PFTP

COOPERATIVE STUDY OF SICKLE CELL DISEASE

PULMONARY FUNCTION TEST FORM

ANONID

PFTID2

1. Person completing form (Name): _____ PFTFC _____ (Initials): [ ][ ][ ]
2. CSSCD code number of person completing form: PFTCODE [ ][ ][ ]
3. Date test given: (Month, Day, Year): PFT_DATE _____/_____/_____

4. **HEIGHT** (cm): PFTHGT [ ][ ][ ].[ ]
5. **WEIGHT** (kg): PFTWGT [ ][ ][ ].[ ]
6. **SITTING HEIGHT** (cm): chair seat to top of head PFTSIT [ ][ ][ ].[ ]
7. **ARM SPAN** (cm): fingertip to fingertip PFTARMSP [ ][ ][ ].[ ]

***** ATTACH ALL INSTITUTIONAL REPORTS & COMPUTER PRINTOUTS OF RESULTS *****

8. **SPIROMETRY** RESULTS **BEFORE BRONCHODILATORS**

8.1 Forced Vital Capacity (L, BTPS): PFTFVC [ ].[ ][ ]

8.2 Forced Expiratory Volume/1 Sec (L, BTPS): PFTFEV [ ].[ ][ ]

8.3 FEV/FVC (%): [ ][ ].[ ] PFFEVFVC

8.4 Forced Expiratory Flow Rate

8.4.a. at peak flow (L/sec. BTPS): PFTFEFP [ ][ ].[ ][ ]

8.4.b. at 50% of vital capacity (L/sec, BTPS): PFTFEF50 [ ].[ ][ ]

8.4.c. at 25% of vital capacity (L/sec, BTPS): PFTFEF25 [ ].[ ][ ]

8.4.d. FEF 25-75% (L/sec, BTPS): PFTFEF [ ].[ ][ ]

[ ] ML [ ] DE

9. Were spirometry values also obtained **AFTER A BRONCHODILATOR** was used? **PFTBRON** ☐ 1. NO ☐ 2. YES

IF YES TO QUESTION 9
↓

9.1 Type/dosage of bronchodilator administered
(NOTE: BRONCHODILATOR MUST BE ADMINISTERED AS SPECIFIED IN EITHER 1 OR 2 BELOW) **PFTBRONT**

☐ 1. 0.5 cc of albuterol plus 2 cc of normal saline
☐ 2. Metered dose inhaler & spacer; 2 puffs of albuterol

9.2 SPIROMETRY RESULTS **AFTER BRONCHODILATORS**

9.2.1. Forced Vital Capacity (L, BTPS): **PFTFVCA** ☐☐.☐☐
9.2.2 Forced Expiratory Volume/1 Sec (L, BTPS): **PFTFEVA** ☐☐.☐☐
9.2.3 FEV/FVC (%): ☐☐☐.☐ **PFEVFVCA**
9.2.4 Forced Expiratory Flow Rate
9.4.a. at peak flow (L/sec. BTPS): **PFTFEFPA** ☐☐.☐☐
9.4.b. at 50% of vital capacity (L/sec, BTPS): **PFFEF50A** ☐☐.☐☐
9.4.c. at 25% of vital capacity (L/sec, BTPS): **PFFEF25A** ☐☐.☐☐
9.4.d. FEF 25-75% (L/sec, BTPS): **PFTFEFA** ☐☐.☐☐

10. **LUNG VOLUMES**
10.1 Total Lung Capacity (L, BTPS): **PFTTLNGC** ☐☐.☐☐
10.2 Functional Residual Capacity (L, BTPS): **PFTFRESC** ☐☐.☐☐
10.3 Residual Volume (L, BTPS): **PFTRESVL** ☐☐.☐☐
10.4 RV/TLC (%): ☐☐☐.☐ **PFTRVTLC**
10.5 Measurements obtained by (CHECK ONE): **PFTLVMS**
☐ 1. 7-minute Helium rebreathing method
☐ 2. Body plethysmography
☐ 3. Nitrogen Washout

11. **SINGLE BREATH DIFFUSING CAPACITY-CO**

11.1 Diffusing Capacity CO (ml/min/mmHg) ☐☐☐.☐ **PFTDCCO**
↑ **UNCORRECTED FOR HEMOGLOBIN AND LUNG VOLUME**
11.2 Hemoglobin (g/dl): ☐☐☐.☐ **PFTDCHB**
11.3 Single Breath TLC (L, BTPS): **PFTSBTLC** ☐☐.☐☐
11.4 Single Breath Residual Volume (L, BTPS): **PFTSBRV** ☐☐.☐☐

12. **QUALITY OF TEST** ☐ 1. Excellent ☐ 2. Fair ☐ 3. Unacceptable **PFTTEST**

13. **ARTERIAL BLOOD GASES** (drawn with patient at rest, sitting, breathing room air)
↑ **PLEASE DO NOT REPORT BLOOD GASES WHICH WERE DRAWN WHILE SUBJECT WAS SICK, UNSTABLE, OR ON OXYGEN**

13.1 pO_2 (mmHg): ☐☐☐ **PFTPO2**
13.2 pCO_2 (mmHg): ☐☐ **PFTPCO2**
13.3 pH: ☐.☐☐ **PFTPH**

PFTBTMP

13.4 Body temperature at time blood is drawn (°C): [ ][ ].[ ]

14. Was pulse oximetry performed? **PFTPOXDN** [ ] 1. NO [ ] 2. YES

IF YES TO QUESTION 14 → 14.1 % O_2 saturation by pulse oximetry: [ ][ ][ ] **PFTPPSAT**

15. Was co-oximetry performed? **PFTCOOX** [ ] 1. NO [ ] 2. YES

IF YES TO QUESTION 15 → 15.1 % O_2 saturation by co-oximetry: [ ][ ][ ] **PFTCOSAT**

15.2 Carboxyhemoglobin [ ].[ ] **PFTCARBX**

15.3 Methemoglobin [ ].[ ] **PFTMETHE**

Signature of Data Coordinator: _____ Date: _____/_____/_____

OFFICE USE ONLY			
16. Pulmonary function test report received?	[ ] 1. NO	[ ] 2. YES	[ ] 3. N/A
17. Arterial blood gas report received?	[ ] 1. NO	[ ] 2. YES	[ ] 3. N/A
18. Pulse oximetry report received?	[ ] 1. NO	[ ] 2. YES	[ ] 3. N/A
19. Co-oximetry report received?	[ ] 1. NO	[ ] 2. YES	[ ] 3. N/A

QUESTION-BY-QUESTION SPECIFICATIONS FOR THE PULMONARY FUNCTION TEST FORM

Question 1. Person completing form: The person completing the PULMONARY FUNCTION TEST FORM should enter his/her name on the line and initials in the three boxes to the, right of the line. The person completing the form should be a pulmonologist or pulmonary lab technician/technologist.

Question 2. CSSCD code number of person completing form: The code number of the person

completing the PULMONARY FUNCTION TEST FORM is to be assigned by the Data Coordinator at each clinic.

Question 3. Date test given: The date the pulmonary function tests were performed should be entered in the MM/DD/YY date format (e.g., October 24, 1994, would be entered 10/24/94).

Question 4. HEIGHT: Height measurements are to be made with the patient in stocking (bare) feet using a standard wall or scale set. Feet should be together and touching the wall with the patient's arms at his/her side. The chin should be straight and the patient is to be straightened by the examiner. The height measurement should be recorded in centimeters (cm). The formula for conversion from inches to centimeters is as follows: height in inches X 2.54 = height in centimeters.

Question 5. WEIGHT: Weight measurements are to be made when the patient has no shoes on and most of his/her clothing has been removed. A standard hospital scale should be used. The weight measurement should be recorded in kilograms (kg). The formula for conversion from pounds to kilograms is as follows: weight in pounds/2.2 = weight in kilograms.

Question 6. SITTING HEIGHT: Sitting height measurements may be performed using a table and anthropometer, or by using a special sitting-height measuring table with an adjustable footrest, or by using a stadiometer and a rectangular box (50 X 40 X 30 cm). For detailed instructions on performing sitting height measurements by the above mentioned techniques, refer to: Anthropometric Standardization Reference Manual, (Editors: T. Lohman, A. Roche, R. Martorell; Champaign, Illinois: Human Kinetics Books, 1988).

Question 7. ARM SPAN: A measuring tape fixed to an adjustable block which is attached to the wall is to be used to measure the arm span. Measurements are to be made with the patient standing with his/her feet together and his/her back against a flat wall. The arms are outstretched laterally and maximally at the level of the shoulders, in contact with the wall, and with the palms facing forwards. The tip of the middle (longest finger) finger (excluding the fingernail) of the right hand is kept in contact with the block, while the zero end of the tape is set at the tip of the middle (longest finger) finger (excluding the fingernail) of the left hand. Two measurements are necessary, one at the zero end of the tape and the other at the block end to make the reading. The

measurements should be recorded in centimeters (cm). The measurement is recorded to the nearest 0.1 cm. When making this measurement, it is imperative that the subject's arms be outstretched maximally and that they are held in this position until the readings are taken. The formula for conversion from inches to centimeters is as follows: height in inches X 2.54 = height in centimeters.

Question 8. SPIROMETRY: These data are to be filled in by pulmonary function personnel. All values should be recorded in the boxes to the right of the question (questions 8.1-8.4.d) MUST be addressed:

8.1 Forced Vital Capacity (FVC)

8.2 Forced Expiratory Volume/I second (FEV_1)

8.3 FEV/FVC%

8.4.a Expiratory flow rate at peak flow (PEF)

8.4.b Forced expiratory flow rate at 50% of vital capacity (Vmax5O)

8.4.c Forced expiratory flow rate at 25% of vital capacity (Vmax25)

8.4.d Mid-maximal expiratory flow rate (FEF 25-75)

NOTE: ONLY RESULTS BEFORE BRONCHODILATORS should be recorded for all spirometry measures in Section 8.

Question 9. SPIROMETRY: These data are to be filled in by pulmonary function personnel. All values should be recorded in the boxes to the right of the question (questions 9.1-9.4.d) MUST be addressed:

9.1 Forced Vital Capacity (FVC)

9.2 Forced Expiratory Volume/I second (FEV_1)

9.3 FEV/FVC%

9.4.a Expiratory flow rate at peak flow (PEF)

9.4.b Forced expiratory flow rate at 50% of vital capacity (Vmax5O)

9.4.c Forced expiratory flow rate at 25% of vital capacity (Vmax25)

9.4.d Mid-maximal expiratory flow rate (FEF 25-75)

NOTE: ONLY RESULTS AFTER BRONCHODILATORS should be recorded for all spirometry measures in Section 9.

Question 10. LUNG VOLUMES: These data are to be filled in by the Pulmonary Function Laboratory personnel. All values should be recorded in the boxes to the right of the questions, ALL questions (10.1-10.5) MUST be addressed:

10.1 Total Lung Capacity

10.2 Functional Residual Capacity

10.3 Residual Volume

10.4 RV/TLC (%)

Question 10.5 Measurements obtained by: The method used for measuring lung volumes MUST be reported. Place a check mark in the box for the corresponding method used to measure the lung volumes: 1. 7-minute Helium rebreathing method, 2. Body plethysmography, *or* 3. Nitrogen Washout.

Question 11. SINGLE BREATH DIFFUSING CAPACITY-CO: These data are to be filled in by the Pulmonary Function Laboratory personnel. All values should be recorded in the boxes to the right of the questions. ALL questions (1 1.1-11.4) MUST be addressed:

Question 11.1 Diffusing Capacity CO: The value to be recorded for this question should be uncorrected for hemoglobin and lung volume. The value should be filled in by the Pulmonary Function Laboratory personnel.

Question 11.2 Hemoglobin: At some centers, it may be the responsibility of the Sickle Cell clinic to provide the PFT lab with hemoglobin results. The interval between the date of the hemoglobin value reported and pulmonary function tests should not exceed one month; in addition, during the interval between the hemoglobin and pulmonary function studies, the patient should be free of acute event symptoms.

Question 11.3 Single Breath TLC: The value should be filled in by the Pulmonary Function Laboratory personnel.

Question 11.4 Single Breath Residual Volume: The value should be filled in by the Pulmonary Function Laboratory personnel.

Question 12. QUALITY OF TEST: The person administering the tests should place a check mark in the appropriate box, (1. Excellent, 2. Fair, 3. Unacceptable) that best describes the quality of the pulmonary function tests.

Question 13. ARTERIAL BLOOD GASES (ABGs): Blood gases should be drawn with the patient at rest, sitting, and breathing room air. Blood gases that were drawn while the, patient was sick, unstable, or on oxygen should NOT be reported. The arterial blood gases should be measured on the same day as the pulmonary function testing. If the patient was unable to perform the pulmonary function tests but an arterial sample for ABGs was collected, the ABG results should be reported on the ARTERIAL BLOOD GASES FORM rather than the PULMONARY FUNCTION TEST FORM. The following measurements should be reported in the corresponding response boxes:

Question 13.1 $p0_2$

Question 13.2 pCO_2

Question 13.3 pH

Question 13.4 Body temperature at time blood is drawn (°C): Record the patient's body temperature in degrees Celsius at the time the arterial blood specimen was DRAWN in the boxes to the right of Question 13.4.

NOTE: DO NOT complete questions 13.1-13.4 IF the results were obtained from a venous or mixed (i.e. arterial/venous) blood specimen. INSTEAD, write a note in the left-hand margin indicating that only a venous or mixed sample was obtained.

Question 14. Was pulse oximetry performed?: Place a check mark in the appropriate (1. NO or 2. YES) box. If the response is 2. YES, enter % O_2 saturation in boxes to the right of Q.14.1.

Question 15. Was co-oximetry performed?: Place a check mark in th appropriate (1.NO or 2. YES) box. If the response is 2. YES, record values for % O_2 saturation, carboxyhemoglobin, and methemoglobin in boxes to the right of 15.1, 15.2, and 15.3 respectively.

CONTENTS OF SAS DATASET: PFTPPUBN.SD2
DATA FROM CSSCD FORM PFTP - PULMONARY FUNCTION TEST FORM
VARIABLES ARE LISTED IN ALPHABETICAL ORDER AND IN ORDER OF THEIR POSITION
IN THE SAS DATASET AND ON FORM PFTP
DATE VARIABLES HAVE BEEN REMOVED & CSSCD ID #S REPLACED W/ ANONYMIZED ID #

The SAS System 12:05 Thursday, February 12, 2004 3

The CONTENTS Procedure

Data Set Name:	IN.PFTPPUBN	Observations:	719
Member Type:	DATA	Variables:	51
Engine:	V6	Indexes:	0
Created:	15:40 Thursday, February 12, 2004	Observation Length:	392
Last Modified:	15:40 Thursday, February 12, 2004	Deleted Observations:	0
Protection:		Compressed:	NO
Data Set Type:		Sorted:	NO
Label:			

-----Engine/Host Dependent Information-----

Data Set Page Size:	16384
Number of Data Set Pages:	18
First Data Page:	1
Max Obs per Page:	41
Obs in First Data Page:	24
Number of Data Set Repairs:	0
File Name:	pftp_pun.sd2
Release Created:	6.08.00
Host Created:	WIN

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Informat	Label
1	ANONID	Char	8	0			ANONYMIZED ID #
21	PFEVFVCA	Num	8	153	4.1	4.1	923 AFT BRONCHO FEV/FVC
24	PFFEF25A	Num	8	177	5.2	5.2	924C FORCED EXPIR @ 25% VIT CAPACITY
23	PFFEF50A	Num	8	169	5.2	5.2	924B FORCED EXPIR @ 50% VIT CAPACITY
12	PFFEVFVC	Num	8	81	4.1	4.1	83 FEV/FVC
9	PFTARMSP	Num	8	57	5.1	5.1	7 ARM SPAN
4	PFTBNO	Num	8	17	3.	3.	DATA ENTRY BATCH NUMBER
17	PFTBRON	Num	8	121	2.	2.	9 SPIROM VAL OBTAIN AFT BRONCHODIL USED
18	PFTBRONT	Num	8	129	2.	2.	91 TYPE/DOSAGE OF BRONCHODILATOR USED
51	PFTBSA	Num	8	384	4.1	4.1	BODY SURFACE AREA (PH2)
39	PFTBTMP	Num	8	297	5.2	5.2	134 BODY TEMP AT TIME ABG BLOOD DRAWN
44	PFTCARBX	Num	8	337	4.1	4.1	152 CARBOXYHEMOGLOBIN
5	PFTCODE	Num	8	25	3.	3.	2 CODE NO OF PERSON COMPLETING FORM
42	PFTCOOX	Num	8	321	2.	2.	15 WAS CO-OXIMETRY PERFORMED
43	PFTCOSAT	Num	8	329	6.2	6.2	151 %O2 SATURATION BY CO-OXIMETRY
31	PFTDCCO	Num	8	233	4.1	4.1	111 DIFFUSING CAPACITY CO

32	PFTDCHB	Num	8	241	4.1	4.1	112 DIFFUSING CAPACITY HEMOGLOBIN
16	PFTFEF	Num	8	113	5.2	5.2	84D FORCED EXPIR FLOW RATE FEF 25-75%
15	PFTFEF25	Num	8	105	5.2	5.2	84C FORCED EXPIR @ 25% VITAL CAPACITY
14	PFTFEF50	Num	8	97	5.2	5.2	84B FORCED EXPIR @ 50% VITAL CAPACITY
25	PFTFEFA	Num	8	185	5.2	5.2	924D FORCED EXP FL RATE FEF 25-75%
13	PFTFEFP	Num	8	89	5.2	5.2	84A FORCED EXPIR FLOW RATE PEAK FLOW
22	PFTFEFPA	Num	8	161	5.2	5.2	924A FORCED EXP FL RATE AT PEAK FLOW
11	PFTFEV	Num	8	73	5.2	5.2	82 FORCED EXPIRATORY VOLUME
20	PFTFEVA	Num	8	145	5.2	5.2	922 AFT BRONCHO FORCED EXPIRATORY VOL
27	PFTFRESC	Num	8	201	5.2	5.2	102 FUNCTIONAL RESIDUAL CAPACITY
10	PFTFVC	Num	8	65	5.2	5.2	81 FORCED VITAL CAPACITY
19	PFTFVCA	Num	8	137	5.2	5.2	921 AFT BRONCHO FORCED VITAL CAPACITY
6	PFTHGT	Num	8	33	5.1	5.1	4 HEIGHT

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The CONTENTS Procedure

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Informat	Label
2	PFTID2	Num	8	8	3.	3.	FOLLOW-UP IDENTIFIER
46	PFTIRPT	Num	8	353	2.	2.	INSTITUTIONAL REPORTS RECEIVED
30	PFTLVMS	Num	8	225	2.	2.	105 MEASUREMENTS OBTAINED BY
45	PFTMETHE	Num	8	345	4.1	4.1	153 METHEMOGLOBIN
48	PFTOVERS	Char	2	369			VERSION DATA TRANSCRIBED FROM
37	PFTPCO2	Num	8	281	2.	2.	132 ARTERIAL BLOOD GAS PCO2
38	PFTPH	Num	8	289	5.2	5.2	133 ARTERIAL BLOOD GAS PH
36	PFTPO2	Num	8	273	3.	3.	131 ARTERIAL BLOOD GAS PO2
49	PFTPOX	Num	8	371	3.	3.	02 SAT MEASURED BY PULSE OXIMETRY
(PH2)							
40	PFTPOXDN	Num	8	305	2.	2.	14 WAS PULSE OXIMETRY PERFORMED
41	PFTPPSAT	Num	8	313	3.	3.	141 %02 SATURATION BY PULSE OXIMETRY
28	PFTRESVL	Num	8	209	5.2	5.2	103 RESIDUAL VOLUME
47	PFTRNSC	Num	8	361	2.	2.	DATA TRANSCRIBED FROM OLDER VERSION
29	PFTRVTLC	Num	8	217	4.1	4.1	104 RV/TLC
34	PFTSBRV	Num	8	257	5.2	5.2	114 DIFF CAP SINGLE BREATH RESID VOL
33	PFTSBTLC	Num	8	249	5.2	5.2	113 DIFF CAPACITY SINGLE BREATH TLC
8	PFTSIT	Num	8	49	5.1	5.1	6 SITTING HEIGHT
35	PFTTEST	Num	8	265	2.	2.	12 QUALITY OF TEST
26	PFTTLNGC	Num	8	193	5.2	5.2	101 TOTAL LUNG CAPACITY
3	PFTVERS	Char	1	16			FORM VERSION
7	PFTWGT	Num	8	41	5.1	5.1	5 WEIGHT
50	SATMETH	Char	5	379			02 SATURATION METHOD (PH2)

```
*************************************************************************
* PFTPN.FMT contains value labels for numerical codes assigned to categorical *
* variables in the SAS dataset PFTPPUBN.SD2                              *
*************************************************************************;

 PROC FORMAT;

 VALUE ID2F 1='1-PH2 ENTRY VIS'
            3='3-PH2 ANN 1 VIS'
            5='5-PH2 ANN 2 VIS'
            7='7-PH2 ANN 3 VIS'
            9='9-PH2 ANN 4 VIS'
            11='11-PH3 ENTRY VIS'
            13='13-PH3 ANN 1 VIS'
            15='15-PH3 ANN 2 VIS'
            17='17-PH3 ANN 3 VIS';

*Format NO_YES used for the following variables: PFTBRON PFTPOXDN PFTCOOX PFTRNSC;

 VALUE NO_YES    1='NO'
                 2='YES';


 VALUE PFTBRONT  1='0.5CC ALBUTEROL + 2CC SALINE'
                 2='METERED DOSE INHALER, ALBUTEROL';


 VALUE PFTLVMS   1='7 MIN HELIUM REBREATHING METH'
                 2='BODY PLETHYSMOGRAPHY'
                 3='NITROGEN WASHOUT';


 VALUE PFTTEST   1='EXCELLENT'
                 2='FAIR'
                 3='UNACCEPTABLE';



FORMAT PFTID2 ID2F.
       PFTBRON PFTPOXDN PFTCOOX PFTRNSC NO_YES.
       PFTBRONT PFTBRONT.
       PFTLVMS PFTLVMS.
       PFTTEST PFTTEST.;

RUN;
QUIT;
```

```
PFTVERS ------------------------------------------------------------ FORM VERSION
                  type:  string (str1)

         unique values:  4                    coded missing:  0 / 719

            tabulation:  Freq.  Value
                           132  "B"
                           183  "E"
                             1  "G"
                           403  "H"


PFTHGT -------------------------------------------------------------------- 4 HEIGHT
                  type:  numeric (float)

                 range:  [102,184]                    units:  .1
         unique values:  175                  coded missing:  0 / 719

                  mean:   139.527
             std. dev:   15.6709

           percentiles:        10%       25%       50%       75%       90%
                             119.5       127       139       150       162


PFTWGT -------------------------------------------------------------------- 5 WEIGHT
                  type:  numeric (float)

                 range:  [14,107]                     units:  .1
         unique values:  235                  coded missing:  2 / 719

                  mean:   35.4632
             std. dev:   14.0512

           percentiles:        10%       25%       50%       75%       90%
                              21.8        25        32        42      55.8


PFTSIT ------------------------------------------------------- 6 SITTING HEIGHT
                  type:  numeric (float)

                 range:  [29,105]                     units:  .1
         unique values:  57                   coded missing:  549 / 719

                  mean:   71.8253
             std. dev:   8.65315

           percentiles:        10%       25%       50%       75%       90%
                              63.5        66        71        77      81.5

PFTSIT:
  1.  Required only if PFTVERS='H.'
```

PFTARMSP ---------- 7 ARM SPAN

type:	numeric (float)		
range:	[97,192]	units:	.1
unique values:	78	coded missing:	548 / 719
mean:	145.917		
std. dev:	15.5188		

percentiles:	10%	25%	50%	75%	90%
	127	136	144	156	165.5

PFTARMSP:
1. Required only if PFTVERS='H.'

PFTFVC ---------- 81 FORCED VITAL CAPACITY

type:	numeric (float)		
range:	[.55,4.96]	units:	.01
unique values:	240	coded missing:	14 / 719
mean:	1.85091		
std. dev:	.700252		

percentiles:	10%	25%	50%	75%	90%
	1.12	1.34	1.71	2.18	2.83

PFTFEV ---------- 82 FORCED EXPIRATORY VOLUME

type:	numeric (float)		
range:	[.54,4.18]	units:	.01
unique values:	217	coded missing:	13 / 719
mean:	1.59676		
std. dev:	.572814		

percentiles:	10%	25%	50%	75%	90%
	1.01	1.2	1.47	1.88	2.44

PFFEVFVC ---------- 83 FEV/FVC

type:	numeric (float)		
range:	[56,99.9]	units:	.1
unique values:	77	coded missing:	16 / 719
mean:	87.0902		
std. dev:	6.69029		

percentiles:	10%	25%	50%	75%	90%
	79	83	87.3	91.2	96

PFTFEFP ---------- 84A FORCED EXPIR FLOW RATE PEAK FLOW

type:	numeric (float)		
range:	[1,10.34]	units:	.01
unique values:	369	coded missing:	21 / 719
mean:	3.65196		
std. dev:	1.42478		

percentiles:	10%	25%	50%	75%	90%
	2.08	2.6	3.42	4.4	5.53

PFTFEF50 ---------- 84B FORCED EXPIR @ 50% VITAL CAPACITY

type:	numeric (float)		
range:	[.49,5.94]	units:	.01
unique values:	281	coded missing:	33 / 719
mean:	2.28223		
std. dev:	.871877		

percentiles:	10%	25%	50%	75%	90%
	1.34	1.67	2.105	2.77	3.42

PFTFEF25 ---------- 84C FORCED EXPIR @ 25% VITAL CAPACITY

type:	numeric (float)		
range:	[.8,8.02]	units:	.01
unique values:	345	coded missing:	80 / 719
mean:	3.27064		
std. dev:	1.28935		

percentiles:	10%	25%	50%	75%	90%
	1.86	2.34	3.08	4	5

PFTFEF ---------- 84D FORCED EXPIR FLOW RATE FEF 25-75%

type:	numeric (float)		
range:	[.59,5.06]	units:	.01
unique values:	257	coded missing:	16 / 719
mean:	1.9405		
std. dev:	.738122		

percentiles:	10%	25%	50%	75%	90%
	1.15	1.43	1.78	2.31	2.89

```
PFTBRON ------------------------------ 9 SPIROM VAL OBTAIN AFT BRONCHODIL USED
                  type:  numeric (float)
                 label:  PFTBRON

                 range:  [1,2]                        units:  1
         unique values:  2                    coded missing:  316 / 719

            tabulation:  Freq.   Numeric  Label
                           289         1  NO
                           114         2  YES
```

PFTBRON:
1. Required only if PFTVERS='H.'

```
PFTBRONT ---------------------------------- 91 TYPE/DOSAGE OF BRONCHODILATOR USED
                  type:  numeric (float)
                 label:  PFTBRONT

                 range:  [1,2]                        units:  1
         unique values:  2                    coded missing:  619 / 719

            tabulation:  Freq.   Numeric  Label
                            76         1  0.5CC ALBUTEROL + 2CC SALINE
                            24         2  METERED DOSE INHALER, ALBUTEROL
```

PFTBRONT:
1. Required only if PFTBRON=2.

```
PFTFVCA ---------------------------------- 921 AFT BRONCHO FORCED VITAL CAPACITY
                  type:  numeric (float)

                 range:  [.87,4.74]                   units:  .01
         unique values:  87                   coded missing:  605 / 719

                  mean:   2.12675
             std. dev:   .668127

           percentiles:        10%       25%       50%       75%       90%
                              1.44       1.6      2.03      2.44      3.01
```

PFTFVCA:
1. Required only if PFTBRON=2.

PFTFEVA ---------- 922 AFT BRONCHO FORCED EXPIRATORY VOL

type:	numeric (float)		
range:	[.62,3.85]	units:	.01
unique values:	86	coded missing:	605 / 719
mean:	1.84184		
std. dev:	.57375		

percentiles:	10%	25%	50%	75%	90%
	1.26	1.39	1.755	2.15	2.63

PFTFEVA:
1. Required only if PFTBRON=2.

PFEVFVCA ---------- 923 AFT BRONCHO FEV/FVC

type:	numeric (float)		
range:	[59,99.9]	units:	.1
unique values:	31	coded missing:	605 / 719
mean:	86.9544		
std. dev:	7.33141		

percentiles:	10%	25%	50%	75%	90%
	77	84	88	91	95

PFEVFVCA:
1. Required only if PFTBRON=2.

PFTFEFPA ---------- 924A FORCED EXP FL RATE AT PEAK FLOW

type:	numeric (float)		
range:	[1.3,8.89]	units:	.01
unique values:	101	coded missing:	606 / 719
mean:	4.37513		
std. dev:	1.51857		

percentiles:	10%	25%	50%	75%	90%
	2.57	3.29	4.23	5.51	6.38

PFTFEFPA:
1. Required only if PFTBRON=2.

PFFEF50A ---------- 924B FORCED EXPIR @ 50% VIT CAPACITY

type:	numeric (float)		
range:	[.52,5.5]	units:	.01
unique values:	88	coded missing:	612 / 719
mean:	2.91196		
std. dev:	1.02781		

percentiles:	10%	25%	50%	75%	90%
	1.62	2.14	2.9	3.68	4.21

PFFEF50A:
1. Required only if PFTBRON=2.

PFFEF25A ---------- 924C FORCED EXPIR @ 25% VIT CAPACITY

type:	numeric (float)		
range:	[.89,7.39]	units:	.01
unique values:	89	coded missing:	625 / 719
mean:	4.07319		
std. dev:	1.4445		

percentiles:	10%	25%	50%	75%	90%
	2.32	3.02	4.09	5.21	6.02

PFFEF25A:
1. Required only if PFTBRON=2.

PFTFEFA ---------- 924D FORCED EXP FL RATE FEF 25-75%

type:	numeric (float)		
range:	[.32,4.71]	units:	.01
unique values:	91	coded missing:	605 / 719
mean:	2.4364		
std. dev:	.866914		

percentiles:	10%	25%	50%	75%	90%
	1.41	1.85	2.36	2.99	3.59

PFTFEFA:
1. Required only if PFTBRON=2.

PFTTLNGC ---------- 101 TOTAL LUNG CAPACITY

type:	numeric (float)		
range:	[1.28,6.66]	units:	.01
unique values:	272	coded missing:	46 / 719
mean:	2.64801		
std. dev:	.859343		

percentiles:	10%	25%	50%	75%	90%
	1.76	2.03	2.47	3.07	3.85

PFTFRESC ---------- 102 FUNCTIONAL RESIDUAL CAPACITY

type:	numeric (float)		
range:	[.36,7.93]	units:	.01
unique values:	191	coded missing:	47 / 719
mean:	1.34247		
std. dev:	.552552		

percentiles:	10%	25%	50%	75%	90%
	.81	1.01	1.25	1.565	1.98

PFTRESVL ---------- 103 RESIDUAL VOLUME

type:	numeric (float)		
range:	[.15,3.36]	units:	.01
unique values:	139	coded missing:	46 / 719
mean:	.771768		
std. dev:	.336751		

percentiles:	10%	25%	50%	75%	90%
	.42	.56	.71	.91	1.18

PFTRVTLC ---------- 104 RV/TLC

type:	numeric (float)		
range:	[2,66]	units:	.1
unique values:	93	coded missing:	48 / 719
mean:	29.7007		
std. dev:	9.78214		

percentiles:	10%	25%	50%	75%	90%
	18	23	29	35	43

PFTLVMS ---------- 105 MEASUREMENTS OBTAINED BY

type:	numeric (float)		
label:	PFTLVMS		
range:	[1,3]	units:	1
unique values:	3	coded missing:	51 / 719

tabulation:	Freq.	Numeric	Label
	162	1	7 MIN HELIUM REBREATHING METH
	388	2	BODY PLETHYSMOGRAPHY
	118	3	NITROGEN WASHOUT

PFTDCCO ---------- 111 DIFFUSING CAPACITY CO

type:	numeric (float)		
range:	[4.5,35.4]	units:	.1
unique values:	173	coded missing:	105 / 719
mean:	14.3309		
std. dev:	4.43349		

percentiles:	10%	25%	50%	75%	90%
	9.3	11.2	13.7	16.9	20.1

PFTDCCO:
1. Should be uncorrected for hemoglobin and lung volume.

PFTDCHB ---------- 112 DIFFUSING CAPACITY HEMOGLOBIN

type:	numeric (float)		
range:	[4.9,15]	units:	.1
unique values:	79	coded missing:	185 / 719
mean:	8.91292		
std. dev:	1.80806		

percentiles:	10%	25%	50%	75%	90%
	6.7	7.4	8.6	10.4	11.3

PFTSBTLC ---------- 113 DIFF CAPACITY SINGLE BREATH TLC

type:	numeric (float)		
range:	[.04,11.4]	units:	.01
unique values:	245	coded missing:	230 / 719
mean:	2.63603		
std. dev:	1.19481		

percentiles:	10%	25%	50%	75%	90%
	1.57	1.94	2.44	3.03	3.84

PFTSBRV ---------- 114 DIFF CAP SINGLE BREATH RESID VOL

type:	numeric (float)		
range:	[0,6.84]	units:	.01
unique values:	144	coded missing:	356 / 719
mean:	.952121		
std. dev:	.691599		

percentiles:	10%	25%	50%	75%	90%
	.48	.59	.82	1.1	1.55

PFTTEST ---------- 12 QUALITY OF TEST

type:	numeric (float)		
label:	PFTTEST		
range:	[1,3]	units:	1
unique values:	3	coded missing:	100 / 719

tabulation:	Freq.	Numeric	Label
	438	1	EXCELLENT
	169	2	FAIR
	12	3	UNACCEPTABLE

PFTPO2 ---------- 131 ARTERIAL BLOOD GAS PO2

type:	numeric (float)		
range:	[32,149]	units:	1
unique values:	69	coded missing:	219 / 719
mean:	90.158		
std. dev:	13.1267		

percentiles:	10%	25%	50%	75%	90%
	77.5	83	89	98	104

PFTPCO2 ---------- 132 ARTERIAL BLOOD GAS PCO2

type:	numeric (float)		
range:	[16,47]	units:	1
unique values:	24	coded missing:	219 / 719
mean:	37.306		
std. dev:	3.75187		

percentiles:	10%	25%	50%	75%	90%
	33	36	37	39	42

PFTPH ---------- 133 ARTERIAL BLOOD GAS PH

type:	numeric (float)		
range:	[7.32,7.54]	units:	.01
unique values:	21	coded missing:	217 / 719
mean:	7.41249		
std. dev:	.027431		

percentiles:	10%	25%	50%	75%	90%
	7.38	7.39	7.41	7.43	7.44

PFTBTMP ---------- 134 BODY TEMP AT TIME ABG BLOOD DRAWN

type:	numeric (float)		
range:	[34.9,38.7]	units:	.1
unique values:	28	coded missing:	377 / 719
mean:	36.945		
std. dev:	.436013		

percentiles:	10%	25%	50%	75%	90%
	36.5	37	37	37	37.4

PFTPOXDN ---------- 14 WAS PULSE OXIMETRY PERFORMED

type:	numeric (float)		
label:	PFTPOXDN		
range:	[1,2]	units:	1
unique values:	2	coded missing:	190 / 719

tabulation:	Freq.	Numeric	Label
	100	1	NO
	429	2	YES

PFTPOXDN:
1. Required only if PFTVERS='E' or 'H.'

PFTPPSAT ---------- 141 %O2 SATURATION BY PULSE OXIMETRY

type:	numeric (float)		
range:	[80,100]	units:	1
unique values:	19	coded missing:	345 / 719
mean:	95.5455		
std. dev:	3.66226		

percentiles:	10%	25%	50%	75%	90%
	90	94	97	98	99

PFTPPSAT:
1. Required only if PFTVERS='E' or 'H.'
2. Also see PFTPOX.

PFTCOOX ---------- 15 WAS CO-OXIMETRY PERFORMED

type:	numeric (float)		
label:	PFTCOOX		
range:	[1,2]	units:	1
unique values:	2	coded missing:	350 / 719

tabulation:	Freq.	Numeric	Label
	233	1	NO
	136	2	YES

PFTCOOX:
1. Required only if PFTVERS='H.'

PFTCOSAT ---------- 151 %O2 SATURATION BY CO-OXIMETRY

type:	numeric (float)		
range:	[70,99]	units:	1
unique values:	20	coded missing:	616 / 719
mean:	92.6699		
std. dev:	5.49757		

percentiles:	10%	25%	50%	75%	90%
	85	89	94	97	98

PFTCOSAT:
1. Required only if PFTCOOX=2.

PFTCARBX ---------- 152 CARBOXYHEMOGLOBIN

type:	numeric (float)		
range:	[.8,8.5]	units:	.1
unique values:	55	coded missing:	605 / 719
mean:	4.22544		
std. dev:	1.70677		

percentiles:	10%	25%	50%	75%	90%
	2	2.9	4.15	5.2	6.5

PFTCARBX:
1. Required only if PFTCOOX=2.

PFTMETHE ---------- 153 METHEMOGLOBIN

type:	numeric (float)		
range:	[0,5.6]	units:	.1
unique values:	30	coded missing:	604 / 719
mean:	1.43391		
std. dev:	.871064		

percentiles:	10%	25%	50%	75%	90%
	.3	.9	1.4	1.9	2.3

PFTMETHE:
1. Required only if PFTCOOX=2.

PFTRNSC ---------- DATA TRANSCRIBED FROM OLDER VERSION

type:	numeric (float)		
label:	PFTRNSC		
range:	[1,2]	units:	1
unique values:	2	coded missing:	315 / 719

tabulation:

Freq.	Numeric	Label
376	1	NO
28	2	YES

```
PFTOVERS ---------------------------------------- VERSION DATA TRANSCRIBED FROM
                  type:  string (str2)

         unique values:  7                    coded missing:  0 / 719

            tabulation:  Freq.  Value
                           691  "-7"
                             1  "A"
                             3  "B"
                             5  "E"
                            13  "F"
                             5  "G"
                             1  "H"
```

PFTOVERS:
1. Required only if PFTRNSC=2.

```
PFTPOX ------------------------------- O2 SAT MEASURED BY PULSE OXIMETRY (PH2)
                  type:  numeric (float)

                 range:  [75,100]                    units:  1
         unique values:  18                   coded missing:  594 / 719

                  mean:    95.464
             std. dev:    4.36175

           percentiles:        10%       25%       50%       75%       90%
                               89        94        97        98        99
```

PFTPOX:
1. Required only if PFTVERS='B' or 'E.'
2. Also see PFTPPSAT.

```
SATMETH ----------------------------------------- O2 SATURATION METHOD (PH2)
                  type:  string (str5)

         unique values:  6                    coded missing:  0 / 719

            tabulation:  Freq.  Value
                             1  "A"
                           643  "C"
                             7  "ABG"
                             8  "COOX"
                            47  "PULSE"
                            13  "UNK"
```

SATMETH:
1. Required only if PFTPOX>0.

PFTBSA ---------- BODY SURFACE AREA (PH2)

type:	numeric (float)		
range:	[0,1.9]	units:	.1
unique values:	15	coded missing:	356 / 719
mean:	.773003		
std. dev:	.487907		

percentiles:	10%	25%	50%	75%	90%
	0	0	.9	1.1	1.3

PFTBSA:
1. Not collected on PFTVERS='H.'

_dta:
1. Created 07/27/00.