

Section A: KEY IDENTIFYING INFORMATION

A1. Study Identification Number _____ - _____ - _____ - _____

Replaced by blinded subject ID

subj_id	Blinded subject ID
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Blinded site ID <created var>

site_id	Blinded site ID
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GENDER	Patient gender
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A2. Acrostic Identifier _____

*Removed to protect privacy*A3. Date of exercise testing

_____	_____	/	_____	_____	/	_____	_____	_____	_____
M	M		D	D		Y	Y	Y	Y

Replaced by age

EXTTEST_AGE	<created var> Age (yrs) of the subject at A3. Date of exercise testing
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A4. Date form completed

_____	_____	/	_____	_____	/	_____	_____	_____	_____
M	M		D	D		Y	Y	Y	Y

Replaced by age

COMP_AGE	<created var> Age (yrs) of the subject at A4. Date form completed
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enroll_age	<created var> Age (yrs) at enrollment: enrollment date (F02B, A3) - DOB (F02A, A3)
fontan_age	<created var> Age (yrs) at most recent fontan: date of most recent fontan (F04A, A3) - DOB (F02A, A3)
est_age	<created var> Age (yrs) at Exercise Stress Test (EST)

A5. Name of person completing form

_____	_____
PRINT FULL NAME	INITIALS

*Removed to protect privacy***Section B: PRE-EXERCISE MEASUREMENTS**

B1. Height at exercise testing _____ . _____ cm

HTEXTTEST	B1. Height at exercise testing (cm)
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B2. Weight at exercise testing _____ . _____ kg

WTEXTTEST	B2. Weight at exercise testing (kg)
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est_bsa	<created var> Haycock BSA, calculated from EST height and weight
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est_bmi	<created var> Body Mass Index: wtextest(kg) / (htextest(cm)/100)**2
BSAEXTST	<old form> B3. Body surface area (m**2)
IBWEXTST	<old form> B4. Ideal Body Weight (kg)
BMIEXTST	<old form> B5. Body mass index

B3. Resting data**[Record measurements while subject is at rest in supine position]**

- a. Heart rate _____ beats/minute
- b. Oxygen saturation by pulse oximeter (SpO₂) _____ %
- c. Systolic blood pressure _____ mmHg
- d. Diastolic blood pressure _____ mmHg
- e. Resting minute oxygen consumption (VO₂) _____ ml/kg/min

RSTHR	<F10C> B1a Supine: Heart Rate (beats/minute)
RSTSP02	<F10C> B1b Supine: Oxygen saturation (SpO ₂ , %)
RSTSBP	<F10C> B1c Supine: Systolic blood pressure (mmHg)
RSTDBP	<F10C> B1d Supine: Diastolic blood pressure (mmHg)
RSTV02	<F10C> B1e Supine: Minute oxygen consumption (VO ₂ , ml/kg/min)
RSTHRSI	<F10C> B2a Sitting: Heart Rate (beats/minute)
RSTSP02SI	<F10C> B2b Sitting: Oxygen saturation (SpO ₂ , %)
RSTSBPSI	<F10C> B2c Sitting: Systolic blood pressure (mmHg)
RSTDBPSI	<F10C> B2d Sitting: Diastolic blood pressure (mmHg)
RSTV02SI	<F10C> B2e Sitting: Minute oxygen consumption (VO ₂ , ml/kg/min)
resting_hr	<created var> Resting Heart Rate (368 supine, 44 sitting, beats/minute)
resting_spo2	<created var> Resting O ₂ saturation (sitting -- no supine were done, %)
resting_sbp	<created var> Systolic blood pressure (324 supine, 87 sitting, mmHg)
resting_dbp	<created var> Diastolic blood pressure (324 supine, 87 sitting, mmHg)
resting_vo2	<created var> Resting minute oxygen consumption (sitting -- no supine were done, ml/kg/min)
hr_change	<created var> Change in HR (MAXHR - RESTING_HR), beats/minute
hr_reserve	<created var> (MAXHR - RESTING_HR)/RESTING_HR
spo2_change	<created var> Change in O ₂ saturation (MAXSP02 - RESTING_SP02), %

B4. Spirometry

a. Forced vital capacity (FVC)	____ . ____ ____ L
b. Forced expiratory volume within one second (FEV ₁)	____ . ____ ____ L

c. Maximum voluntary ventilation (MVV)	L/min
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FVC	B4a. Forced vital capacity (FVC, L)
FEV1	B4b. Forced expiratory volume (FEV1, L)
MVV	B4c. Maximum voluntary ventilation (MVV, L/min)

Section C: EXERCISE PEAK PERFORMANCE MEASUREMENTS**C1. Peak cardiovascular response****[Record measurements while subject is at peak cardiovascular response]**

a. Minute oxygen consumption (VO_2)	___ . ___ ml/kg/min
b. Minute oxygen consumption (VO_2)	___ . ___ L/min
c. Minute carbon dioxide production (VCO_2)	___ . ___ L/min
d. Maximal work	___ . ___ watts
e. Maximum heart rate	___ . ___ beats/min
f. O_2 pulse	___ . ___ ml O_2 /beat
g. Maximum systolic blood pressure	___ . ___ mmHg
h. Maximum diastolic blood pressure	___ . ___ mmHg
i. Oxygen saturation by pulse oximeter (SpO_2)	___ . ___ %

PEAKVO2	C1a. Oxygen consumption (VO_2) (ml/kg/min)
pred_peakvo2	Predicted Peak VO_2 for gender and age (Cooper1984).
pp_peakvo2	<created var> Percent predicted max. VO_2 (Cooper1984).
PEAKVO2B	C1b. Oxygen consumption (VO_2) (L/min)
PEAKVCO2	C1c. Carbon dioxide production (VCO_2) (L/min)
MAXWORK	C1d. Maximal Work (watts)
maxworkrate	<created var> Maximal work rate (maxwork/wtextest)
pp_maxworkrate	<created var> Percent predicted maximum work rate
MAXHR	C1e. Maximum heart rate (beats/min)
pred_maxhr	<created var> Predicted max HR: (220 - est_age)
pp_maxhr	<created var> Pct predicted max HR: maxhr/pred_maxhr
chrno_i	<created var> Chronotropic Index
MAXO2PLS	C1f. O_2 pulse (ml O_2 /beat)
maxo2pls_i	<created var> Maximum O_2 Pulse at indexed to body surface area
pred_maxo2pls	<created var> Predicted max O_2 pulse: pred_peakvo2/pred_maxhr
pp_maxo2pls	<created var> Pct predicted max O_2 pulse: maxo2pls/pred_maxo2pls
MAXSBP	C1g. Maximum systolic blood pressure (mmHg)
MAXDBP	C1h. Maximum diastolic blood pressure (mmHg)
MAXSPO2	C1i. Oxygen saturation (SpO_2) (%)

C2. Peak exercise ventilatory response measurements

a. Maximum minute ventilation (VE) BTPS	___ ___ . ___ L/min
b. Tidal volume (VT)	___ . ___ L
c. Maximum respiratory rate	___ breaths/min
d. Breathing reserve	___ %

PEAKVE	C2a. Maximum minute ventilation (VE, L/min)
PEAKVT	C2b. Tidal volume (VT, L)
MAXRR	C2c. Maximum respiratory rate (breaths/min)
BRTHRSV	C2d. Breathing reserve (%)

C3. Gas exchange response measurements

a. Minute ventilation/minute oxygen consumption (VE/VO ₂) at anaerobic threshold	___ NOT APPLICABLE ...-1
b. Minute ventilation/minute carbon dioxide production (VE/VCO ₂) at anaerobic threshold	___ NOT APPLICABLE ...-1
c. Estimated physiologic dead space/tidal volume (VD/VT) at rest	___ %
d. Estimated physiologic dead space/tidal volume (VD/VT) at peak	___ %
e. Respiratory quotient (RQ) at peak	___ . ___

ATVEV02	C3a. Minute ventilation/oxygen consumption (VE/VO ₂)
ATVEVC02	C3b. Minute ventilation/carbon dioxide production (VE/VCO ₂)
VDVTREST	C3c. Physiologic dead space at rest (VD/VT, %)
VDVTPEAK	C3d. Physiologic dead space at peak (VD/VT, %)
RQPEAK	C3e. Respiratory quotient (RQ) at peak
rer_ge1_1	<created var> Is the peak respiratory quotient>=1.1 (max effort achieved)?

Section D: ANAEROBIC THRESHOLD

D1. Was anaerobic threshold adequately calculated? YES1 NO2 (E1)

ATCALC	<Ver B> D1. Was anaerobic threshold adequately calculated?
at_adequate	<created var> AT adequately calculated (D1=1 or D2b>0 or D4c>0, per S. Paridon)

D2. Metabolic measurements at anaerobic threshold

a. Work	___ ___ ___ watts
b. Oxygen consumption (VO ₂ /kg)	___ ___ . ___ ml/kg/min
c. Oxygen consumption (VO ₂)	___ . ___ ___ L/min
d. Carbon dioxide production (VCO ₂)	___ . ___ ___ L/min
e. Respiratory quotient (RQ) at anaerobic threshold	___ . ___ ___
f. Anaerobic threshold (% predicted of maximum oxygen consumption (VO ₂))	___ ___ . ___ %

ATWORK	D2a. Work (watts)
ATV02_1	D2b. Oxygen consumption (VO ₂ /kg) (ml/kg/min)
pp_vat	<created var> Percent predicted VO ₂ at AT
ATV02_2	D2c. Oxygen consumption (VO ₂) (L/min)
ATVCO2	D2d. Carbon dioxide production (VCO ₂ , L/min)
ATRQ	D2e. Respiratory quotient (RQ)
ATTHRS	D2f. Anaerobic threshold (%)

D3. Ventilatory measurements at anaerobic threshold

a. Minute ventilation (VE) BTPS	___ ___ L/min
b. Respiratory rate (RR)	___ ___ breaths/min
c. Tidal volume (VT)	___ . ___ ___ L

ATMINVE	D3a. Minute ventilation (VE, L/min)
ATRESPR	D3b. Respiratory rate (breaths/min)
ATVT	D3c. Tidal volume (VT, L)

D4. Cardiovascular measurements at anaerobic threshold

a. Heart rate at anaerobic threshold	___ ___ ___ beats/min
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b. Heart rate % maximum heart rate	___ . ___ %
c. Oxygen (O ₂) pulse	___ . ___ ml O ₂ /beat

ATHR	D4a. Heart rate at anaerobic threshold (beats/min)
ATHRPCT	D4b. Heart rate % maximum heart rate (%)
AT02PLS	D4c. Oxygen pulse (ml O ₂ /beat)
ato2pls_i	<created var> O ₂ Pulse at AT indexed to body surface area
at_vs_peak	<created var> AT VO ₂ / Peak VO ₂

Section E: RHYTHM ASSESSMENT

E1. Cardiac rhythm at rest

SINUS.....1

JUNCTIONAL.....2

OTHER99

a. If OTHER, specify: _____

RHYTHRST	E1. Cardiac rhythm at rest
RHYTHOTH	E1a. Specify, other

E2. Rhythm at maximum exercise

SINUS.....1

JUNCTIONAL.....2

OTHER99

a. If OTHER, specify: _____

RHYTHMAX	E2. Rhythm at maximum exercise
RHYMAXOT	E2a. Specify, other

E3. Arrhythmias during exercise

	YES	NO
a. Supraventricular tachycardia (SVT)	1	2
b. Premature atrial contraction (PACs)	1	2
c. Ventricular premature contractions (VPCs)	1	2
d. Ventricular tachycardia (VT)	1	2
e. Junctional	1	2
f. Other	1	2

1. If Other=YES, specify: _____

DURSVT	E3a. Supraventricular tachycardia (SVT)
DURPAC	E3b. Premature atrial contraction (PACs)
DURVPC	E3c. Ventricular premature contractions (VPCs)
DURVT	E3d. Ventricular tachycardia (VT)
DURJNCT	E3e. Junctional
DUROther	E3f. Other
DUROTHSP	E3f1. Specify, other

E4. Arrhythmias after exercise

YES	NO
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Form F10B: Fontan Exercise Testing Form

a. Supraventricular tachycardia (SVT)	1	2
b. Premature atrial contraction (PACs)	1	2
c. Ventricular premature contractions (VPCs)	1	2
d. Ventricular tachycardia (VT)	1	2
e. Junctional	1	2
f. Other	1	2

1. If Other=YES, specify: _____

POSTSVT	E4a. Supraventricular tachycardia (SVT)
POSTPAC	E4b. Premature atrial contraction (PACs)
POSTVPC	E4c. Ventricular premature contractions (VPCs)
POSTVT	E4d. Ventricular tachycardia (VT)
POSTJUNCT	E4e. Junctional
POSTOTHR	E4f. Other
POSTSPEC	E4f1. Specify, other

E5. ST-T wave changes

	YES	NO
a. Before exercise	1	2
b. During exercise	1	2
c. After exercise	1	2

STTWAVE	<Ver B> E5a. ST-T wave changes: before exercise
STTWAVDU	<Ver B> E5b. ST-T wave changes: during exercise
STTWAVAF	<Ver B> E5c. ST-T wave changes: after exercise

Section F: EXERCISE SUMMARY

F1. Did patient achieve maximal effort? YES1 NO.....2

MAXEFF	F1. Did patient achieve maximal effort	
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a. If NO, specify reason

PATIENT FATIGUE.....1

PATIENT UNABLE TO COOPERATE/UNDERSTAND INSTRUCTIONS...2

PATIENT MADE INSUFFICIENT EFFORT3

PATIENT HAD ADVERSE EVENT DURING TESTING.....4

1. Specify event: _____

OTHER 99

2. Specify other reason: _____

MAXEFFSP	F1a. If no, specify reason
MAXEFFEV	F1a1. Specify event
MAXEFOTH	F1a2. Specify other reason

FORMSTAT_ID	Unique form/subject ID
FORM_ID	4 letter code for the form
VER_ID	1 letter code added to form code to make unique form/version
DESTATUS	Form completion

PLEASE CONTACT STEVE PARIDON, MD
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