checkbox" name="PREM0"
value="No Premedication"></td></tr>
<tr><td width="50%">Tylenol </td><td><input type="checkbox" name="PREM1"
value="Tylenol"> </td></tr>
<tr><td width="50%">Benadryl </td><td><input type="checkbox" name="PREM2"
value="Benadryl"></td></tr>
<tr><td width="50%">Other (specify): </td><td><input type="text" name="PREM3"
value=""></td></tr>
<tr><td width="50%">General Premdication Notes: </td><td><input type="text"
name="PREM_NOTES" value=""></td></tr>
</table>
<hr>

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<H4>5) Symptoms and signs of reaction (Check all that apply):</H4>

```

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>

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<tr><td width="50%">Fever (>1'C rise) </td><td><input type="checkbox"
name="S_OR_S" value="Fever"></td></tr>
<tr><td width="50%">Chills </td><td><input type="checkbox" name="S_OR_S"
value="Chills"></td></tr>
<tr><td width="50%">Rigors </td><td><input type="checkbox" name="S_OR_S"
value="Rigors"></td></tr>
<tr><td width="50%">Urticaria Where? </td><td><input type="text"
name="URTICARIA" value=""></td></tr>
<tr><td width="50%">Rash Where? </td><td><input type="text" name="RASH"
value=""></td></tr>
<tr><td width="50%">Wheezing, bronchospasm </td><td><input type="checkbox"
name="S_OR_S" value="Bronchospasm"></td></tr>
<tr><td width="50%">Shortness of breath </td><td><input type="checkbox"
name="S_OR_S" value="Short of Breath"></td></tr>
<tr><td width="50%">Cyanosis </td><td><input type="checkbox" name="S_OR_S"
value="Cyanosis"></td></tr>
<tr><td width="50%">Hypoxemia </td><td><input type="checkbox" name="S_OR_S"
value="Hypoxemia"></td></tr>
<tr><td width="50%">Pulmonary edema </td><td><input type="checkbox"
name="S_OR_S" value="Pulmonary edema"></td></tr>
<tr><td width="50%">Back Pain </td><td><input type="checkbox" name="S_OR_S"
value="Back Pain"></td></tr>
<tr><td width="50%">Abdominal Pain </td><td><input type="checkbox"
name="S_OR_S" value="Abdominal Pain"></td></tr>
<tr><td width="50%">Myalgia </td><td><input type="checkbox" name="S_OR_S"
value="Myalgia"></td></tr>
<tr><td width="50%">New onset hypotension </td><td><input type="checkbox"
name="S_OR_S" value="Hypotension"></td></tr>
<tr><td width="50%">Hemoglobinuria </td><td><input type="checkbox"
name="S_OR_S" value="Hemoglobinuria"></td></tr>
<tr><td width="50%">Other </td><td><input type="text" name="S_OR_S"
value=""></td></tr>
<tr><td width="50%">General Symptoms Notes: </td><td><input type="text"
name="SYMP_NOTES" value=""></td></tr>
</table>

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<H4>6) Vital signs </H4>

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<br>
```

```
<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
```

```
<B> Pretransfusion </B> <BR>
```

```
<tr><td width="50%">Temp ('C) </td><td><input type="text" name="PRE_TP"
value=""></td></tr>
```

```
<tr><td width="50%">Blood Pressure </td><td><input type="text" name="PRE_BP"
value=""></td></tr>
```



```
<option> 80 <option> 81 <option> 82 <option> 83 <option> 84 <option>
85 <option> 86 <option> 87 <option> 88
      <option> 89 <option> 90 <option> 91 <option> 92 <option> 93 <option>
94 <option> 95 <option> 96 <option> 97
      <option> 98 <option> 99 <option> 100 </select> L
      Type <select name="PRE_O2_TY"> <option> <option> R.A. <option> N.P.
<option> Mask </select></td></tr>
</table>
<br>
<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<B> Posttransfusion </B>
<tr><td width="50%">Temp ('C) </td><td><input type="text" name="PST_TP"
value=""></td></tr>
<tr><td width="50%">Blood Pressure </td><td><input type="text" name="PST_BP"
value=""></td></tr>
<tr><td width="50%">Pulse </td><td><input type="text" name="PST_PU"
value=""></td></tr>
<tr><td width="50%">Respiratory Rate </td><td><input type="text" name="PST_RR"
value=""></td></tr>
<tr><td width="50%">O2 saturation <td><select name="PST_O2"> <option> <option>
1 <option> 2 <option> 3 <option> 4 <option>
      5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10 <option> 11
<option> 12 <option> 13 <option> 14
      <option> 15 <option> 16 <option> 17 <option> 18 <option> 19 <option>
20 <option> 21 <option> 22 <option> 23
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29 <option> 30 <option> 31 <option> 32
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38 <option> 39 <option> 40 <option> 41
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47 <option> 48 <option> 49 <option> 50
      <option> 51 <option> 52 <option> 53 <option> 54 <option> 55 <option>
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      <option> 60 <option> 61 <option> 62 <option> 63 <option> 64 <option>
65 <option> 66 <option> 67 <option> 68
      <option> 69 <option> 70 <option> 71 <option> 72 <option> 73 <option>
74 <option> 75 <option> 76 <option> 77
      <option> 78 <option> 79 <option> 80 <option> 81 <option> 82 <option>
83 <option> 84 <option> 85 <option> 86
      <option> 87 <option> 88 <option> 89 <option> 90 <option> 91 <option>
92 <option> 93 <option> 94 <option> 95
      <option> 96 <option> 97 <option> 98 <option> 99 <option> 100
</select>
      % <select name="PST_O2_L"> <option> <option> 1 <option> 2 <option> 3
<option> 4 <option> 5 <option> 6 <option>
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7 <option> 8 <option> 9 <option> 10 <option> 11 <option> 12 <option>
13 <option> 14 <option> 15 <option> 16
    <option> 17 <option> 18 <option> 19 <option> 20 <option> 21 <option>
22 <option> 23 <option> 24 <option> 25
    <option> 26 <option> 27 <option> 28 <option> 29 <option> 30 <option>
31 <option> 32 <option> 33 <option> 34
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    <option> 44 <option> 45 <option> 46 <option> 47 <option> 48 <option>
49 <option> 50 <option> 51 <option> 52
    <option> 53 <option> 54 <option> 55 <option> 56 <option> 57 <option>
58 <option> 59 <option> 60 <option> 61
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76 <option> 77 <option> 78 <option> 79
    <option> 80 <option> 81 <option> 82 <option> 83 <option> 84 <option>
85 <option> 86 <option> 87 <option> 88
    <option> 89 <option> 90 <option> 91 <option> 92 <option> 93 <option>
94 <option> 95 <option> 96 <option> 97
    <option> 98 <option> 99 <option> 100 </select> L

```

```

Type <select name="PST_O2_TY"> <option> <option> R.A. <option> N.P.

```

```

<option> Mask </select></td></tr>

```

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<tr><td width="50%">General Vitals Notes </td><td><input type="text"
name="VITAL_NOTES" value=""></td></tr>

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</table>

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<H4>7) Treatment of reaction </H4>

```

```

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>

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```

<tr><td width="50%">Tylenol </td><td><input type="checkbox" name="TREAT"
value="Tylenol"></td></tr>

```

```

<tr><td width="50%">Diuretics </td><td><input type="checkbox" name="TREAT"
value="Diuretics"></td></tr>

```

```

<tr><td width="50%">Benadryl </td><td><input type="checkbox" name="TREAT"
value="Benadryl"></td></tr>

```

```

<tr><td width="50%">Corticosteroids </td><td><input type="checkbox"
name="TREAT" value="Corticosteroids"></td></tr>

```

```

<tr><td width="50%">Demerol </td><td><input type="checkbox" name="TREAT"
value="Demerol"></td></tr><br>

```

```

<tr><td width="50%">Supplemental O2: <td><select name="ROUTE"> <Option>
<option> Lack info <Option> prongs <Option> mask </select></td></tr>

```

```

<tr><td width="50%">Rate of FIO2 </td><td><input type="text" name="RAT_FIO2"
value=""></td></tr>

```

```

<tr><td width="50%">Ventolin / bronchodilators </td><td><input type="checkbox"
name="TREAT" value="Ventolin"></td></tr>

```

```

<tr><td width="50%">Intubation / mechanical ventilation </td><td><input
type="checkbox" name="TREAT" value="Intubation"></td></tr>
<tr><td width="50%">Diuretics </td><td><input type="checkbox" name="TREAT"
value="Diuretics"></td></tr>
<tr><td width="50%">Volume Expansion Product(s) and Volumes: </td><td><input
type="text" name="V_EX_PR" value=""></td></tr>
<tr><td width="50%">Adrenalin </td><td><input type="checkbox" name="TREAT"
value="Adrenalin"></td></tr>
<tr><td width="50%">Other </td><td><input type="text" name="TREAT"
value=""></td></tr>
<tr><td width="50%">General Treatment Notes </td><td><input type="text"
name="TREAT_NOTES" value=""></td></tr>
</table>
<hr>

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<H4>8) Reaction investigation </H4>

```

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<tr><td width="50%">Blood product sent back to Transfusion Service </td><td><input
type="checkbox" name="TRA_SRV" value=""></td></tr>
<tr><td width="50%">Patient Post Transfusion BLOOD sample sent to Transfusion
Service </td><td><input type="checkbox" name="TRA_SRV" value=""></td></tr>
<tr><td width="50%">Patient post transfusion URINE sample sent to Transfusion
Service </td><td><input type="checkbox" name="TRA_SRV" value=""></td></tr>
<tr><td width="50%">ABO of recipient <td><select name="ABO_RE"> <Option>
<Option> A <Option> B <Option> O <Option> AB </select></td></tr>
<tr><td width="50%">ABO of donor(s): </td><td><input type="text"
name="ABO_DO" value=""></td></tr>
<tr><td width="50%">Hemolytic work-up results: "Neg" for Negative </td><td><input
type="text" name="TR_SR_HE" value=""></td></tr>
<tr><td width="50%">Patient blood culture result "Neg" for Negative </td><td><input
type="text" name="TR_SR_BC" value=""></td></tr>
<tr><td width="50%">Product culture result "Neg" for Negative </td><td><input
type="text" name="TR_SR_PC" value=""></td></tr>
<tr><td width="50%">Products or donor(s) checked for anti-granulocyte and anti-HLA
antibodies: Result </td><td><input type="text" name="PR_HLA" value=""></td></tr>
<tr><td width="50%">Recipient checked for anti-granulocytes and anti-HLA antibodies:
Result </td><td><input type="text" name="RE_HLA" value=""></td></tr>
<tr><td width="50%">Product(s) assayed for PMN priming activity <td><select
name="PR_PMN"> <option> <option> No <option> Yes </select></td></tr>
<tr><td width="50%">Patient pre and post transfusion plasma assayed for PMN priming
activity <td><select name="PT_PMN"> <option> <option> No <option> Yes
</select></td></tr>
<tr><td width="50%">Recipient IgA levels Results </td><td><input type="text"
name="RE_IGA" value=""></td></tr>
<tr><td width="50%">If low anti-IgA antibodies Result </td><td><input type="text"
name="ANT_IGA" value=""></td></tr>

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<tr><td width="50%">Other pertinent lab investigations </td><td><input type="text"
name="OT_LB_RE" value=""></td></tr>
<tr><td width="50%">CXR done during reaction: Result </td><td><input type="text"
name="CXR_RE" value=""></td></tr>
<tr><td width="50%"> O2 saturations or ABG done during reaction: </td></tr>
<tr><td width="50%">Result: </td><td><input type="text" name="O2_SAT"
value=""></td></tr>
<tr><td width="50%">On what FIO2? </td><td><input type="text" name="O2_FIO2"
value=""></td></tr>
<tr><td width="50%">On what FIO2 Type? <td><select name="O2_FIO2_TY">
<option> <option> R.A. <option> N.P. <option> Mask</select></td></tr>
<tr><td width="50%">Baseline value </td><td><input type="text" name="BASE_VAL"
value=""></td></tr>
<tr><td width="50%">On what FIO2? </td><td><input type="text"
name="BASE_FIO2" value=""></td></tr>
<tr><td width="50%">On what FIO2 Type? <td><select name="BASE_FIO2_TY">
<option> <option> R.A. <option> N.P. <option> Mask </select></td></tr>
<tr><td width="50%">Post reaction resolution </td><td><input type="text"
name="PST_RES" value=""></td></tr>
<tr><td width="50%">On what FIO2?</td><td><input type="text" name="PST_FIO2"
value=""></td></tr>
<tr><td width="50%">On what FIO2 Type? <td><select name="PST_FIO2_TY">
<option> <option> R.A. <option> N.P. <option> Mask </select></td></tr>

<tr><td width="50%"><b> Pre-Reaction CBC </b> </td></tr>
<tr><td width="50%">Date: </td>
    <td>Month <select name="PRE_DAT_M"> <option> 1 <option> 2 <option> 3
<option> 4
        <option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
    <td>Day <select name="PRE_DAT_D"><option> 1 <option> 2 <option> 3 <option>
4 <option> 5 <option> 6 <option> 7 <option> 8
        <option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
14 <option> 15 <option> 16 <option>
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<option> 23 <option> 24 <option> 25 <option>
        26 <option> 27 <option> 28 <option> 29 <option> 30 <option> 31
</select>
    <td>Year <select name="PRE_DAT_Y"> <option> 1900 <option> 1901 <option>
1902 <option> 1903 <option> 1904 <option> 1905
        <option> 1906 <option> 1907 <option> 1908 <option> 1909 <option>
1910 <option> 1911 <option> 1912 <option>
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<option> 1918 <option> 1919 <option> 1920
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1925 <option> 1926 <option> 1927 <option>

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1928 <option> 1929 <option> 1930 <option> 1931 <option> 1932
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 2003 </select> </td></tr>

<tr><td width="50%">Time </td><td><input type="text" name="PRE_TIM"
 value=""></td></tr>
 <tr><td width="50%">WBC </td><td><input type="text" name="PRE_WBC"
 value=""></td></tr>
 <tr><td width="50%">PMN </td><td><input type="text" name="PRE_PMN"
 value=""></td></tr>
 <tr><td width="50%">Lymphs </td><td><input type="text" name="PRE_LYM"
 value=""></td></tr>
 <tr><td width="50%">Monocytes </td><td><input type="text" name="PRE_MON"
 value=""></td></tr>
 <tr><td width="50%">Eosionphils </td><td><input type="text" name="PRE_EOS"
 value=""></td></tr>
 <tr><td width="50%">Basophils </td><td><input type="text" name="PRE_BAS"
 value=""></td></tr>
 <tr><td width="50%">Bands </td><td><input type="text" name="PRE_BAN"
 value=""></td></tr>
 <tr><td width="50%">HB </td><td><input type="text" name="PRE_HB"
 value=""></td></tr>
 <tr><td width="50%">Hct </td><td><input type="text" name="PRE_HCT"
 value=""></td></tr>
 <tr><td width="50%">Platelets </td><td><input type="text" name="PRE_PLA"
 value=""></td></tr>

<tr><td width="50%"> Post-Reaction CBC </td></tr>
 <tr><td width="50%">Date: </td>

```

        <td>Month <select name="PST_DAT_M"> <option> 1 <option> 2 <option> 3
<option> 4
        <option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
        Day <select name="PST_DAT_D"><option> 1 <option> 2 <option> 3 <option>
4 <option> 5 <option> 6 <option> 7 <option> 8
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        2003 </select> </td></tr>
<tr><td width="50%">Time </td><td><input type="text" name="PST_TIM"
value=""></td></tr>
<tr><td width="50%">WBC </td><td><input type="text" name="PST_WBC"
value=""></td></tr>

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<tr><td width="50%">PMN </td><td><input type="text" name="PST_PMN"
value=""></td></tr>
<tr><td width="50%">Lymphs </td><td><input type="text" name="PST_LYM"
value=""></td></tr>
<tr><td width="50%">Monocytes </td><td><input type="text" name="PST_MON"
value=""></td></tr>
<tr><td width="50%">Eosionphils </td><td><input type="text" name="PST_EOS"
value=""></td></tr>
<tr><td width="50%">Basophils </td><td><input type="text" name="PST_BAS"
value=""></td></tr>
<tr><td width="50%">Bands </td><td><input type="text" name="PST_BAN"
value=""></td></tr>
<tr><td width="50%">HB </td><td><input type="text" name="PST_HB"
value=""></td></tr>
<tr><td width="50%">Hct </td><td><input type="text" name="PST_HCT"
value=""></td></tr>
<tr><td width="50%">Platelets </td><td><input type="text" name="PST_PLA"
value=""></td></tr>
<tr><td width="50%">General CBC Notes </td><td><input type="text"
name="CBC_NOTES" value=""></td></tr>

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<tr><td width="50%">Other pertinent clinical investigations </td><td><input
type="text" name="OT_CL_RE" value=""></td></tr>
<tr><td width="50%">General Investigation notes </td><td><input type="text"
name="INVEST_NOTES" value=""></td></tr>
</table>
<hr>

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<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<H4>9) Time interval from start of transfusion to onset of symptoms:</H4>
<tr><td width="50%"> </td><td><select name="INI_INT"> <Option> <Option> < 15
mins <Option> 15 mins - 1 hr <Option> 1 hr - 24 hrs </select>
</table>
<hr>

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<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<H4>10) Duration of reaction</H4>
<tr><td width="50%"> </td><td><select name="INI_DUR"> <Option> <Option> < 1 hr
<Option> 1 - 6 hrs <Option> 6 hr - 24 hrs <Option> > 24 hrs </select>
</table>
<hr>

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<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<H4>11) Reaction outcome</H4>

```

```

<tr><td width="50%"> </td><td><select name="REA_OUT"> <Option> <Option>
Complete clinical resolution <Option> Patient died-reaction contributed to death
</select></td></tr>
<tr><td width="50%"> Patient with residual morbidity (specify) </td><td><input
type="text" name="REA_OUT" value=""></td></tr>
</table>
<hr>

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<H4>12) Patient transfusion history</H4>

```

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<tr><td width="50%">Patient previously transfused <td><select name="PT_PR_TR">
<Option> <Option> No <Option> Yes </select></td></tr>
<tr><td width="50%">When: </td>
<td>Month <select name="WHN_TR_M"> <option> 1 <option> 2 <option> 3
<option> 4
<option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
Day <select name="WHN_TR_D"><option> 1 <option> 2 <option> 3 <option> 4
<option> 5 <option> 6 <option> 7 <option> 8
<option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
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<option> 23 <option> 24 <option> 25 <option>
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Year <select name="WHN_TR_Y"> <option> 1900 <option> 1901 <option>
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 2003 </select> </td></tr>
 <tr><td width="50%">What:</td><td><input type="text"
 name="WHT_TR"></td></tr>
 <tr><td width="50%">Number of previous pregnancies <td><select
 name="NO_PREG"> <option> <option> 1 <option> 2 <option> 3 <option> 4 <option> 5
 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
 <option> 11 <option> 12 <option> 13 <option> 14 <option> 15
 </select></td></tr>
 <tr><td width="50%">Previous transfusion reaction notes: </td><td><input type="text"
 name="HIST_NOTES"></td></tr>
 </table>
 <hr>

<H4>13) Recipient's Current Major Medical Diagnoses</H4>

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
 <tr><td width="50%">Admitting diagnosis </td><td><input type="text"
 name="ADM_DX" value=""></td></tr>
 <tr><td width="50%">Surgery Date
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 <option> 4
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 <option> 11 <option> 12 </select>
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2000 <option> 2001 <option> 2002 <option>
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<tr><td width="50%">Surgery Type </td><td><input type="text" name="SUR_TY"
value=""></td></tr>
<tr><td width="50%">Malignancy Date Diagnosed
                <td>Month <select name="MAL_DAT_M"> <option> 1 <option> 2 <option> 3
<option> 4
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<tr><td width="50%">GI Bleed-Due to: </td><td><input type="text" name="GI_DUE"
value=""></td></tr>
<tr><td width="50%">Liver Disease-Due to: </td><td><input type="text"
name="LI_DUE" value=""></td></tr>
<tr><td width="50%">Infection Date Diagnosed
                <td>Month <select name="IN_DX_DA_M"> <option> 1 <option> 2 <option> 3
<option> 4
                <option> 5 <option> 6 <option> 7 <option> 8 <option> 9 <option> 10
<option> 11 <option> 12 </select>
                Day <select name="IN_DX_DA_D"><option> 1 <option> 2 <option> 3
<option> 4 <option> 5 <option> 6 <option> 7 <option> 8
                <option> 9 <option> 10 <option> 11 <option> 12 <option> 13 <option>
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                17 <option> 18 <option> 19 <option> 20 <option> 21 <option> 22
<option> 23 <option> 24 <option> 25 <option>
                26 <option> 27 <option> 28 <option> 29 <option> 30 <option> 31
</select>
                Year <select name="IN_DX_DA_Y"> <option> 1900 <option> 1901 <option>
1902 <option> 1903 <option> 1904 <option> 1905
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<option> 1993 <option> 1994 <option> 1995
                <option> 1986 <option> 1997 <option> 1998 <option> 1999 <option>
2000 <option> 2001 <option> 2002 <option>
                2003 </select> </td></tr>
<tr><td width="50%">Infection Culture results </td><td><input type="text"
name="CUL_RES" value=""></td></tr>
<tr><td width="50%">Massive transfusion products </td><td><input type="text"
name="MA_TR_PR" value=""></td></tr>
<tr><td width="50%">Patient febrile PRIOR to transfusion </td><td><input type="text"
name="FE_PR_TR" value=""></td></tr>
<tr><td width="50%">Patient critically ill prior to transfusion </td><td><input
type="text" name="CRT_ILL" value=""></td></tr>
<tr><td width="50%">Cardiac disease </td><td><input type="text" name="CAR_DIS"
value=""></td></tr>
<tr><td width="50%">Pulmonary disease - Pretransfusion </td><td><input type="text"
name="PRP_DI_T" value=""></td></tr>
<tr><td width="50%">Pulmonary disease - Posttransfusion </td><td><input type="text"
name="PSP_DI_T" value=""></td></tr>
<tr><td width="50%">General MMD Notes: </td><td><input type="text"
name="MMD_NOTES" value=""></td></tr>
</table>
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```

<H4>14) Recipient Medications</H4>

```

<table width="100%" border="0" cellpadding="2" cellspacing="0"></td></tr>
<tr><td width="50%">Chemotherapy <td><select name="CHEMO"> <option>
<Option> Induction <Option> Consolidation <Option> Maintenance </select></td></tr>
<tr><td width="50%">Agent(s) given </td><td><input type="text"
name="AGNT_GIV"></td></tr>

```

```

<tr><td width="50%">Date(s) given </td><td><input type="text"
name="DATE_GIV"></td></tr>
<tr><td width="50%">Antibiotics and antimicrobials </td></tr>
<tr><td width="50%">Agent(s) given: </td><td><input type="text"
name="ANTI_GIV"></td></tr>
<tr><td width="50%">Date(s) given: </td><td><input type="text"
name="GIV_DATE"></td></tr>
<tr><td width="50%">Hematopietic growth factors </td></tr>
<tr><td width="50%">G-CSF </td><td><input type="checkbox" name="HEM_FACT"
value=""></td></tr>
<tr><td width="50%">GM-CSF </td><td><input type="checkbox"
name="HEM_FACT" value=""></td></tr>
<tr><td width="50%">EPO </td><td><input type="checkbox" name="HEM_FACT"
value=""></td></tr>
<tr><td width="50%">Other </td><td><input type="checkbox" name="HEM_FACT"
value=""></td></tr>
<tr><td width="50%">Acetylcholinesterase (ACE) inhibitor <td><select
name="ACE_INH"> <Option> No <Option> Yes </select></td></tr>
<tr><td width="50%">Other major medications </td><td><input type="text"
name="OTH_MEDS" value=""></td></tr>
<tr><td width="50%">General Recipient Medications notes: </td><td><input
type="text" name="REC_MED__NOTES" value=""></td></tr>
</table>
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<H4>15) Other potentially pertinent info not elsewhere covered:

```

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<tr><td width="50%"> </td><td><input type="text" name="REC_MED__NOTES"
value=""></td></tr>
</table>
<hr>

```



```

<input type="Submit" value="Click Here to Submit Patient Data">
<!table width="650" border="0" cellpadding="2" cellspacing="0">
<INPUT TYPE="reset" VALUE="Click Here to clear the form">
<hr>
</table>
</form>
</body>
</html>

```

Appendix H – Data entry servlet code

```
/* Code by Kevin Jorgensen, OHSU 5/01/2004
 *Servlet receives patient data from the data entry form Reaction6.html. It
 *then will process the data and submit sql statements that will enter the data
 *into the Oracle database.
 */

// import the libraries necessary to run servlet
import java.io.*;
import java.sql.*;
import java.text.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class JS_Data_Entry extends HttpServlet {

// States the servlet will post data to the database.
    public void doPost(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

// Enable the variable "out" to be used to write html code for output
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        try
        {
// Connect to the database
            String url = "jdbc:oracle:thin:@ohsucr3.ohsu.edu:1536:META";
            DriverManager.registerDriver(new oracle.jdbc.driver.OracleDriver());
            Connection con= DriverManager.getConnection (url, "trali", "trali04");

// Enable the variable stmt to be used to pass sql messages with database
            Statement stmt = con.createStatement ();

// PATIENT - Form Question 0
// Creates and sets the variable with data received from Reaction6.html.
            String PT_ID = request.getParameter("PT_ID");
// Sends the sql statement to the database to create the patient.
            stmt.executeUpdate("insert into PATIENT (PT_ID) VALUES (" + PT_ID + ")");
// Variables used to construct the date before sending statement to database
            String DOB_M = request.getParameter("DOB_M");
            String DOB_D = request.getParameter("DOB_D");
            String DOB_Y = request.getParameter("DOB_Y");
```

```

String DOB = DOB_D + "-" + DOB_M + "-" + DOB_Y;
stmt.executeUpdate("update PATIENT set DOB = " + DOB + " where PT_ID = " +
PT_ID + "");
String AGE_S = request.getParameter("AGE");
// This converts the string version of Age to an int as required by the database
int AGE = Integer.parseInt(AGE_S);
stmt.executeUpdate("update PATIENT set AGE = " + AGE + " where PT_ID = " +
PT_ID + "");
String HOSP = request.getParameter("HOSP"); stmt.executeUpdate("update
PATIENT set HOSP = " + HOSP + " where PT_ID = " + PT_ID + "");
String HOSP_ID = request.getParameter("HOSP_ID");
stmt.executeUpdate("update PATIENT set HOSP_ID = " + HOSP_ID + " where
PT_ID = " + PT_ID + "");
String DAT_RXN_M = request.getParameter("DATE_RXN_M");
String DAT_RXN_D = request.getParameter("DATE_RXN_D");
String DAT_RXN_Y = request.getParameter("DATE_RXN_Y");
String DAT_RXN = DAT_RXN_D + "-" + DAT_RXN_M + "-" + DAT_RXN_Y;
stmt.executeUpdate("update PATIENT set DAT_RXN = " + DAT_RXN + " where
PT_ID = " + PT_ID + "");
String PAT_SEX = request.getParameter("PAT_SEX");
stmt.executeUpdate("update PATIENT set PAT_SEX = " + PAT_SEX + " where
PT_ID = " + PT_ID + "");
String CLASS = request.getParameter("CLASS");
stmt.executeUpdate("update PATIENT set CLASS = " + CLASS + " where PT_ID =
" + PT_ID + "");
String TIRDR = request.getParameter("TIRDR");
stmt.executeUpdate("update PATIENT set TIRDR = " + TIRDR + " where PT_ID =
" + PT_ID + "");
String PT_NOTES = request.getParameter("PT_NOTES");
stmt.executeUpdate("update PATIENT set PT_NOTES = " + PT_NOTES + "
where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 1
String PROD_NOTES = request.getParameter("PROD_NOTES");
stmt.executeUpdate("update PATIENT set PT_NOTES = " + PROD_NOTES +
" where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 2
String LEUKO = request.getParameter("LEUKO");
stmt.executeUpdate("update PATIENT set LEUKO = " + LEUKO + " where
PT_ID = " + PT_ID + "");
String IRR_DAT_M = request.getParameter("IRR_DAT_M");
String IRR_DAT_D = request.getParameter("IRR_DAT_D");
String IRR_DAT_Y = request.getParameter("IRR_DAT_Y");
String IRR_DATE = IRR_DAT_D + "-" + IRR_DAT_M + "-" + IRR_DAT_Y;

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        stmt.executeUpdate("update PATIENT set IRR_DATE = " + IRR_DATE + "
where PT_ID = " + PT_ID + "");
        String PROC_NOTES = request.getParameter("PROC_NOTES");
        stmt.executeUpdate("update PATIENT set PROC_NOTES = " +
PROC_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 3
        String INF_OVR = request.getParameter("INF_OVR");
        stmt.executeUpdate("update PATIENT set INF_OVR = " + INF_OVR + "
where PT_ID = " + PT_ID + "");
        String BL_LI_FL = request.getParameter("BL_LI_FL");
        stmt.executeUpdate("update PATIENT set BL_LI_FL = " + BL_LI_FL + "
where PT_ID = " + PT_ID + "");
        String VEN_ACC = request.getParameter("VEN_ACC");
        stmt.executeUpdate("update PATIENT set VEN_ACC = " + VEN_ACC + "
where PT_ID = " + PT_ID + "");
        String TRA_PLA = request.getParameter("TRA_PLA");
        stmt.executeUpdate("update PATIENT set TRA_PLA = " + TRA_PLA + "
where PT_ID = " + PT_ID + "");
        String OTH_MED = request.getParameter("OTH_MED");
        stmt.executeUpdate("update PATIENT set OTH_MED = " + OTH_MED + "
where PT_ID = " + PT_ID + "");
        String INF_NOTES = request.getParameter("INF_NOTES");
        stmt.executeUpdate("update PATIENT set INF_NOTES = " + INF_NOTES + "
where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 4
        String PREM_NOTES = request.getParameter("PREM_NOTES");
        stmt.executeUpdate("update PATIENT set PREM_NOTES = " +
PREM_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 5
        String URTICARIA = request.getParameter("URTICARIA");
        stmt.executeUpdate("update PATIENT set URTICARIA = " + URTICARIA +
" where PT_ID = " + PT_ID + "");
        String RASH = request.getParameter("RASH");
        stmt.executeUpdate("update PATIENT set RASH = " + RASH + " where
PT_ID = " + PT_ID + "");
        String SYMP_NOTES = request.getParameter("SYMP_NOTES");
        stmt.executeUpdate("update PATIENT set SYMP_NOTES = " +
SYMP_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 7
        String ROUTE = request.getParameter("ROUTE");
        stmt.executeUpdate("update PATIENT set ROUTE = " + ROUTE + " where
PT_ID = " + PT_ID + "");

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String RAT_FIO2 = request.getParameter("RAT_FIO2");
stmt.executeUpdate("update PATIENT set RAT_FIO2 = '" + RAT_FIO2 + "'
where PT_ID = '" + PT_ID + "'");
String V_EX_PR = request.getParameter("V_EX_PR");
stmt.executeUpdate("update PATIENT set V_EX_PR = '" + V_EX_PR + "'
where PT_ID = '" + PT_ID + "'");
String TREAT_NOTES = request.getParameter("TREAT_NOTES");
stmt.executeUpdate("update PATIENT set TREAT_NOTES = '" +
TREAT_NOTES + "' where PT_ID = '" + PT_ID + "'");

// PATIENT - Form Question 8
String ABO_RE = request.getParameter("ABO_RE");
stmt.executeUpdate("update PATIENT set ABO_RE = '" + ABO_RE + "' where
PT_ID = '" + PT_ID + "'");
String ABO_DO = request.getParameter("ABO_DO");
stmt.executeUpdate("update PATIENT set ABO_DO = '" + ABO_DO + "'
where PT_ID = '" + PT_ID + "'");
String TR_SR_HE = request.getParameter("TR_SR_HE");
stmt.executeUpdate("update PATIENT set TR_SR_HE = '" + TR_SR_HE + "'
where PT_ID = '" + PT_ID + "'");
String TR_SR_BC = request.getParameter("TR_SR_BC");
stmt.executeUpdate("update PATIENT set TR_SR_BC = '" + TR_SR_BC + "'
where PT_ID = '" + PT_ID + "'");
String TR_SR_PC = request.getParameter("TR_SR_PC");
stmt.executeUpdate("update PATIENT set TR_SR_PC = '" + TR_SR_PC + "'
where PT_ID = '" + PT_ID + "'");
String PR_HLA = request.getParameter("PR_HLA");
stmt.executeUpdate("update PATIENT set PR_HLA = '" + PR_HLA + "' where
PT_ID = '" + PT_ID + "'");
String RE_HLA = request.getParameter("RE_HLA");
stmt.executeUpdate("update PATIENT set RE_HLA = '" + RE_HLA + "' where
PT_ID = '" + PT_ID + "'");
String PR_PMN = request.getParameter("PR_PMN");
stmt.executeUpdate("update PATIENT set PR_PMN = '" + PR_PMN + "' where
PT_ID = '" + PT_ID + "'");
String PT_PMN = request.getParameter("PT_PMN");
stmt.executeUpdate("update PATIENT set PT_PMN = '" + PT_PMN + "' where
PT_ID = '" + PT_ID + "'");
String RE_IGA = request.getParameter("RE_IGA");
stmt.executeUpdate("update PATIENT set RE_IGA = '" + RE_IGA + "' where
PT_ID = '" + PT_ID + "'");
String ANT_IGA = request.getParameter("ANT_IGA");
stmt.executeUpdate("update PATIENT set ANT_IGA = '" + ANT_IGA + "'
where PT_ID = '" + PT_ID + "'");
String OT_LB_RE = request.getParameter("OT_LB_RE");

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        stmt.executeUpdate("update PATIENT set OT_LB_RE = " + OT_LB_RE + "
where PT_ID = " + PT_ID + "");
        String CXR_RE = request.getParameter("CXR_RE");
        stmt.executeUpdate("update PATIENT set CXR_RE = " + CXR_RE + " where
PT_ID = " + PT_ID + "");
        String O2_SAT = request.getParameter("O2_SAT");
        stmt.executeUpdate("update PATIENT set O2_SAT = " + O2_SAT + " where
PT_ID = " + PT_ID + "");
        String O2_FIO2 = request.getParameter("O2_FIO2");
        stmt.executeUpdate("update PATIENT set O2_FIO2 = " + O2_FIO2 + " where
PT_ID = " + PT_ID + "");
        String O2_FIO2_TY = request.getParameter("O2_FIO2_TY");
        stmt.executeUpdate("update PATIENT set O2_FIO2_TY = " + O2_FIO2_TY +
" where PT_ID = " + PT_ID + "");
        String BASE_VAL = request.getParameter("BASE_VAL");
        stmt.executeUpdate("update PATIENT set BASE_VAL = " + BASE_VAL + "
where PT_ID = " + PT_ID + "");
        String BASE_FIO2 = request.getParameter("BASE_FIO2");
        stmt.executeUpdate("update PATIENT set BASE_FIO2 = " + BASE_FIO2 + "
where PT_ID = " + PT_ID + "");
        String BASE_FIO2_TY = request.getParameter("BASE_FIO2_TY");
        stmt.executeUpdate("update PATIENT set BASE_FIO2_TY = " +
BASE_FIO2_TY + " where PT_ID = " + PT_ID + "");
        String PST_RES = request.getParameter("PST_RES");
        stmt.executeUpdate("update PATIENT set PST_RES = " + PST_RES + "
where PT_ID = " + PT_ID + "");
        String PST_FIO2 = request.getParameter("PST_FIO2");
        stmt.executeUpdate("update PATIENT set PST_FIO2 = " + PST_FIO2 + "
where PT_ID = " + PT_ID + "");
        String PST_FIO2_TY = request.getParameter("PST_FIO2_TY");
        stmt.executeUpdate("update PATIENT set PST_FIO2_TY = " + PST_FIO2_TY
+ " where PT_ID = " + PT_ID + "");
        String OT_CL_RE = request.getParameter("OT_CL_RE");
        stmt.executeUpdate("update PATIENT set OT_CL_RE = " + OT_CL_RE + "
where PT_ID = " + PT_ID + "");
        String INVEST_NOTES = request.getParameter("INVEST_NOTES");
        stmt.executeUpdate("update PATIENT set INVEST_NOTES = " +
INVEST_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Questions 9 through 11
        String INI_INT = request.getParameter("INI_INT");
        stmt.executeUpdate("update PATIENT set INI_INT = " + INI_INT + " where
PT_ID = " + PT_ID + "");
        String INI_DUR = request.getParameter("INI_DUR");
        stmt.executeUpdate("update PATIENT set INI_DUR = " + INI_DUR + " where
PT_ID = " + PT_ID + "");

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String REA_OUT = request.getParameter("REA_OUT");
stmt.executeUpdate("update PATIENT set REA_OUT = " + REA_OUT + "
where PT_ID = " + PT_ID + "");
String TIME_NOTES = request.getParameter("TIME_NOTES");
stmt.executeUpdate("update PATIENT set TIME_NOTES = " + TIME_NOTES
+ " where PT_ID = " + PT_ID + "");

// PATIENT - Form Questions 12
String PT_PR_TR = request.getParameter("PT_PR_TR");
stmt.executeUpdate("update PATIENT set PT_PR_TR = " + PT_PR_TR + "
where PT_ID = " + PT_ID + "");
String WHN_TR_M = request.getParameter("WHN_TR_M");
String WHN_TR_Y = request.getParameter("WHN_TR_Y");
String WHN_TR_D = request.getParameter("WHN_TR_D");
String WHN_TR = WHN_TR_D + "-" + WHN_TR_M + "-" + WHN_TR_Y;
stmt.executeUpdate("update PATIENT set WHN_TR = " + WHN_TR + "
where PT_ID = " + PT_ID + "");
String WHT_TR = request.getParameter("WHT_TR");
stmt.executeUpdate("update PATIENT set WHT_TR = " + WHT_TR + "
where PT_ID = " + PT_ID + "");
String NO_PREG = request.getParameter("NO_PREG");
stmt.executeUpdate("update PATIENT set NO_PREG = " + NO_PREG + "
where PT_ID = " + PT_ID + "");
String HIST_NOTES = request.getParameter("HIST_NOTES");
stmt.executeUpdate("update PATIENT set HIST_NOTES = " + HIST_NOTES
+ " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 13
String ADM_DX = request.getParameter("ADM_DX");
stmt.executeUpdate("update PATIENT set ADM_DX = " + ADM_DX + "
where PT_ID = " + PT_ID + "");
String SUR_DT_M = request.getParameter("SUR_DAT_M");
String SUR_DT_D = request.getParameter("SUR_DAT_D");
String SUR_DT_Y = request.getParameter("SUR_DAT_Y");
String SUR_DT = SUR_DT_D + "-" + SUR_DT_M + "-" + SUR_DT_Y;
stmt.executeUpdate("update PATIENT set SUR_DT = " + SUR_DT + " where
PT_ID = " + PT_ID + "");
String SUR_TY = request.getParameter("SUR_TY");
stmt.executeUpdate("update PATIENT set SUR_TY = " + SUR_TY + " where
PT_ID = " + PT_ID + "");
String MAL_DT_M = request.getParameter("MAL_DAT_M");
String MAL_DT_D = request.getParameter("MAL_DAT_D");
String MAL_DT_Y = request.getParameter("MAL_DAT_Y");
String MAL_DT = MAL_DT_D + "-" + MAL_DT_M + "-" + MAL_DT_Y;
stmt.executeUpdate("update PATIENT set MAL_DT = " + MAL_DT + "
where PT_ID = " + PT_ID + "");

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String MAL_TY = request.getParameter("MAL_TY");
stmt.executeUpdate("update PATIENT set MAL_TY = " + MAL_TY + "
where PT_ID = " + PT_ID + "");
String GI_DUE = request.getParameter("GI_DUE");
stmt.executeUpdate("update PATIENT set GI_DUE = " + GI_DUE + " where
PT_ID = " + PT_ID + "");
String LI_DUE = request.getParameter("LI_DUE");
stmt.executeUpdate("update PATIENT set LI_DUE = " + LI_DUE + " where
PT_ID = " + PT_ID + "");
String IN_DX_DA_M = request.getParameter("IN_DX_DA_M");
String IN_DX_DA_D = request.getParameter("IN_DX_DA_D");
String IN_DX_DA_Y = request.getParameter("IN_DX_DA_Y");
String IN_DX_DA = IN_DX_DA_D + "-" + IN_DX_DA_M + "-" +
IN_DX_DA_Y;
stmt.executeUpdate("update PATIENT set IN_DX_DA = " + IN_DX_DA + "
where PT_ID = " + PT_ID + "");
String CUL_RES = request.getParameter("CUL_RES");
stmt.executeUpdate("update PATIENT set CUL_RES = " + CUL_RES + "
where PT_ID = " + PT_ID + "");
String MA_TR_PR = request.getParameter("MA_TR_PR");
stmt.executeUpdate("update PATIENT set MA_TR_PR = " + MA_TR_PR + "
where PT_ID = " + PT_ID + "");
String FE_PR_TR = request.getParameter("FE_PR_TR");
stmt.executeUpdate("update PATIENT set FE_PR_TR = " + FE_PR_TR + "
where PT_ID = " + PT_ID + "");
String CRT_ILL = request.getParameter("CRT_ILL");
stmt.executeUpdate("update PATIENT set CRT_ILL = " + CRT_ILL + " where
PT_ID = " + PT_ID + "");
String CAR_DIS = request.getParameter("CAR_DIS");
stmt.executeUpdate("update PATIENT set CAR_DIS = " + CAR_DIS + "
where PT_ID = " + PT_ID + "");
String PRP_DI_T = request.getParameter("PRP_DI_T");
stmt.executeUpdate("update PATIENT set PRP_DI_T = " + PRP_DI_T + "
where PT_ID = " + PT_ID + "");
String PSP_DI_T = request.getParameter("PSP_DI_T");
stmt.executeUpdate("update PATIENT set PSP_DI_T = " + PSP_DI_T + "
where PT_ID = " + PT_ID + "");
String MMD_NOTES = request.getParameter("MMD_NOTES");
stmt.executeUpdate("update PATIENT set MMD_NOTES = " +
MMD_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 14(a)
String CHEMO = request.getParameter("CHEMO");
stmt.executeUpdate("update PATIENT set CHEMO = " + CHEMO + " where
PT_ID = " + PT_ID + "");
String AGNT_GIV = request.getParameter("AGNT_GIV");

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        stmt.executeUpdate("update PATIENT set AGNT_GIV = " + AGNT_GIV + "
where PT_ID = " + PT_ID + "");
        String DATE_GIV = request.getParameter("DATE_GIV");
        stmt.executeUpdate("update PATIENT set DATE_GIV = " + DATE_GIV + "
where PT_ID = " + PT_ID + "");
        String CHEMO_NOTES = request.getParameter("CHEMO_NOTES");
        stmt.executeUpdate("update PATIENT set CHEMO_NOTES = " +
CHEMO_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 14(b)
        String ANTI_GIV = request.getParameter("ANTI_GIV");
        stmt.executeUpdate("update PATIENT set ANTI_GIV = " + ANTI_GIV + "
where PT_ID = " + PT_ID + "");
        String GIV_DATE = request.getParameter("GIV_DATE");
        stmt.executeUpdate("update PATIENT set GIV_DATE = " + GIV_DATE + "
where PT_ID = " + PT_ID + "");
        String ANTI_NOTES = request.getParameter("ANTI_NOTES");
        stmt.executeUpdate("update PATIENT set ANTI_NOTES = " + ANTI_NOTES
+ " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 14(c)
        String ACE_INH = request.getParameter("ACE_INH");
        stmt.executeUpdate("update PATIENT set ACE_INH = " + ACE_INH + "
where PT_ID = " + PT_ID + "");
        String OTH_MEDS = request.getParameter("OTH_MEDS");
        stmt.executeUpdate("update PATIENT set OTH_MEDS = " + OTH_MEDS + "
where PT_ID = " + PT_ID + "");
        String REC_MED_NOTES = request.getParameter("REC_MED_NOTES");
        stmt.executeUpdate("update PATIENT set REC_MED__NOTES = " +
REC_MED_NOTES + " where PT_ID = " + PT_ID + "");

// PATIENT - Form Question 15
        String FREE_TXT = request.getParameter("FREE_TXT");
        stmt.executeUpdate("update PATIENT set FREE_TXT = " + FREE_TXT + "
where PT_ID = " + PT_ID + "");

// Secondary Tables
// Table name is in caps

// PRODUCTS - Form Question 1
        String PROD0 = request.getParameter("PROD0");
        stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + ", " + PROD0 + ")");
        String PROD1 = request.getParameter("PROD1");
        stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + ", " + PROD1 + ")");

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String PROD2 = request.getParameter("PROD2");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD2 + ")");
String PROD3 = request.getParameter("PROD3");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD3 + ")");
String PROD4 = request.getParameter("PROD4");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD4 + ")");
String PROD5 = request.getParameter("PROD5");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD5 + ")");
String PROD6 = request.getParameter("PROD6");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD6 + ")");
String PROD7 = request.getParameter("PROD7");
stmt.executeUpdate("insert into PRODUCTS (PT_ID, PROD) values (" +
PT_ID + "," + PROD7 + ")");

// PROCESS - Form Question 2
String PROCESS0 = request.getParameter("PROCESS0");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS0 + ")");
String PROCESS1 = request.getParameter("PROCESS1");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS1 + ")");
String PROCESS2 = request.getParameter("PROCESS2");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS2 + ")");
String PROCESS3 = request.getParameter("PROCESS3");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS3 + ")");
String PROCESS4 = request.getParameter("PROCESS4");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS4 + ")");
String PROCESS5 = request.getParameter("PROCESS5");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS5 + ")");
String PROCESS6 = request.getParameter("PROCESS6");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS6 + ")");
String PROCESS7 = request.getParameter("PROCESS7");
stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS7 + ")");
String PROCESS8 = request.getParameter("PROCESS8");

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        stmt.executeUpdate("insert into PROCESS (PT_ID, PROCESS) values (" +
PT_ID + "," + PROCESS8 + ")");

// INFUSION - Form Question 3
    String DEVICE0 = request.getParameter("DEVICE0");
    stmt.executeUpdate("insert into INFUSION (PT_ID, DEVICE) values (" +
PT_ID + "," + DEVICE0 + ")");
    String DEVICE1 = request.getParameter("DEVICE1");
    stmt.executeUpdate("insert into INFUSION (PT_ID, DEVICE) values (" +
PT_ID + "," + DEVICE1 + ")");
    String DEVICE2 = request.getParameter("DEVICE2");
    stmt.executeUpdate("insert into INFUSION (PT_ID, DEVICE) values (" +
PT_ID + "," + DEVICE2 + ")");

// PREMEDS - Form Question 4
    String PREM0 = request.getParameter("PREM0");
    stmt.executeUpdate("insert into PREMEDS (PT_ID, PREM) values (" + PT_ID
+ "," + PREM0 + ")");
    String PREM1 = request.getParameter("PREM1");
    stmt.executeUpdate("insert into PREMEDS (PT_ID, PREM) values (" + PT_ID
+ "," + PREM1 + ")");
    String PREM2 = request.getParameter("PREM2");
    stmt.executeUpdate("insert into PREMEDS (PT_ID, PREM) values (" + PT_ID
+ "," + PREM2 + ")");
    String PREM3 = request.getParameter("PREM3");
    stmt.executeUpdate("insert into PREMEDS (PT_ID, PREM) values (" + PT_ID
+ "," + PREM3 + ")");

// SYMPTOMS - Form Question 5
    String S_OR_S0 = request.getParameter("S_OR_S0");
    stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S0 + ")");
    String S_OR_S1 = request.getParameter("S_OR_S1");
    stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S1 + ")");
    String S_OR_S2 = request.getParameter("S_OR_S2");
    stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S2 + ")");
    String S_OR_S3 = request.getParameter("S_OR_S3");
    stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S3 + ")");
    String S_OR_S4 = request.getParameter("S_OR_S4");
    stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S4 + ")");
    String S_OR_S5 = request.getParameter("S_OR_S5");

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        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S5 + ")");
        String S_OR_S6 = request.getParameter("S_OR_S6");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S6 + ")");
        String S_OR_S7 = request.getParameter("S_OR_S7");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S7 + ")");
        String S_OR_S8 = request.getParameter("S_OR_S8");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S8 + ")");
        String S_OR_S9 = request.getParameter("S_OR_S9");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S9 + ")");
        String S_OR_S10 = request.getParameter("S_OR_S10");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S10 + ")");
        String S_OR_S11 = request.getParameter("S_OR_S11");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S11 + ")");
        String S_OR_S12 = request.getParameter("S_OR_S12");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S12 + ")");
        String S_OR_S13 = request.getParameter("S_OR_S13");
        stmt.executeUpdate("insert into SYMPTOMS (PT_ID, S_OR_S) values (" +
PT_ID + "," + S_OR_S13 + ")");

// VITALS - Form Question 6
        String PRE_TP = request.getParameter("PRE_TP");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_TP) values (" + PT_ID
+ "," + PRE_TP + ")");
        String PRE_BP = request.getParameter("PRE_BP");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_BP) values (" + PT_ID
+ "," + PRE_BP + ")");
        String PRE_PU = request.getParameter("PRE_PU");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_PU) values (" + PT_ID
+ "," + PRE_PU + ")");
        String PRE_RR = request.getParameter("PRE_RR");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_RR) values (" + PT_ID
+ "," + PRE_RR + ")");
        String PRE_O2 = request.getParameter("PRE_O2");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_O2) values (" + PT_ID
+ "," + PRE_O2 + ")");
        String PRE_O2_L = request.getParameter("PRE_O2_L");
        stmt.executeUpdate("insert into VITALS (PT_ID, PRE_O2_L) values (" +
PT_ID + "," + PRE_O2_L + ")");

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String PRE_O2_TY = request.getParameter("PRE_O2_TY");
stmt.executeUpdate("insert into VITALS (PT_ID, PRE_O2_TY) values (" +
PT_ID + "," + PRE_O2_TY + ")");
String PST_TP = request.getParameter("PST_TP");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_TP) values (" + PT_ID
+ "," + PST_TP + ")");
String PST_BP = request.getParameter("PST_BP");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_BP) values (" + PT_ID
+ "," + PST_BP + ")");
String PST_PU = request.getParameter("PST_PU");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_PU) values (" + PT_ID
+ "," + PST_PU + ")");
String PST_RR = request.getParameter("PST_RR");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_RR) values (" + PT_ID
+ "," + PST_RR + ")");
String PST_O2 = request.getParameter("PST_O2");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_O2) values (" + PT_ID
+ "," + PST_O2 + ")");
String PST_O2_L = request.getParameter("PST_O2_L");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_O2_L) values (" +
PT_ID + "," + PST_O2_L + ")");
String PST_O2_TY = request.getParameter("PST_O2_TY");
stmt.executeUpdate("insert into VITALS (PT_ID, PST_O2_TY) values (" +
PT_ID + "," + PST_O2_TY + ")");
String VITAL_NOTES = request.getParameter("VITAL_NOTES");
stmt.executeUpdate("insert into VITALS (PT_ID, VITAL_NOTES) values (" +
PT_ID + "," + VITAL_NOTES + ")");

// TREATMENT - Form Question 7
String TREAT0 = request.getParameter("TREAT0");
stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT0 + ")");
String TREAT1 = request.getParameter("TREAT1");
stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT1 + ")");
String TREAT2 = request.getParameter("TREAT2");
stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT2 + ")");
String TREAT3 = request.getParameter("TREAT3");
stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT3 + ")");
String TREAT4 = request.getParameter("TREAT4");
stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT4 + ")");
String TREAT5 = request.getParameter("TREAT5");

```

```

        stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT5 + ")");
        String TREAT6 = request.getParameter("TREAT6");
        stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT6 + ")");
        String TREAT7 = request.getParameter("TREAT7");
        stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT7 + ")");
        String TREAT8 = request.getParameter("TREAT8");
        stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT8 + ")");
        String TREAT9 = request.getParameter("TREAT9");
        stmt.executeUpdate("insert into TREATMENT (PT_ID, TREAT) values (" +
PT_ID + "," + TREAT9 + ")");

// INVEST - Form Question 8(a-c)
        String TRA_SRV0 = request.getParameter("TRA_SRV0");
        stmt.executeUpdate("insert into INVEST (PT_ID, TRA_SRV) values (" +
PT_ID + "," + TRA_SRV0 + ")");
        String TRA_SRV1 = request.getParameter("TRA_SRV1");
        stmt.executeUpdate("insert into INVEST (PT_ID, TRA_SRV) values (" +
PT_ID + "," + TRA_SRV1 + ")");
        String TRA_SRV2 = request.getParameter("TRA_SRV2");
        stmt.executeUpdate("insert into INVEST (PT_ID, TRA_SRV) values (" +
PT_ID + "," + TRA_SRV2 + ")");

// CBC - Form Question 8(q)
        String PRE_DAT_M = request.getParameter("PRE_DAT_M");
        String PRE_DAT_D = request.getParameter("PRE_DAT_D");
        String PRE_DAT_Y = request.getParameter("PRE_DAT_Y");
        String PRE_DAT = PRE_DAT_D + "-" + PRE_DAT_M + "-" + PRE_DAT_Y;
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_DAT) values (" + PT_ID +
"," + PRE_DAT + ")");
        String PRE_TIM = request.getParameter("PRE_TIM");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_TIM) values (" + PT_ID +
"," + PRE_TIM + ")");
        String PRE_WBC = request.getParameter("PRE_WBC");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_WBC) values (" + PT_ID +
"," + PRE_WBC + ")");
        String PRE_PMN = request.getParameter("PRE_PMN");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_PMN) values (" + PT_ID +
"," + PRE_PMN + ")");
        String PRE_LYM = request.getParameter("PRE_LYM");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_LYM) values (" + PT_ID +
"," + PRE_LYM + ")");
        String PRE_MON = request.getParameter("PRE_MON");

```

```

        stmt.executeUpdate("insert into CBC (PT_ID, PRE_MON) values (" + PT_ID +
        "" + PRE_MON + ")");
        String PRE_EOS = request.getParameter("PRE_EOS");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_EOS) values (" + PT_ID +
        "" + PRE_EOS + ")");
        String PRE_BAS = request.getParameter("PRE_BAS");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_BAS) values (" + PT_ID +
        "" + PRE_BAS + ")");
        String PRE_BAN = request.getParameter("PRE_BAN");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_BAN) values (" + PT_ID +
        "" + PRE_BAN + ")");
        String PRE_HB = request.getParameter("PRE_HB");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_HB) values (" + PT_ID +
        "" + PRE_HB + ")");
        String PRE_HCT = request.getParameter("PRE_HCT");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_HCT) values (" + PT_ID +
        "" + PRE_HCT + ")");
        String PRE_PLA = request.getParameter("PRE_PLA");
        stmt.executeUpdate("insert into CBC (PT_ID, PRE_PLA) values (" + PT_ID +
        "" + PRE_PLA + ")");
        String PST_DAT_M = request.getParameter("PST_DAT_M");
        String PST_DAT_D = request.getParameter("PST_DAT_D");
        String PST_DAT_Y = request.getParameter("PST_DAT_Y");
        String PST_DAT = PST_DAT_D + "-" + PST_DAT_M + "-" + PST_DAT_Y;
        stmt.executeUpdate("insert into CBC (PT_ID, PST_DAT) values (" + PT_ID +
        "" + PST_DAT + ")");
        String PST_TIM = request.getParameter("PST_TIM");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_TIM) values (" + PT_ID +
        "" + PST_TIM + ")");
        String PST_WBC = request.getParameter("PST_WBC");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_WBC) values (" + PT_ID +
        "" + PST_WBC + ")");
        String PST_PMN = request.getParameter("PST_PMN");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_PMN) values (" + PT_ID +
        "" + PST_PMN + ")");
        String PST_LYM = request.getParameter("PST_LYM");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_LYM) values (" + PT_ID +
        "" + PST_LYM + ")");
        String PST_MON = request.getParameter("PST_MON");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_MON) values (" + PT_ID +
        "" + PST_MON + ")");
        String PST_EOS = request.getParameter("PST_EOS");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_EOS) values (" + PT_ID +
        "" + PST_EOS + ")");
        String PST_BAS = request.getParameter("PST_BAS");

```

```

        stmt.executeUpdate("insert into CBC (PT_ID, PST_BAS) values (" + PT_ID +
        "" + PST_BAS + ")");
        String PST_BAN = request.getParameter("PST_BAN");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_BAN) values (" + PT_ID +
        "" + PST_BAN + ")");
        String PST_HB = request.getParameter("PST_HB");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_HB) values (" + PT_ID +
        "" + PST_HB + ")");
        String PST_HCT = request.getParameter("PST_HCT");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_HCT) values (" + PT_ID +
        "" + PST_HCT + ")");
        String PST_PLA = request.getParameter("PST_PLA");
        stmt.executeUpdate("insert into CBC (PT_ID, PST_PLA) values (" + PT_ID +
        "" + PST_PLA + ")");
        String CBC_NOTES = request.getParameter("CBC_NOTES");
        stmt.executeUpdate("insert into CBC (PT_ID, CBC_NOTES) values (" +
        PT_ID + "" + CBC_NOTES + ")");

```

```
// HEMA - Form Question 14(c)
```

```

        String HEM_FACT0 = request.getParameter("HEM_FACT0");
        stmt.executeUpdate("insert into HEMA (PT_ID, HEM_FACT) values (" +
        PT_ID + "" + HEM_FACT0 + ")");
        String HEM_FACT1 = request.getParameter("HEM_FACT1");
        stmt.executeUpdate("insert into HEMA (PT_ID, HEM_FACT) values (" +
        PT_ID + "" + HEM_FACT1 + ")");
        String HEM_FACT2 = request.getParameter("HEM_FACT2");
        stmt.executeUpdate("insert into HEMA (PT_ID, HEM_FACT) values (" +
        PT_ID + "" + HEM_FACT2 + ")");
        String HEM_FACT3 = request.getParameter("HEM_FACT3");
        stmt.executeUpdate("insert into HEMA (PT_ID, HEM_FACT) values (" +
        PT_ID + "" + HEM_FACT3 + ")");

```

```
// Following outputs the data that was just submitted to the database
```

```

out.println("<html><head><title>Confirmation of Data Entry</title></head><body>");
// States that the generated page can post variables to a servlet. See servlet designation
below.
out.println("<form method='POST'
action='http://medir.ohsu.edu:8080/examples/servlet/JSDelete1'>");
out.println("<B>CONFIRMATION OF DATA ENTRY</B>");
out.println("<table width='100%' border='0' cellpadding='2' cellspacing='0'>");
out.println("<tr><td width='50%'><input type='radio' name='PT_ID' value='" + PT_ID +
" checked>Patient ID:</td><td>" + PT_ID + "</td> </tr>");
out.println("<tr><td width='50%'>Date of Birth:</td><td >" + DOB + "</td> </tr>");
out.println("<tr><td width='50%'>Age:</td><td >" + AGE + "</td> </tr>");
out.println("<tr><td width='50%'>Hospital:</td><td >" + HOSP + "</td> </tr>");

```

```

out.println("<tr><td width='50%'>Hospital ID:</td><td >" + HOSP_ID + "</td> </tr>");
out.println("<tr><td width='50%'>Date of Reaction:</td><td >" + DAT_RXN + "</td>
</tr>");
out.println("<tr><td width='50%'>Sex:</td><td >" + PAT_SEX + "</td> </tr>");
out.println("<tr><td width='50%'>Initial Classification of Reaction:</td><td >" +
CLASS + "</td> </tr>");
out.println("<tr><td width='50%'>Transfusion Interventions Recommended Due to
Reaction:</td><td >" + TIRDR + "</td> </tr>");
out.println("<tr><td width='50%'>Basic Patient Notes:</td><td >" + PT_NOTES +
"</td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='50%'><B>1) Blood Product(s) implicated in
reaction:</B></td><td></tr>");
out.println("<tr><td width='50%'>List of implicated products: </td><td >" + PROD0 + "
" + PROD1 + " " + PROD2 + " " + PROD3 + " " + PROD4 + " " + PROD5 + " " +
PROD6 + " " + PROD7 + "</td></tr><tr><td width='50%'></td><td></tr>");
out.println("<tr><td width='50%'>Basic Blood Product Notes: </td><td >" +
PROD_NOTES + "</td></tr><tr><td width='50%'></td><td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='50%'><B>2) Additional Processing of Implicated Blood
Product(s):</B></td><td></tr>");
out.println("<tr><td width='50%'>Leukoreduced: </td><td >" + LEUKO +
"</td></tr>");
out.println("<tr><td width='50%'>Process Data: </td><td >" + PROCESS0 + " " +
PROCESS1 + " " + PROCESS2 + " " + PROCESS3 + " " + PROCESS4 + " " +
PROCESS5 + " " + PROCESS6 + " " + PROCESS7 + PROCESS8 + "</td></tr><tr><td
width='50%'></td><td></tr>");
out.println("<tr><td width='50%'>Irradiated Date: </td><td >" + IRR_DATE +
"</td></tr> ");
out.println("<tr><td width='50%'>General Processing Notes: </td><td >" +
PROC_NOTES + "</td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='50%'><B>3) Infusion Characteristics</B></td><td></tr>");
out.println("<tr><td width='50%'>Each unit infused over: </td><td >" + INF_OVR +
"minutes" + "</td></tr> ");
out.println("<tr><td width='50%'>Other fluid in blood line:</td><td >" + BL_LI_FL +
"</td></tr>");
out.println("<tr><td width='50%'>Venous access used for transfusion: </td><td >" +
VEN_ACC + "</td></tr>");
out.println("<tr><td width='50%'>Place transfusion given:</td><td >" + TRA_PLA +
"</td></tr>");
out.println("<tr><td width='50%'>Devices Used: </td><td >" + DEVICE0 + " " +
DEVICE1 + " " + DEVICE2 + "</td></tr>");

```

```

out.println("<tr><td width='50%'>Other medications in blood line: </td><td >" +
OTH_MED + "</td> </tr>");
out.println("<tr><td width='50%'>General Infusion Characteristic Notes: </td><td >" +
INF_NOTES + "</td> </tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>4) Patient Premedication(s)</B></td><td></tr>");
out.println("<tr><td width='50%'>Premedications:</td><td >" + PREM0 + " " +
PREM1 + " " + PREM2 + " " + PREM3 + "</td> <td></tr>");
out.println("<tr><td width='50%'>General Premdication Notes:</td><td >" +
PREM_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>5) Symptoms and signs of reaction:
</B></td><td></tr>");
out.println("<tr><td width='50%'>Sympoms/Signs: </td><td >" + S_OR_S0 + " " +
S_OR_S1 + " " + S_OR_S2 + " " + S_OR_S3 + " " + S_OR_S4 + " " + S_OR_S5 + " " +
S_OR_S6 + " " + S_OR_S7 + " " + S_OR_S8 + " " + S_OR_S9 + " " + S_OR_S10 + " "
+ S_OR_S11 + " " + S_OR_S12 + " " + S_OR_S13 + " " + "</td> <td></tr>");
out.println("<tr><td width='50%'>Urticaria Where? </td><td >" + URTICARIA +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Rash Where? </td><td >" + RASH + "</td>
<td></tr>");
out.println("<tr><td width='50%'>General Symptoms Notes: </tr><td >" +
SYMP_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>6) Vital signs </B></td><td></tr>");
out.println("<tr><td width='50%'><B> Pretransfusion </B></td><td></tr>");
out.println("<tr><td width='50%'>Temperature </tr><td >" + PRE_TP + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Blood Pressure</tr><td >" + PRE_BP + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Pulse</tr><td >" + PRE_PU + "</td> <td></tr>");
out.println("<tr><td width='50%'>Resperatory Rate</tr><td >" + PRE_RR + "</td>
<td></tr>");
out.println("<tr><td width='50%'>O2 saturation</tr><td >" + PRE_O2 + "</td>
<td></tr>");
out.println("<tr><td width='50%'>L </tr><td >" + PRE_O2_L + "</td> <td></tr>");
out.println("<tr><td width='50%'>Type </tr><td >" + PRE_O2_TY + "</td>
<td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><B> Posttransfusion </B> </td><td></tr>");
out.println("<tr><td width='50%'>Temperature</tr><td >" + PST_TP + "</td>
<td></tr>");

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```

out.println("<tr><td width='50%'>Blood Pressure</tr><td >" + PST_BP + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Pulse</tr><td >" + PST_PU + "</td> <td></tr>");
out.println("<tr><td width='50%'>Resperatory Rate</tr><td >" + PST_RR + "</td>
<td></tr>");
out.println("<tr><td width='50%'>O2 saturation</tr><td >" + PST_O2 + "</td>
<td></tr>");
out.println("<tr><td width='50%'>L</tr><td >" + PST_O2_L + "</td> <td></tr>");
out.println("<tr><td width='50%'>Type</tr><td >" + PST_O2_TY + "</td>
<td></tr>");
out.println("<tr><td width='50%'>General Vitals Notes</tr><td >" + VITAL_NOTES +
"</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>7) Treatment of reaction </B></td><td></tr>");
out.println("<tr><td width='50%'>Tylenol</tr><td >" + TREAT0 + " " + TREAT1 + " "
+ TREAT2 + " " + TREAT3 + " " + TREAT4 + " " + TREAT5 + " " + TREAT6 + " " +
TREAT7 + " " + TREAT8 + " " + TREAT9 + "</td> <td></tr>");
out.println("<tr><td width='50%'>Route</tr><td >" + ROUTE + "</td> <td></tr>");
out.println("<tr><td width='50%'>Rate of FIO2</tr><td >" + RAT_FIO2 + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Volume Expansion</tr><td >" + V_EX_PR + "</td>
<td></tr>");
out.println("<tr><td width='50%'>General Treatment Notes</tr><td >" +
TREAT_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>8) Reaction investigation </B></td><td></tr>");
out.println("<tr><td width='50%'>Product/Sample:</tr><td >" + TRA_SRV0 + "<br> "
+ TRA_SRV1 + "<br> " + TRA_SRV2 + "</td> <td></tr>");
out.println("<tr><td width='50%'>ABO of recipient </tr><td >" + ABO_RE + "</td>
<td></tr>");
out.println("<tr><td width='50%'>ABO of donor(s): </tr><td >" + ABO_DO + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Hemolytic work-up results:</tr><td >" + TR_SR_HE
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Patient blood culture result:</tr><td >" + TR_SR_BC
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Product culture result:</tr><td >" + TR_SR_PC +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Products or donor(s) Results: </tr><td >" + PR_HLA
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Recipient anti_HLA Results: </tr><td >" + RE_HLA
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Product(s) assayed for PMN priming
activity</tr><td >" + PR_PMN + "</td> <td></tr>");

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```

out.println("<tr><td width='50%'>Patient pre/post plasma assayed for PMN: </tr><td>"
+ PT_PMN + "</td> <td></tr>");
out.println("<tr><td width='50%'>Recipient IgA levels Results</tr><td>" + RE_IGA +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Low anti-IgA antibodies Result</tr><td>" +
ANT_IGA + " </td><td></tr>");
out.println("<tr><td width='50%'>Other pertinent lab investigations</tr><td>" +
OT_LB_RE + " </td> <td></tr>");
out.println("<tr><td width='50%'>CXR done during reaction: Result </tr><td>" +
CXR_RE + " </td> <td></tr>");
out.println("<tr><td width='50%'>O2 saturations/ABG Result</tr><td>" + O2_SAT +
"</td> <td></tr>");
out.println("<tr><td width='50%'>On what FIO2?</tr><td>" + O2_FIO2 + " </td>
<td></tr>");
out.println("<tr><td width='50%'>On what FIO2 Type?</tr><td>" + O2_FIO2_TY +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Baseline value </tr><td>" + BASE_VAL + " </td>
<td></tr>");
out.println("<tr><td width='50%'>On what FIO2? </tr><td>" + BASE_FIO2 + " </td>
<td></tr>");
out.println("<tr><td width='50%'>On what FIO2 Type? </tr><td>" + BASE_FIO2_TY
+ " </td> <td></tr>");
out.println("<tr><td width='50%'>Post reaction resolution </tr><td>" + PST_RES +
"</td> <td></tr>");
out.println("<tr><td width='50%'>On what FIO2?</tr><td>" + PST_FIO2 + " </td>
<td></tr>");
out.println("<tr><td width='50%'>On what FIO2 Type? </tr><td>" + PST_FIO2_TY +
"</td> <td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><b> Pre-Reaction CBC </b></td><td></tr>");
out.println("<tr><td width='50%'>Date: </tr><td>" + PRE_DAT + " </td> <td></tr>");
out.println("<tr><td width='50%'>Time </tr><td>" + PRE_TIM + " </td> <td></tr>");
out.println("<tr><td width='50%'>WBC </tr><td>" + PRE_WBC + " </td> <td></tr>");
out.println("<tr><td width='50%'>PMN </tr><td>" + PRE_PMN + " </td> <td></tr>");
out.println("<tr><td width='50%'>Lymphs </tr><td>" + PRE_LYM + " </td>
<td></tr>");
out.println("<tr><td width='50%'>Monocytes </tr><td>" + PRE_MON + " </td>
<td></tr>");
out.println("<tr><td width='50%'>Eosionphils </tr><td>" + PRE_EOS + " </td>
<td></tr>");
out.println("<tr><td width='50%'>Basophils </tr><td>" + PRE_BAS + " </td>
<td></tr>");
out.println("<tr><td width='50%'>Bands </tr><td>" + PRE_BAN + " </td> <td></tr>");
out.println("<tr><td width='50%'>HB </tr><td>" + PRE_HB + " </td> <td></tr>");
out.println("<tr><td width='50%'>Hct </tr><td>" + PRE_HCT + " </td> <td></tr>");

```

```

out.println("<tr><td width='50%'>Platelets </tr><td>" + PRE_PLA + "</td>
<td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><b> Post-Reaction CBC </b></td><td></tr>");
out.println("<tr><td width='50%'>Date </tr><td>" + PST_DAT + "</td> <td></tr>");
out.println("<tr><td width='50%'>Time </tr><td>" + PST_TIM + "</td> <td></tr>");
out.println("<tr><td width='50%'>WBC </tr><td>" + PST_WBC + "</td> <td></tr>");
out.println("<tr><td width='50%'>PMN </tr><td>" + PST_PMN + "</td> <td></tr>");
out.println("<tr><td width='50%'>Lymphs </tr><td>" + PST_LYM + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Monocytes </tr><td>" + PST_MON + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Eosionphils </tr><td>" + PST_EOS + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Basophils </tr><td>" + PST_BAS + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Bands </tr><td>" + PST_BAN + "</td> <td></tr>");
out.println("<tr><td width='50%'>HB </tr><td>" + PST_HB + "</td> <td></tr>");
out.println("<tr><td width='50%'>Hct </tr><td>" + PST_HCT + "</td> <td></tr>");
out.println("<tr><td width='50%'>Platelets </tr><td>" + PST_PLA + "</td>
<td></tr>");
out.println("<tr><td width='50%'>General CBC Notes </tr><td>" + CBC_NOTES +
"</td> <td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'>Other pertinent clinical investigations </tr><td>" +
OT_LB_RE + "</td> <td></tr>");
out.println("<tr><td width='50%'>General Investigation notes </tr><td>" +
INVEST_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>9) Time interval from start of transfusion to onset
of symptoms:</B></td><td></tr>");
out.println("<tr><td width='50%'>Interval </tr><td>" + INI_INT + "</td> <td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>10) Duration of reaction</B></td><td></tr>");
out.println("<tr><td width='50%'>Duration</tr><td>" + INI_DUR + "</td>
<td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>11) Reaction outcome</B></td><td></tr>");
out.println("<tr><td width='50%'>Outcome</tr><td>" + REA_OUT + "</td>
<td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");

```

```

out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>12) Patient transfusion
history</B></td><td></tr>");
out.println("<tr><td width='50%'>Patient previously transfused</tr><td>" + PT_PR_TR
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>When: </tr><td>" + WHN_TR + "</td> <td></tr>");
out.println("<tr><td width='50%'>What: </tr><td>" + WHT_TR + "</td> <td></tr>");
out.println("<tr><td width='50%'>Number of previous pregnancies </tr><td>" +
NO_PREG + "</td> <td></tr>");
out.println("<tr><td width='50%'>Previous transfusion reaction notes: </tr><td>" +
HIST_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><br></td><td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

out.println("<tr><td width='50%'><B>13) Recipient's Current Major Medical
Diagnoses</B></td><td></tr>");
out.println("<tr><td width='50%'>Admitting diagnosis </tr><td>" + ADM_DX +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Surgery Date (mm/dd/yyyy) </tr><td>" + SUR_DT +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Surgery Type </tr><td>" + SUR_TY + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Malignancy Date Diagnosed (mm/dd/yyyy) </tr><td>"
+ MAL_DT + "</td> <td></tr>");
out.println("<tr><td width='50%'>Malignancy Type </tr><td>" + MAL_TY + "</td>
<td></tr>");
out.println("<tr><td width='50%'>GI Bleed-Due to: </tr><td>" + GI_DUE + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Liver Disease-Due to: </tr><td>" + LI_DUE + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Infection Date Diagnosed (mm/dd/yyyy) </tr><td>" +
IN_DX_DA + "</td> <td></tr>");
out.println("<tr><td width='50%'>Infection Culture results </tr><td>" + CUL_RES +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Massive transfusion products </tr><td>" + MA_TR_PR
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Patient febrile PRIOR to transfusion </tr><td>" +
FE_PR_TR + "</td> <td></tr>");
out.println("<tr><td width='50%'>Patient critically ill prior to transfusion </tr><td>" +
CRT_ILL + "</td> <td></tr>");
out.println("<tr><td width='50%'>Cardiac disease </tr><td>" + CAR_DIS + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Pulmonary disease - Pretransfusion </tr><td>" +
PRP_DI_T + "</td> <td></tr>");

```

```

out.println("<tr><td width='50%'>Pulmonary disease - Postransfusion </tr><td>" +
PSP_DI_T + "</td> <td></tr>");
out.println("<tr><td width='50%'>General MMD Notes: </tr><td>" + MMD_NOTES +
"</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='50%'><B>14) Recipient Medications</B></td><td></tr>");
out.println("<tr><td width='50%'>Chemotherapy </tr><td>" + CHEMO + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Agent(s)</tr><td>" + AGNT_GIV + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Date(s) </tr><td>" + DATE_GIV + "</td>
<td></tr>");
out.println("<tr><td width='50%'>Antibiotics and antimicrobials </tr><td>" +
ANTI_GIV + "</td> <td></tr>");
out.println("<tr><td width='50%'>Antibiotics and antimicrobials Date(s) </tr><td>" +
GIV_DATE + "</td> <td></tr>");
out.println("<tr><td width='50%'>Hematopoietic growth factors </tr><td>" +
HEM_FACT0 + "<BR>" + HEM_FACT1 + "<BR>" + HEM_FACT2 + "<BR>" +
HEM_FACT3 + "</td> <td></tr>");
out.println("<tr><td width='50%'>Acetylcholinesterase (ACE) inhibitor </tr><td>" +
ACE_INH + "</td> <td></tr>");
out.println("<tr><td width='50%'>Other major medications </tr><td>" + OTH_MEDS
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>Antibiotic notes: </tr><td>" + ANTI_NOTES +
"</td> <td></tr>");
out.println("<tr><td width='50%'>Chemotherapy notes: </tr><td>" + CHEMO_NOTES
+ "</td> <td></tr>");
out.println("<tr><td width='50%'>General Recipient Medications notes: </tr><td>" +
REC_MED_NOTES + "</td> <td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='75%'><B>15) Other potentially pertinent info not elsewhere
covered:<B></td><td></tr>");
out.println("<tr><td width='50%'>Pertinent Notes: </tr><td>" + FREE_TXT + "</td>
<td></tr>");
out.println("<tr><td width='50%'><hr></td><td></tr>");

```

```

out.println("<tr><td width='50%'><B>Delete or Confirm Patient Data
Please</B></td><td></tr>");
out.println("<tr><td width='50%'><input type='Submit' value='Delete this
Patient'></tr><td> <A HREF=\"http://medir.ohsu.edu/~jorgensk/Welcome1.html\">");
out.println("<tr><td width='50%'>Confirm Patient Data </A></td><td></tr>");
out.println("</table>");
out.println("</form>");
out.println("</body>");

```

```
out.println("</html>");

// Closes active variables before terminating servlet.
out.close();
stmt.close();
con.close();
// Catches and displays any error in html page.
    } catch (Exception Y){ out.println ("SQL Exception: " + Y.getMessage() ); }
}
}
```

Appendix I – Data entry servlet algorithm

Do the following in a try/catch:

1. Create connection and sql statement variable
2. Create Patient Identification variable (PT_ID)
 - a. Retrieve PT_ID Form variable from Data Entry page (Reaction6.html)
 - b. Submit “Insert” Sql statement to database, creating the patient.
3. Create next attribute variable in table PATIENT
 - a. Retrieve Form variable from Data Entry page.
 - i. Process data if necessary:
 1. Create appropriate “Date” string.
 2. Convert String to int when necessary (Patient Age).
 - b. Submit “Update” Sql statement to fill patient data columns.
 - c. Repeat sequence at step 3 for every variable in table PATIENT.
4. Create next variable in table PRODUCTS
 - a. Retrieve form variable from Data Entry page
 - b. Submit “Update/Insert” Sql statement to fill patient data columns
 - c. Repeat sequence at step 4 for every secondary table.
5. Generate “Confirm Patient Data” page for user review:
 - a. If user determines data is bad
 - i. Delete function will send PT_ID to Deletion servlet
 - b. If user determines data is good
 - i. Return patient to Welcome page through link.

If an error is caught, create web page with an error message.

Appendix J – Delete servlet code

```
import java.io.*;
import java.sql.*;
import java.text.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class JS_Delete extends HttpServlet {

    public void doPost(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

        JS_Delete KJ = new JS_Delete();
        String PT_ID = request.getParameter("PT_ID");
        KJ.postDelete(PT_ID);

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><head><title>Patient Delete Action</title></head><body>");
        out.println("<B>CONFIRMATION OF DELETION FROM DB</B>");
        out.println("<table width='100%' border='0' cellpadding='2' cellspacing='0'>");
        out.println("<tr><td width='50%'>The following patients data was deleted from the
        database</td></tr>");
        out.println("<tr><td width='50%'>Patient ID:</td><td>" + PT_ID + "</td> </tr>");
        out.println("</table>");
        out.println("<br><br>");
        out.println("<A HREF='\"http://medir.ohsu.edu/~jorgensk/Welcome.html\">");
        out.println("To TRALI Welcome Page </A>");
        out.println("</form>");
        out.println("</body>");
        out.println("</html>");
        out.close();
    }

    public static void postDelete (String PTID){
        String url = "jdbc:oracle:thin:@ohsucr3.ohsu.edu:1536:META";
        try {
            DriverManager.registerDriver(new oracle.jdbc.driver.OracleDriver());
            Connection con= DriverManager.getConnection (url, "TRALI", "TRALI04");
            Statement stmt = con.createStatement ();
            String PT_ID = PTID;
            int PROD = stmt.executeUpdate("delete from PRODUCTS where PT_ID = " +
            PT_ID + "");
        }
    }
}
```

Appendix K – Delete servlet algorithm

Perform in Try/catch

1. Receive Patient Identification variable from confirmation page.
2. Submit “Delete” Sql statement to the database to remove the patient
3. Generate WebPage confirming which Patient was deleted.
4. Link user back to the Welcome page.

Appendix L – Pre-Query form HTML code

```
<html>
<head><title>TRALI Investigation Query Form</title>
</head>

<body>
<form method="POST"
action="http://medir.ohsu.edu:8080/examples/servlet/JS_Pre_
Query">

<h4>DETAILED EVALUATION OF TRANSFUSION REACTION QUERY
A</h4>

Select Table of Data To Be Joined With "Basic Patient
Data":<BR>
(see Data Dictionary for Table Attributes)<BR><BR>

<input type="radio" name="Q1" value="0" checked> No other
data desired<br>
<input type="radio" name="Q1" value="1"> Blood Products
Implicated in reaction <br>
<input type="radio" name="Q1" value="2"> Additional
Processing of Implicated Blood Products <br>
<input type="radio" name="Q1" value="3"> Infusion
Characteristics <br>
<input type="radio" name="Q1" value="4"> Premedication <br>
<input type="radio" name="Q1" value="5"> Symptoms or Signs
<br>
<input type="radio" name="Q1" value="6"> Vital Signs <br>
<input type="radio" name="Q1" value="7"> Treatment of
Reaction <br>
<input type="radio" name="Q1" value="8"> Reaction
Investigation: Transfusion Services Information <br>
<input type="radio" name="Q1" value="9"> Reaction
Investigation: Donor Blood Type <br>
<input type="radio" name="Q1" value="10"> CBC only <br>
<input type="radio" name="Q1" value="11"> Recipient
Medications <br>
<br>
Select Additional Data to be viewed: <BR><BR>
No Yes <br>
<input type="radio" name="Q9" value="0" checked>
<input type="radio" name="Q9" value="1"> Time interval from
Start of transfusion to onset of symptoms <br>
<input type="radio" name="Q10" value="0" checked>
```

```
<input type="radio" name="Q10" value="1"> Duration of  
Reaction <br>  
<input type="radio" name="Q11" value="0" checked>  
<input type="radio" name="Q11" value="1"> Reaction Outcome  
<br>  
<input type="radio" name="Q12" value="0" checked>  
<input type="radio" name="Q12" value="1"> Patient  
transfusion history <br>  
<input type="radio" name="Q13" value="0" checked>  
<input type="radio" name="Q13" value="1"> Recipient Current  
Major Medical Diagnoses <br>  
<input type="radio" name="Q15" value="0" checked>  
<input type="radio" name="Q15" value="1"> Other potentially  
pertinent info not elsewhere covered <br> <br>  
<input type="Submit" value="Update Patient Query">  
<input type="Reset">  
</form>  
</body>  
</html>
```

Appendix M – Pre-Query servlet code

```
import java.io.*;
import java.sql.*;
import java.text.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class JS_Pre_Query extends HttpServlet {

    public void doPost(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

//      This will create a response webpage with the following html code.
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        try
        {

// These commands retrieve the variables from the HTTP Form

            String sQ1 = request.getParameter("Q1");
            int Q1 = Integer.parseInt(sQ1);
            String sQ9 = request.getParameter("Q9");
            int Q9 = Integer.parseInt(sQ9);
            String sQ10 = request.getParameter("Q10");
            int Q10 = Integer.parseInt(sQ10);
            String sQ11 = request.getParameter("Q11");
            int Q11 = Integer.parseInt(sQ11);
            String sQ12 = request.getParameter("Q12");
            int Q12 = Integer.parseInt(sQ12);
            String sQ13 = request.getParameter("Q13");
            int Q13 = Integer.parseInt(sQ13);
            String sQ15 = request.getParameter("Q15");
            int Q15 = Integer.parseInt(sQ15);

            out.println("<html><head><title>TRALI Investigation Query
            Form</title></head><body>");
            //out.println("<form method='POST'
            action='http://medir.ohsu.edu:8080/examples/servlet/JS_Query'>");
```

```

out.println("<h4>DETAILED EVALUATION OF TRANSFUSION REACTION
QUERY B</h4>");
out.println("<Choose Attributes You Want To View:>");
out.println("<input type='checkbox' name='PATIENT' value='PT_ID' checked> Patient
Identifier <br> ");
out.println("<input type='checkbox' name='PATIENT' value='DOB'> Date of Birth <br>
");
out.println("<input type='checkbox' name='PATIENT' value='AGE'> Age <br> ");
out.println("<input type='checkbox' name='PATIENT' value='HOSP'> Hospital <br> ");
out.println("<input type='checkbox' name='PATIENT' value='HOSP_ID'> Hospital
Identifier <br> ");
out.println("<input type='checkbox' name='PATIENT' value='DAT_RXN' checked>
Date of Reaction <br> ");
out.println("<input type='checkbox' name='PATIENT' value='SEX'> Patient Sex <br> ");
out.println("<input type='checkbox' name='PATIENT' value='CLASS' checked>
Classification <br> ");
out.println("<input type='checkbox' name='PATIENT' value='TIRDR' checked>
Transufision Interventions Recommended <br> ");
out.println("<input type='checkbox' name='PATIENT' value='PT_NOTES'> General
Patient Notes <br> ");

```

// Depending on what options are selected the following if statements generate appropriate attribute boxes.

```

switch (Q1) {
    case 1:
        out.println("<input type='checkbox' name='PRODUCTS' value='PROD' checked>
Blood Products Implicated in Reaction <br>");
        out.println("<input type='checkbox' name='PATIENT' value='PT_NOTES'>
General Patient Notes <br> "); break;
    case 2:
        out.println("<input type='checkbox' name='PATIENT' value='LEUKO'>
Leukoreduced <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='IRR_DATE'> Irradiated
Date <br> ");
        out.println("<input type='checkbox' name='PROCESS' value='PROCESS' checked>
Additional Processing of Products <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PROC_NOTES'>
General Processing Notes <br> "); break;
    case 3:
        out.println("<input type='checkbox' name='PATIENT' value='INF_OVR'> Each
Unit Infused Over <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BL_LI_FL'> Blood
Line Fluid <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='VENN_ACC'>
Venous Access <br> ");

```

```

        out.println("<input type='checkbox' name='PATIENT' value='TRA_PLA'> Place
of Transfusion <br> ");
        out.println("<input type='checkbox' name='INFUSION' value='DEVICE'
checked> Device Used <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='OTH_MED'> Other
Medications in Blood Line <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='INF_NOTES'>
General Infusion Notes <br> "); break;
    case 4:
        out.println("<input type='checkbox' name='PREMEDS' value='PREM' checked>
Patient Premedication(s) <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PREM_NOTES'>
General Premeds Notes <br> "); break;
    case 5:
        out.println("<input type='checkbox' name='SYMPTOMS' value='S_OR_S'
checked> Symptom and Signs of Reaction <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='S_OR_S'> Urticaria
Where? <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='S_OR_S'> Rash
Where? <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='S_OR_S'> General
Premedication Notes <br> "); break;
    case 6:
        out.println("<input type='checkbox' name='VITALS' value='PRE_TP' checked>
Pretransfusion Temperature <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_BP' checked>
Pretransfusion Blood Pressure <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_PU' checked>
Pretransfusion Pulse <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_RR' checked>
Pretransfusion Respiratory Rate <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_02' checked>
Pretransfusion O2 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_02_L'
checked> Pretransfusion Liters of O2 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PRE_02_TY'
checked> Pretransfusion Type of O2 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_TP' checked>
Posttransfusion Temperature <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_BP' checked>
Posttransfusion Blood Pressure <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_PU' checked>
Posttransfusion Pulse <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_RR' checked>
Posttransfusion Respiratory Rate <br> ");

```

```

        out.println("<input type='checkbox' name='VITALS' value='PST_02' checked>
Posttransfusion 02 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_02_L' checked>
Posttransfusion Liters of 02 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='PST_02_TY'
checked> Posttransfusion Type of 02 <br> ");
        out.println("<input type='checkbox' name='VITALS' value='VITAL_NOTES'>
General Vitals Notes <br> "); break;
    case 7:
        out.println("<input type='checkbox' name='TREATMENT' value='TREAT'
checked> Reaction Treatment <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ROUTE'> FIO2
Route <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='RAT_FIO2'> FIO2
Rate <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='V_EX_PR'>
Volume Expansion Product <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TREAT_NOTES'>
General Treatment Notes <br> ");    break;
    case 8:
        out.println("<input type='checkbox' name='INVEST' value='TRA_SRV'
checked> Transfusion Service Role <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ABO_RE'>
Recipient Blood Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_HE'>
Hemolytic work up done? <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_BC'>
Blood Culture Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_PC'>
Product Culture Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PR_HLA'>
Products anti-gran/HLA <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='RE_HLA'>
Recipient anti-gran/HLA <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PR_PMN'>
Product(s) assayed for PMN <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PT_PMN'> Patient
pre&post assayed for PMN <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='RE_IGA'>
Recipient IGA levels done <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ANT_IGA'> Anit-
IGA results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='OT_LB_RE'>
Other lab results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='CXR_RE'> CXR
Result <br> ");

```

```

        out.println("<input type='checkbox' name='PATIENT' value='02_SAT'> 02
        Saturations Result <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='02_FIO2'> FIO2
        <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='02_FIO2_TY'>
        FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_VAL'>
        FIO2 Baseline Value <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_FIO2'> Base
        FIO2 <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_FIO2_TY'>
        Base FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_RES'> Post
        Reaction Resolution <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_FIO2'> Post
        FIO2 <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_FIO2_TY'>
        Post FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='OT_CL_RE'>
        Other Clinical Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='INVEST_NOTES'>
        General Investigation Notes <br> "); break;
        case 9:
        out.println("<input type='checkbox' name='DONOR' value='ABO_DO' checked>
        Donor Blood Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ABO_RE'>
        Recipient Blood Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_HE'>
        Hemolytic work up done? <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_BC'>
        Blood Culture Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='TR_SR_PC'>
        Product Culture Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PR_HLA'>
        Products anti-gran/HLA <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='RE_HLA'>
        Recipient anti-gran/HLA <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PR_PMN'>
        Product(s) assayed for PMN <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PT_PMN'> Patient
        pre&post assayed for PMN <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='RE_IGA'>
        Recipient IGA levels done <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ANT_IGA'> Anit-
        IGA results <br> ");

```

```

        out.println("<input type='checkbox' name='PATIENT' value='OT_LB_RE'>
Other lab results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='CXR_RE'> CXR
Result <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='O2_SAT'> O2
Saturations Result <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='O2_FIO2'> FIO2
<br> ");
        out.println("<input type='checkbox' name='PATIENT' value='O2_FIO2_TY'>
FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_VAL'>
FIO2 Baseline Value <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_FIO2'> Base
FIO2 <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='BASE_FIO2_TY'>
Base FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_RES'> Post
Reaction Resolution <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_FIO2'> Post
FIO2 <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='PST_FIO2_TY'>
Post FIO2 Type <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='OT_CL_RE'>
Other Clinical Results <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='INVEST_NOTES'>
General Investigation Notes <br> "); break;
    case 10:
        out.println("<input type='checkbox' name='CBC' value='PRE_DAT' checked>
Pre-Reaction Date <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_TIM' checked>
Pre-Reaction Time <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_WBC' checked>
Pre-Reaction White Blood Count <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_PMN' checked>
Pre-Reaction Polymorphonuclear Leukocytes<br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_LYM' checked>
Pre-Reaction Lymphocytes <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_MON' checked>
Pre-Reaction Monocytes <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_EOS' checked>
Pre-Reaction Eosinophils <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_BAS' checked>
Pre-Reaction Basophils <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_BAN' checked>
Pre-Reaction Bands <br> ");

```

```

        out.println("<input type='checkbox' name='CBC' value='PRE_HB' checked> Pre-
Reaction Hemoglobin <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_HCT' checked>
Pre-Reaction Hematocrit <br> ");
        out.println("<input type='checkbox' name='CBC' value='PRE_PLA' checked>
Pre-Reaction Platelets <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_DAT' checked>
Post-Reaction Date <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_TIM' checked>
Post-Reaction Time <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_WBC' checked>
Post-Reaction White Blood Count <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_PMN' checked>
Post-Reaction Polymorphonuclear Leukocytes <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_LYM' checked>
Post-Reaction Lymphocytes <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_MON' checked>
Post-Reaction Monocytes <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_EOS' checked>
Post-Reaction Eosinophils <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_BAS' checked>
Post-Reaction Basophils <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_BAN' checked>
Post-Reaction Bands <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_HB' checked> Post-
Reaction Hemoglobin <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_HCT' checked>
Post-Reaction Hematocrit <br> ");
        out.println("<input type='checkbox' name='CBC' value='PST_PLA' checked>
Post-Reaction Platelets <br> ");
        out.println("<input type='checkbox' name='CBC' value='CBC_NOTES' checked>
CBC Notes <br> "); break;
    case 11:
        out.println("<input type='checkbox' name='HEMA' value='HEM_FACT'
checked> Hematopietic Factors <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='CHEMO'>
Chemotherapy <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='AGNT_GIV'>
Chemo Agents Given <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='DATE_GIV'>
Chemo Dates Given <br> ");
        out.println("<input type='checkbox' name='PATIENT'
value='CHEMO_NOTES'> General Chemo Notes <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ANTI_GIV'>
Antibiotics Given <br> ");

```

```

        out.println("<input type='checkbox' name='PATIENT' value='GIV_DATE'>
Dates Antibiotics Given <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ANTI_NOTES'>
General Antibiotic Notes <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='ACE_INH'> ACE
Inhibitor <br> ");
        out.println("<input type='checkbox' name='PATIENT' value='OTH_MEDS'>
Other Medications <br> ");
        out.println("<input type='checkbox' name='PATIENT'
value='REC_MED_NOTES'> General Recipient Notes <br> "); break;
    }

```

```

    switch (Q9) {
        case 1:
            out.println("<input type='checkbox' name='PATIENT' value='INI_INT' checked>
Time from Transfusion to Symptom Onset <br> "); break;
    }

```

```

    switch (Q10) {
        case 1:
            out.println("<input type='checkbox' name='PATIENT' value='INI_DUR'
checked> Duration of Reaction <br> "); break;
    }

```

```

    switch (Q11) {
        case 1:
            out.println("<input type='checkbox' name='PATIENT' value='REA_OUT'
checked> Duration of Reaction <br> ");
            out.println("<input type='checkbox' name='PATIENT' value='TIME_NOTES' >
General Notes Regarding Duration and Time <br> "); break;
    }

```

```

    switch (Q12) {
        case 1:
            out.println("<input type='checkbox' name='PATIENT' value='PT_PR_TR' checked>
Patient Previously Transfused <br> ");
            out.println("<input type='checkbox' name='PATIENT' value='WHN_TR' checked>
When Patient Transfused <br> ");
            out.println("<input type='checkbox' name='PATIENT' value='WHT_TR' checked>
What was Transfused <br> "); break;
    }

```

```

    switch (Q13) {
        case 1:
            out.println("<input type='checkbox' name='PATIENT' value='ADM_DX' checked>
Admitting Diagnoses <br> ");
            out.println("<input type='checkbox' name='PATIENT' value='SUR_DT' checked>
Surgery Date <br> ");
    }

```

```

    out.println("<input type='checkbox' name='PATIENT' value='SUR_TY' checked>
Surgery Type <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='MAL_DT' checked>
Malignancy Date <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='MAL_TY' checked>
Malignancy Type <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='GI_DUE' checked> GI
Bleed due to <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='LI_DUE' checked> Liver
disease due to <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='IN_DX_DA' checked>
Infection Diagnoses Date <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='CUL_RES' checked>
Culture result <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='MA_TR_PR' checked>
Massive Transfusion Products <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='FE_PR_TR' checked>
Febrile Prior to Transfusion <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='CRT_ILL' checked>
Critical Illness <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='CAR_DIS' checked>
Cardiac disease <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='PRP_DI_T' checked>
Prepulmonary Disease Type <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='PSP_DI_T' checked>
Postpulmonary Disease Type <br> ");
    out.println("<input type='checkbox' name='PATIENT' value='MMD_NOTES'
checked> General Medical Diagnoses Notes <br> "); break;
    }
    switch (Q15) {
    case 1:
        out.println("<input type='checkbox' name='PATIENT' value='FREE_TXT' checked>
Other Pertinent Patient Info<br> ");
    }

out.println("<input type='Submit' value='Submit Patient Query'>");
out.println("<input type='Reset'>");
out.println("</form>");
out.println("</body>");
out.println("</html>");

} catch (Exception Y){ out.println ("SQL Exception: " + Y.getMessage() ); }
}

}

```

Appendix N – Pre-Query servlet algorithm

Perform the following in a try/catch:

If no Error:

1. Create group variables.
2. Retrieve form variables from Pre-Query page
3. Convert String variables into int.
4. Generate Query Form
 - a. Printout Basic Patient Data
 - b. Use multiple case Switch to determine which Join-Table attributes to generate.
 - i. Pre-select attributes most likely desired.
 - c. Use single case Switch to determine which additional attribute groups to print
 - i. Pre-select attributes most likely desired.
5. Reset Option
6. Submit Query Button.

If Error caught:

Printout error.

Appendix O – Query servlet algorithm

Perform following in try/catch:

If no Error:

1. Retrieve selected attributes from Query form.
2. Generate SQL Select statement.
3. Submit SQL Statement
4. Printout returned data set to web page.
 - a. Link back to Welcome page.

If Error caught:

1. Printout error.

Appendix P – User guidelines

1. Do Not use the “Enter/Return” key unless all data has been submitted. Use the tab button to advance to the next data field.
2. Do NOT use the plus character in a text field. This will upset the resulting SQL statement resulting in an error and incomplete submission of patient data.
3. Reaction6.html, any white space data (data written in the whitespace, or extra data given when only one answer originally possible) should be written into the Specific Notes section of that particular form question.
4. When you have found that data has been entered incorrectly, you MUST delete the entire patient record with the “Delete Patient Data” button. Do NOT press the back button on your browser. Any changes you make after going back will not be submitted to the database, and will not update the patient.
5. When a range is given for an attribute the low value should be reported (as per Dr. Boshkov).

Appendix Q – Database error explanations

The following is an explanation of the errors the user is most likely to encounter and steps needed to correct the problems if they occur.

1. ORA-00001: unique constraint (TRALI.SYS_C002005) violated
 - a. Reason – Patient ID is already in the database.
 - b. Damage – Data that you submitted was not entered into the database
 - c. Resolution – Press “Back” button and check the Patient ID for accuracy
 - i. If Patient ID is correct, and you desire to remove the data for this patient from the database, must use sqlplus editor.
2. ORA-01400: cannot insert NULL into ("TRALI"."PATIENT"."PT_ID")
 - a. Reason – Did not specify Patient Identification in the first text field.
 - b. Damage – No data was submitted to the database.
 - c. Resolution – Press the “Back” button on the browser, type in a Patient ID and resubmit.
3. ORA-01401: inserted value too large for column
 - a. Reason – Too much information was typed into a text field.
 - b. Damage – Partial data was submitted to the database up to the point of the error field.
 - c. Resolution – Must use the Unix sqlplus editor to first remove the data from the database, then use the website to reenter the data.
4. SQL Exception: ORA-00933: SQL command not properly ended
 - a. Reason: User entered an illegal character in a text field, such as “+”

- b. Damage: Partial data was submitted to the database up to the point of the error field.
- c. Resolution – Must use the Unix sqlplus editor to first remove the data from the database, then use the website to reenter the data.