

Cohort, Exam 1**ECG Data**

Visual Coded record, ECG Reading Center Minnesota

The ECGMA03 data set is the final study ECG data set for Visit 1. There is 1 ECG Machine coded data set from Canada in Visit 1, ECGX02. The Visual Coded record from the ECG Reading Center in Minnesota is the ETLA record. Roughly 1 in every 5 ECG records were sent to be visually coded at Minnesota in Visit 1. About half of the visual coded records were sent for quality control purposes and the remainder sent because an algorithm determined these records needed visual coding. Of these roughly 3600 visual coded (ETLA) records, about one third were found to have some significant differences between the visual and machine coding. The ECG Visual Reading Center was requested to re-code the portions of the records where differences occurred. These are the adjudicated ECAA records.

The ECGMA03 data set utilizes all of the different ECG data sets to some extent. First, if there is only an ECGX02 record for a particular ID, the ECGX02 record for that ID is duplicated in the ECGMA03 data set. Second, if there is a Visual Coded record for an ID but there was no need for adjudication, the ECGX02 record for that ID is duplicated in the ECGMA03 data set. Lastly, when there is an ECAA adjudicated record, the ECGX02 record is written to the ECGMA03 data set with the exception that the adjudicated values overwrite the original ECGX02 values when machine coded value is not in substantial agreement with the visual coded value. Details of the criteria for agreement can be found in Section 2.1.2 of ARIC Manual #5. Thus, records with ECAA adjudicated values are the only records that are potentially different from the original ECGX02 records in the ECGMA03 data set.

Attached is a listing of variables contained in the ECGMA03 data set. Unless specifically requested otherwise, these variables should be used in official ARIC analyses, although the ECGX02 (Machine Coding) and ETLA (Visual Coding) records are also distributed.

<i>ETLA02</i>		<i>ECG Technician Code</i>	<i>Q02</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3617	Present	Text suppressed	

<i>ETLA03</i>		<i>Date ECG Recorded</i>	<i>Q03</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3616	Range	01/02/1984 - 05/04/1990	
1		Missing	

<i>ETLA04</i>		<i>Date ECG Sent</i>	<i>Q04</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3442	Range	02/25/1986 - 12/29/1992	
175		Missing	

<i>ETLA05</i>		<i>Date ECG Coded</i>	<i>Q05</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3589	Range	03/24/1987 - 01/04/1993	
28		Missing	

<i>ETLA06</i>		<i>Reading Center Coder ID</i>	<i>Q06</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3617	Present	Text suppressed	

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<i>ETLA07</i>		<i>Q-QS Pattern 11</i>	<i>Q07</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
2	11	Q/R amplitude ratio = 1/3, plus Q duration = 0.03 sec in lead I or V6.	
1	12	Q duration = 0.04 sec in lead I or V6.	
3	13	Q duration = 0.04 sec, plus R amplitude = 3 mm in lead aVL.	
4	21	Q/R amplitude ratio = 1/3, plus Q duration = 0.02 sec and < 0.03 sec in lead I or V6.	
4	22	Q duration = 0.03 sec and < 0.04 sec in lead I or V6.	
1	23	QS pattern in lead I. Do not code in the presence of 7-1-1.	
13	31	Q/R amplitude ratio = 1/5 and < 1/3, plus Q duration = 0.02 sec and < 0.03 sec in lead I or V6.	
11	33	Q duration = 0.03 sec and < 0.04 sec, plus R amplitude = 3 mm in lead aVL.	
3578		Missing	

<i>ETLA08</i>		<i>Q-QS Pattern 23</i>	<i>Q08</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
8	11	Q/R amplitude ratio = 1/3, plus Q duration \geq 0.03 sec in lead II.	
8	14	Q duration = 0.05 sec in lead III, plus a Q-wave amplitude = 1.0 mm in the majority of beats in lead aVF.	
29	21	Q/R amplitude ratio = 1/3, plus Q duration = 0.02 sec and < 0.03 sec in lead II.	
5	22	Q duration = 0.03 sec and < 0.04 sec in lead II.	
6	23	QS pattern in lead II. Do not code in the presence of 7-1-1.	
29	24	Q duration = 0.04 sec and < 0.05 sec in lead III, plus a Q-wave = 1.0 mm amplitude in the majority of beats in aVF.	
58	26	Q amplitude = 5.0 mm in leads III or aVF.	
19	31	Q/R amplitude ratio = 1/5 and < 1/3, plus Q duration = 0.02 sec and < 0.03 sec in lead II.	
52	34	Q duration = 0.03 sec and < 0.04 sec in lead III, plus a Q-wave = 1.0 mm amplitude in the majority of beats in lead aVF.	
7	35	Q duration = 0.03 sec and < 0.04 sec in lead aVF.	
24	36	QS pattern in each of leads III and aVF. (Do not code in the presence of 7-1-1.)	
3372		Missing	

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<i>ETLA09</i>		<i>Q-QS Pattern V1</i>	<i>Q09</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
8	11	Q/R amplitude ratio = 1/3 plus Q duration = 0.03 sec in any of leads V2-V5.	
10	12	Q duration = 0.04 sec in any of leads V1-V5	
27	16	QS pattern when initial R-wave is present in adjacent lead to the right on the chest, in any of leads V2-V6	
6	17	QS pattern in all of leads V1-V4 or V1-V5. 1-2-1 Q/R amplitude ratio \geq 1/3, plus Q duration = 0.02	
4	21	Q/R amplitude ratio = 1/3, plus Q duration = 0.02 sec and < 0.03 sec, in any of leads V2-V5.	
3	22	Q duration = 0.03 sec and < 0.04 sec in any of leads V2-V5.	
13	27	QS pattern in all of leads V1, V2, and V3. (Do not code in the presence of 7-1-1).	
22	28	Initial R amplitude decreasing to 2.0 mm or less in every beat (and absence of codes 3-2, 7-1-1, 7-2-1, or 7-3) between any of leads V2 and V3, V3 and V4, or V4 and V5. (All beats in the lead immediately to the right on the chest must have an initial R >	
2	31	Q/R amplitude ratio = 1/5 and < 1/3 plus Q duration = 0.02 and < 0.03 sec in any of leads V2-V5.	
46	32	QS pattern in lead V1 and V2. (Do not code in the presence of 3-1 or 7-1-1.)	
3476		Missing	

<i>ETLA10</i>		<i>S-T Junction & Segment 1l</i>	<i>Q10</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
67	2	STJ depression = 0.5 mm and < 1.0 mm and ST segment horizontal or downward sloping in any of leads I, aVL, or V6.	
136	3	No STJ depression as much as 0.5 mm but ST segment downward sloping and segment or T-wave nadir = 0.5 mm below P-R baseline, in any of leads I, aVL, or V6.	
13	12	STJ depression = 1.0 mm but < 2.0 mm, and ST segment horizontal or downward sloping in any of leads I, aVL, or V6.	
3401		Missing	

<i>ETLA11</i>		<i>S-T Junction & Segment 23</i>	<i>Q11</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
22	2	STJ depression = 0.5 mm and < 1.0 mm and ST segment horizontal or downward sloping in lead II or aVF.	
60	3	No STJ depression as much as 0.5 mm, but ST segment downward sloping and segment or T-wave nadir = 0.5 mm below P-R baseline in lead II.	
3	12	STJ depression = 1.0 mm but < 2.0 mm and ST segment horizontal or downward sloping in lead II or aVF.	
3532		Missing	

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<i>ETLA12</i>		<i>S-T Junction & Segment V1</i>	<i>Q12</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
65	2	STJ depression = 0.5 mm and < 1.0 mm and ST segment horizontal or downward sloping in any of leads V1 - V5	
93	3	No STJ depression as much as 0.5 mm, but ST segment downward sloping and segment or T-wave nadir = 0.5 mm below P-R baseline in any of leads V2 - V5	
1	4	STJ depression = 1.0 mm and ST segment upward sloping or U-shaped in any of leads V1 - V5	
2	11	STJ depression = 2.0 and ST segment horizontal or downward sloping in any of leads V1-V5	
22	12	STJ depression = 1.0 mm but < 2.0 mm and ST segment horizontal or downward sloping in any of leads V1, V2, V3, V4, V5	
3434		Missing	

<i>ETLA13</i>		<i>T Wave Items 1I</i>	<i>Q13</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
11	1	T amplitude negative 5.0 mm or more in either of leads I, V6, or in lead aVL when R amplitude is = 5.0 mm.	
331	2	T amplitude negative or diphasic (positive-negative or negative-positive type) with negative phase at least 1.0 mm but not as deep as 5.0 mm in lead I or V6, or in lead aVL when R amplitude is = 5.0 mm	
428	3	T amplitude zero (flat), or negative, or diphasic (negative-positive type only) with less than 1.0 mm negative phase in lead I or V6, or in lead aVL when R amplitude is = 5.0 mm	
1	4	T amplitude positive and T/R amplitude ratio < 1/20 in any of leads I, aVL, V6; R wave amplitude must be = 10.0 mm.	
2846		Missing	

<i>ETLA14</i>		<i>T Wave Items 23</i>	<i>Q14</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
143	2	T amplitude negative or diphasic with negative phase (negative-positive or positive-negative type) at least 1.0 mm but not as deep as 5.0 mm in lead II, or in lead aVF when QRS is mainly upright.	
277	3	T amplitude zero (flat), or negative, or diphasic (negative-positive type only) with less than 1.0 mm negative phase in lead II; not coded in lead aVF.	
1	4	T amplitude positive and T/R amplitude ratio < 1/20 in lead II; R wave amplitude must be = 10.0 mm.	
3196		Missing	

<i>ETLA15</i>		<i>T Wave Items V1</i>	<i>Q15</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
30	1	T amplitude negative 5.0 mm or more in any of leads V2, V3, V4, V5.	
527	2	T amplitude negative or diphasic with negative phase (negative-positive or positive-negative type) at least 1.0 mm but not as deep as 5.0 mm in lead II, or in lead aVF when QRS is mainly upright	
187	3	T amplitude zero (flat), or negative, or diphasic (negative-positive type only) with less than 1.0 mm negative phase in lead II; not coded in lead aVF	
3	4	T amplitude positive and T/R amplitude ratio < 1/20 in any of leads V3, V4, V5; R wave amplitude must be = 10.0 mm.	
2870		Missing	

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<i>ETLA16</i>		<i>ST Segment 1I</i>	<i>Q16</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
1	2	STJ depression = 0.5 mm and < 1.0 mm and ST segment horizontal or downward sloping in any of leads I, aVL, or V6.	
3616		Missing	

<i>ETLA17</i>		<i>ST Segment 23</i>	<i>Q17</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
3	2	STJ depression = 0.5 mm and < 1.0 mm and ST segment horizontal or downward sloping in lead II or aVF.	
3614		Missing	

<i>ETLA18</i>		<i>ST Segment V1</i>	<i>Q18</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
113	2	ST segment elevation = 1.0 mm in lead V5 or ST segment elevation \geq 2.0 mm in any of leads V1-V4.	
3504		Missing	

<i>ETLA19</i>		<i>R 3x</i>	<i>Q19</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
288	1	Left: R amplitude > 26 mm in either V5 or V6, or R amplitude > 20.0 mm in any of leads I, II, III, aVF, or R amplitude > 12.0 mm in lead aVL	
2	2		
202	3	Left (optional code when 3-1 is not present): R amplitude > 15.0 mm but " 20.0 mm in lead I, or R amplitude in V5 or V6, plus S amplitude in V1 > 35.0 mm. (Measured only on second to last complete normal beat.)	
3125		Missing	

<i>ETLA20</i>		<i>A-V Conduction Defect 6x</i>	<i>Q20</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
1	1	Complete (third degree) A-V block (permanent or intermittent) in any lead. Atrial and ventricular complexes independent, and atrial rate faster than ventricular rate, with ventricular rate < 60.	
186	3	P-R (P-Q) interval = 0.22 sec in the majority of beats in any of leads I, II, III, aVL, aVF	
25	5	Short P-R interval. P-R interval < 0.12 sec in all beats of any two of leads I, II, III, aVL, aVF	
15	8	Artificial pacemaker	
5	41	Wolff-Parkinson-White Pattern (WPW), persistent. Sinus P-wave. P-R interval < 0.12 sec, plus QRS duration = 0.12 sec, plus R peak duration = 0.06 sec, coexisting in the same beat and present in the majority of beats in any of leads I, II, aVL, V4 - V6	
3385		Missing	

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<i>ETLA21</i>		<i>Ventricular Conduction Defect 7x</i>	<i>Q21</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
110	3	Incomplete right bundle branch block. QRS duration < 0.12 sec in each of leads I, II, III, aVL, aVF, and R' > R in either of leads V1, V2 .(Code as 3-2 in addition if those criteria are met. 7-3 suppresses code 1-2-8.)	
8	4	Intraventricular block. QRS duration = 0.12 sec in a majority of beats in any of leads I, II, III, aVL, aVF. (7-4 suppresses all 2, 3, 4, 5, 9-2, 9-4, 9-5 codes.)	
113	5	R-R' pattern in either of leads V1, V2 with R' amplitude = R.	
18	6	Incomplete left bundle branch block. (Do not code in the presence of any codable Q- or QS-wave.) QRS duration = 0.10 sec and < 0.12 in the majority of beats of each of leads I, aVL, and V5 or V6.	
73	11	Complete left bundle branch block (LBBB). (Do not code in presence of 6-1, 6-4-1, 6-8, 8-2-1 or 8-2-2.) QRS duration = 0.12 sec in a majority of beats in any of leads I, II, III, aVL, aVF, plus R peak duration = 0.06 sec in a majority of beats (of the same)	
130	21	Complete right bundle branch block (RBBB). (Do not code in the presence of 6-1, 6-4-1, 6-8, 8-2-1 or 8-2-2.) QRS duration ≥ 0.12 sec in a majority of beats in any of leads I, II, III, aVL, aVF, plus: R' > R in V1 or V2; or QRS mainly upright, with R peak	
3165		Missing	

<i>ETLA22</i>		<i>Miscellaneous Items 91</i>	<i>Q22</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
38	1		
3579		Missing	

<i>ETLA23</i>		<i>Miscellaneous Items 93</i>	<i>Q23</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
27	3		
3590		Missing	

<i>ETLA24</i>		<i>Miscellaneous Items 95</i>	<i>Q24</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
33	5		
3584		Missing	

<i>ETLA25</i>		<i>Miscellaneous Items U</i>	<i>Q25</i>
<i>N</i>	<i>Value</i>	<i>Description</i>	
2008	1		
25	2		
1545	3		
39		Missing	

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<i>ETLA26</i>		<i>Heart Rate Per Minute</i> <i>Q26</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
3615	Range	37 - 120 (median=66 mean=66.4 std=10.6)
2		Missing

<i>ETLA27</i>		<i>Supp 8</i> <i>Q27</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
1	0	
1	2	
3615		Missing

<i>ETLA28</i>		<i>Tech Problem</i> <i>Q28</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
13	1	
12	2	
3592		Missing

<i>ETLA29</i>		<i>Clear 10</i> <i>Q29</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
1585	0	
1210	1	
822		Missing

<i>ETLACY</i>		<i>Contact Year</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
3617	1	

<i>ETLAFLAG</i>		<i>ETLAFLAG</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
3617	1	

<i>ID</i>		<i>ARIC Subject ID (Cir)</i>
<i>N</i>	<i>Value</i>	<i>Description</i>
3617	Present	Text suppressed