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MUSCLE TRAINING AND BLOOD FLOW

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MUSCLE TRAINING AND BLOOD FLOW[1]

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Introduction

Prolonged inactivity or bedrest leads to a "deconditioned" state characterized by a loss of muscle mass and strength and also by a change in the circulatory response to a change from the supine to the erect position. Whether the change in muscle mass and tension capability contributes to the orthostatic hypotension is not demonstrated. A study of the venous filled during tilt to 70° and with the application of negative pressure indicated a decrease in venous compliance and an alteration of the initial time course of venous filling following bedrest (1). Muscle circumference decreased immediately following bed rest but returned to pre-bed rest values within 12 hours.

Training (conditioning) has been shown to increase the number of capillaries of muscle in animals (2). In human subjects, training for endurance resulted in an improvement in circulation as evidenced by the reduced blood flow debt following exercise. The initial blood flow after conditioning was higher, suggesting an increased blood flow during exercise. The blood flow response was related to endurance rather than strength (3). Bauer et al. (4) demonstrated rhythmic

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exercise to be more effective than sustained exercises for evaluation of the functional status of the vascular bed. Elsner and Carlson (5) found the post-exercise hyperemia in the calf muscle of trained subjects to be less than that of untrained subjects, although the O_2 uptake and oxygen debt of the exercised remained unchanged.

This study was initiated to determine if isometric or isotonic training influenced blood flow and other performance characteristics of the circulatory system such as venous compliance.

A change in condition of the muscle was brought about by three weeks of isometric or isotonic exercise following isometric training schedules drawn from the work of Muller (6). The isotonic training was adjusted to comparable levels. The muscle strength before and after conditioning was characterized by determining the circumference, the maximum tension, the maximum tension endurance (maximum tension x time) and the force velocity. The effect of muscle conditioning on the muscle circulation was characterized by measurements of the resting blood flow and blood flow following arterial occlusion and after isometric and isotonic exercise.

Methods

Conditioning

Nine healthy male subjects ranging in ages from 18-21 years, whose daily activity did not involve heavy physical exertion were selected. The subjects were divided into two comparable groups, one following an isometric exercise program, the other, an isotonic program. All the subjects participated in daily (7 days a week) conditioning of the forearm and calf muscles for three weeks. The isotonic exercise program involved 4 daily bouts of 15-rhythmic

contractions, each at the rate of once every two seconds with the load of 80% of the maximum isometric maximum tension (T-Max) determined at the beginning of the study. The isometric exercise program involved 4 daily 15-second periods of sustained contraction with a load adjusted to 80% of T-Max.

Forearm isometric conditioning was achieved by hand grip contractions using an apparatus designed for the purpose. The apparatus consists of a fixed bar to support the hand and an adjustable bar for the fingers; the amount of weight attached and the initial position of the finger bar are adjustable.

For calf muscle conditioning the subject stood with a barbell in his hands with the arms extended downward. The subject stood on his right foot and raised on his toe, using the left toe for balance. The weight of the barbell was 80% of T-Max minus the body weight.

Measurements

The measurements were carried out in a sound-proof room where temperature was maintained at 24-25°C.[2] The following measurements were made before and after the conditioning period on the forearm and the calf muscles: (1) blood flow, (2) venous compliance, (3) isometric maximum tension (T-Max.), (4) isometric maximum tension endurance (T-time), (5) isotonic force velocity relationship and (6) maximum circumference. For each subject, the measurements were made at approximately the same time of day.

[2]The facilities of Physical Performance Laboratory of the Department of Physical Education were furnished for this study. The authors are indebted to Dr. Kovacic and Dr. Bernauer for their support.

The subjects lay on the bed 30 minutes prior to the measurement of blood flow or venous compliance and remained in a recumbent position throughout the tests. The forearm and the calf segments were held at heart level with the help of pads; the arm was supported at the wrist and elbow, the leg was supported with a pad under the heel. No pad was used under the knee to avoid congestion which affects venous compliance.

Blood flow and venous compliance in the forearm and the calf were determined in separate series before and after (1) arterial occlusion, (2) isometric contraction and (3) isotonic contractions. The occlusion and isometric contraction lasted 5 minutes. Calf isotonic contractions also lasted five minutes, but the hand isotonic contractions were less than 5 minutes in most cases due to exhaustion. The loads used were 20% of T-Max. for hand grip and 10% of T-Max., for ankle plantar flexion. Isotonic contractions were made at the rate of once a second with 3 cm and 6 cm displacement for the hand grip and ankle plantar flexion respectively. The conditions of load and duration in the pre-conditioning experiments were repeated in the final measurements.

The subject performed the test exercises in a recumbent position using a hand or foot ergometer. Body movement associated with ankle plantar flexion was minimized by pads placed tightly over the shoulders and attached to the bed.

Maximum circumference of the calf or forearm was measured with a steel tape-measure just prior to the resting blood flow measurement. The measurements of blood flow were made by a mercury-silastic strain gauge plethysmography (5). The double stranded gauge was placed at an initial tension of 20 g around the maximum circumference of the

limb. A 6-inch pneumatic cuff was placed just above the elbow and a 8-inch cuff just above the knee for venous occlusion. The cuff was inflated to 50 mm Hg. Two-inch cuffs were placed around the wrist and the ankle and inflated to 200 mm Hg for arterial occlusion. The cuff pressure was applied and maintained by means of air pressure reservoir via solenoid valve. The mercury strain gauge was calibrated in 0.25 millimeter steps of linear stretch.

For the venous compliance measurement the venous collection cuff was inflated from 0 to 30 mm Hg in steps of 10 mm Hg, each level lasting 15 seconds. The pressure levels were recorded on the oscillograph through a pressure transducer.

To test maximum tension endurance (T-time) the ergometer system was combined with a Daytronic load-cell attached to the bottom of the bed. The subject was told to exert maximum tension and hold it as long as possible. Contraction was terminated when the subject indicated that he could no longer maintain tension or when measurements indicated a tension decrease. Endurance time was determined by the time that tension remained over 80% of maximum tension. This test was repeated twice with 2 minutes of rest interval. T-Max. was confirmed by ergometer measurements.

For isotonic force-velocity determinations, an inertia wheel (7, 8) was constructed, which provided the load. The moment of inertia of the wheel was 136×10^3 gcm^2. The wheel had seven different size pulleys in a spindle arrangement representing varying loads. Of these loads, four were selected for this study: 212.5, 60.4, 15.1 and 3.8 kg respectively. A flexible steel wire of 1 mm diameter was attached from the pulley to the hand grip or foot platform.

The force curves were recorded by a ring type strain gauge and displacements by a linear potentiometer. The velocity was calculated from the displacement curve. The force velocity was recorded at a paper speed of 38.5 cm/sec.

Results

Isotonic and isometric exercise increased the circumference of the forearm or calf and the maximum tension that could be exerted. The tension-time was increased in each case but significantly in the forearm with isotonic exercise. Force-time was significantly increased in the case of a large load (Tables 1, 2, 3, 4, and 5).

Blood flow to the arm and calf was measured following five minutes of arterial occlusion, isometric exercise and isotonic exercise. Peak blood flow, excess blood flow (circulatory debt) and the time to recovery to half peak flow minus resting flow are indices of the change in circulatory function. Venous compliance was measured with three steps of occluding pressures and recorded as ml per 10 mm Hg in each range.

The average values for forearm blood flow significantly changed following the isotonic exercise for both types of conditioning. Both the peak flow and excess blood flow were significantly less. The blood flow after arterial occlusion or isometric exercise was not changed (Figures 1 and 2). The values for the peak blood flow following the provocative tests and the circulatory debt as indicated by the excess blood flow incurred during the tests are given in Table 6.

Calf blood flows were not significantly changed following conditioning except for the peak flow following arterial occlusion (Figures 3 and 4). The values are given in Table 6.

The compliance of the veins of the arm was significantly different from the veins in the calf, both at rest and following the arterial occlusion and exercise. Venous compliance in either limb was not significantly altered by the conditioning exercises (Table 7). The nature and direction of all of these measurements are summarized in Tables 8 and 9.

Discussion

The training was sufficient to increase muscle mass and strength.

Vanderhoof, et al. (3), found that resting blood flow values were not changed by training but that the average blood flow during the first minute was higher following a fatigue test. Peak blood flows following arterial occlusion or exercise were not significantly changed in this study. However, this study confirmed the finding of Vanderhoof, et al. (3), who found that the circulatory debt resulting from occlusion or exercise of either type did diminish. Venous compliance decreased in the forearm after isotonic exercise and in the calf after isometric exercise.

The determination of blood flow and of venous compliance are necessarily made following the arterial occlusion and exercise and may be affected by a number of conditions, such as the nature of the circulatory beds perfused, the temperature of the muscle and the change in volume in the capacitance vessels. The initial flow in reactive hyperemia is through capillary beds while the later flow is through A-V anastomoses (9). A change in the capillarity brought about by conditioning might alter the peak blood flow and the relative capillary and a.v.a. flows. Reactive hyperemia is temperature dependent (10, 11). However, no definitive conditioning

effect was found in this study on the blood flow following arterial occlusion, and efforts were made to maintain temperature conditions equal.

The excess blood flow in post-exercise hyperemia bears a close relationship to the metabolism of the active muscles (10) presumably then being through capillaries. In these studies, there was a more pronounced effect of isometric conditioning than isotonic on the excess blood flow. The excess blood flow measurement by venous occlusion plethysmography may be influenced by changes in venous pressure and limb volume following exercise. These changes were described by Bevegard and Shepherd (12) who showed that the forearm venous pressure and forearm volume increased during the post-exercise period of increased blood flow. Similar results occurred during this study (Figure 5). There was no significant difference after conditioning in the forearm volume measured immediately after arterial occlusion or exercise. The measurements of compliance seem unaffected by the limb volume change. The increased volume, then, does not seem to reflect solely an increase in venous pressure.

Dynamic or isotonic exercise gave rise to the greatest relative decrease in blood flow following the exercise test. The isometric or static exercise provides the same conditions for venous congestion as arterial occlusion.

The effects of varying degrees of filling on the flow determinations must be determined before further deductions can be made. However, the use of initial filling phase as an index of flow should miminize the artifact introduced by venous compliance change, whether active or passive.

The difference in compliance between arm and leg veins is consistent with the report of Kügelgen (13) (1955) who showed that the percentage of transverse (circular) muscle was greater in leg veins than in arm veins.

Table 1. Maximum Circumference of the Limbs

		Forearm (mm)			Lower Leg (mm)		
		Before	After	Diff.	Before	After	Diff.
Isotonic	M	256	260	4.0**	341	344	3.0*
Group	SD	25.6	32.0		39.9	38.5	
Isometric	M	262	267	5.0*	377	378	1.0
Group	SD	13.0	14.2		22.0	22.9	

* Significant at level $P<0.05$

** Significant at level $P<0.01$

Table 2. Isometric T-time at Max. Tension by Hand

		Tension (KG)			Time (Sec.)			Impulse (KG.Sec.)		
		Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Isotonic	M	52.4	59.0	6.6**	21.8	28.1	6.3**	1142.3	1657.9	515.6**
Group	SD	6.5	5.8		4.5	7.0		228.8	409.1	
Isometric	M	47.3	57.6	10.3**	20.1	20.6	0.5	950.7	1186.6	235.9
Group	SD	3.8	4.5		9.1	7.3		442.8	434.9	

* Significant at level $P<0.05$

** Significant at level $P<0.01$

Table 3. Isometric T-time by Foot

		Tension (KG)			Time (Sec.)			Impulse (KG-Sec.)		
		Before	After	Diff.	Before	After	Diff.	Before	After	Diff.
Isotonic	M	93.1	103.5	10.2*	51.9	56.4	4.5	4699.0	5798.2	1099.2
Group	SD	22.5	29.3		15.2	13.6		1537.2	2246.5	
Isometric	M	95.5	114.0	18.5**	55.0	50.6	-4.4	5188.3	5721.6	533.3
Group	SD	11.3	10.8		21.6	20.3		2406.1	2109.3	

* Significant at level $P<0.05$

** Significant at level $P<0.01$

Table 4. Isometric Maximum Tension (Mean of 3 determinations)

		Hand Grip (kg)			Ankle Plantar Flexion (kg)		
		Before	After	Diff.	Before	After	Diff.
Isotonic	M	49.8	53.5	3.7**	119.7	130.5	10.8*
Group	SD	6.6	5.8		13.8	18.2	
Isometric	M	44.7	49.3	4.6*	119.3	141.5	22.2*
Group	SD	5.5	7.8		21.0	21.8	

* Significant at level $P<0.05$

** Significant at level $P<0.01$

Table 5. Isometric Maximum Tension (Maximum of 3 determinations)

		Hand Grip (kg)			Ankle Plantar Flexion (kg)		
		Before	After	Diff.	Before	After	Diff.
Isotonic	M	51.4	56.4	5.0**	122.4	136.2	13.8*
Group	SD	6.3	6.1		17.2	16.7	
Isometric	M	46.4	54.8	8.4	124.5	147.5	23.0*
Group	SD	5.6	10.9		25.0	27.9	

* Significant at level $P<0.05$

** Significant at level $P<0.01$

Table 6. Peak Blood Flow (milliliters 100 ml. minute)

	Arterial Occlusion				Isometric Exercise				Isotonic Exercise			
	Arm		Calf		Arm		Calf		Arm		Calf	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Isotonic Group	20.58 (4.323)	19.200 (3.350)	19.180 (4.005)	15.940 (4.127)	13.474 (5.599)	10.416 (3.394)	5.068 (1.492)	4.852 (2.507)	30.800 (3.708)	24.240 (7.248)	16.725 (4.270)	16.040 (4.473)
Isometric Group	19.975 (2.430)	22.500 (4.977)	19.725 (4.715)	16.675 (3.558)	9.552 (4.249)	5.947 (2.496)	4.500 (1.765)	3.835 (1.137)	23.600 (5.031)	23.400 (5.224)	13.517 (4.222)	13.217 (1.205)
	Excess Blood Flow (milliliters)											
Isotonic Group	10.674 (5.240)	8.376 (4.488)	9.140 (4.707)	5.714 (2.793)	16.216 (14.618)	8.512 (7.050)	1.420 (1.604)	2.666 (3.149)	164.894 (42.668)	99.148 (25.344)	48.572 (22.928)	43.577 (24.970)
Isometric Group	11.692 (3.068)	10.402 (4.520)	11.040 (4.121)	8.267 (0.939)	16.392 (9.497)	2.885 (4.052)	3.162 (3.186)	2.453 (2.494)	130.225 (53.258)	81.792 (21.646)	29.877 (6.024)	21.893 (14.623)

Table 7. Venous Compliance at rest, ml/mm Hg

	Arterial Occlusion				Isometric Exercise				Isotonic Exercise			
	Arm		Calf		Arm		Calf		Arm		Calf	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Isotonic Group	0.538 (0.161)	0.481 (0.133)	0.375 (0.056)	0.310 (0.067)	0.538 (0.161)	0.481 (0.133)	0.375 (0.056)	0.314 (0.075)	0.538 (0.161)	0.481 (0.133)	0.375 (0.056)	0.302 (0.075)
Isometric Group	0.435 (0.127)	0.456 (0.178)	0.377 (0.067)	0.273 (0.094)	0.435 (0.127)	0.456 (0.178)	0.377 (0.067)	0.264 (0.101)	0.435 (0.127)	0.456 (0.178)	0.377 (0.067)	0.264 (0.101)
Venous Compliance following test exercise, ml/mm Hg												
Isotonic Group	0.423 (0.085)	0.526 (0.136)	0.388 (0.045)	0.334 (0.078)	0.515 (0.160)	0.519 (0.181)	0.357 (0.068)	0.312 (0.075)	0.576 (0.169)	0.448 (0.217)	0.283 (0.169)	0.218 (0.101)
Isometric Group	0.447 (0.104)	0.424 (0.190)	0.386 (0.070)	0.284 (0.102)	0.492 (0.185)	0.514 (0.245)	0.338 (0.091)	0.269 (0.089)	0.571 (0.297)	0.529 (0.249)	0.319 (0.193)	0.257 (0.138)

Table 8

Summary and Direction of Changes in Muscle Characteristics by Conditioning*

Type of Conditioning	Muscle	Circum-ference	Max. Tension	Tension	Time	Tension Time	Large mass F**	Large mass V	Small mass F	Small mass V
Isotonic	Forearm	↑	↑	↑	↑	↑	↑	-	-	-
	Calf	↑	↑	↑	-	-	↑	↑	-	-
Isometric	Forearm	↑	↑	↑	-	-	↑	↑	-	-
	Calf	-	↑	↑	-	-	-	-	-	-

*Changes (increase or decrease) shown only when statistically significant, i.e. when all subjects in group showed shift in same direction.

**Isotonic force (F) and velocity V

Table 9

Summary of the Direction of Change in the Measurements of Blood Flow and Venous Compliance*

		Peak B.F.			Excess B.F.			Time of Recov. ($T\ ^1/_2$)**			Venous Compliance		
		AO	Im	It	AO	Im	It	AO	Im	It	AO	Im	It
Isotonic	Forearm	-	-	↓	-	-	↓	↓	-	-	↓	↓	↓
	Calf	↑	-	-	-	-	-	↓	-	-	-	-	-
Isometric	Forearm	-	-	-	-	↓	↓	-	-	-	-	-	-
	Calf	↓	-	-	-	-	↓	↓	-	-	↓	↓	↓

*Changes (increase or decrease) shown only when statistically significant, i.e. when all subjects in group showed shift in same direction.

**Time to $^1/_2$ of peak flow

AO, Arterial Occlusion
Im, Isometric Test Tension
It, Isotonic Test Exercise

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FIGURE DESCRIPTIONS

Figure 1. Forearm blood flow (ordinate) in time (abscissa) before and after arterial occlusion (AO), isometric exercise (Isom E) and isotonic exercise (Isot E). Values obtained before conditioning period 0 and after conditioning period 0. for the group conditioned by isotonic exercise.

Figure 2. Forearm blood flow (ordinate) in time (abscissa) before and after arterial occlusion (AO), isometric exercise (Isom E) and isotonic exercise (Isot E). Values obtained before conditioning period 0 and after conditioning period 0. for the group conditioned by isometric exercise.

Figure 3. Calf blood flow (ordinate) in time (abscissa) before and after arterial occlusion (AO), isometric exercise (Isom E) and isotonic exercise (Isot E). Values obtained before conditioning period 0 and after conditioning period 0. for the group conditioned by isotonic exercise.

Figure 4. Calf blood flow (ordinate) in time (abscessa) before and after arterial occlusion (AO), isometric exercise (Isom E) and isotonic exercise (Isot E). Values obtained before conditioning period 0 and after conditioning period 0. for the group conditioned by isometric exercise.

Figure 5. Measurements of blood flow, limb volume, and limb compliance (ordinate) in time (abscissa) before and after an arterial occlusion. Note the large change in limb volume with no significant change in compliance.

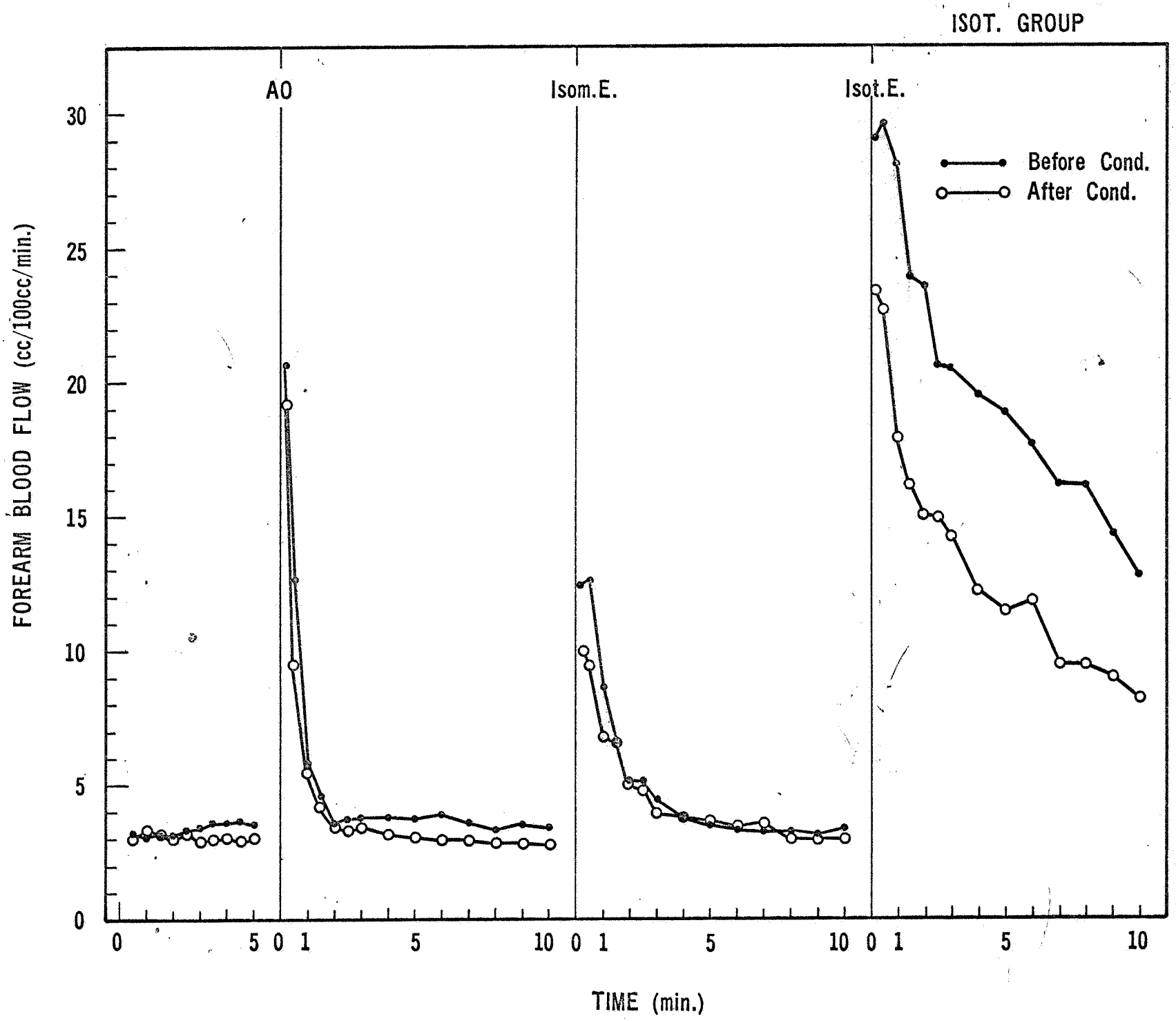

Figure 1

Figure 1

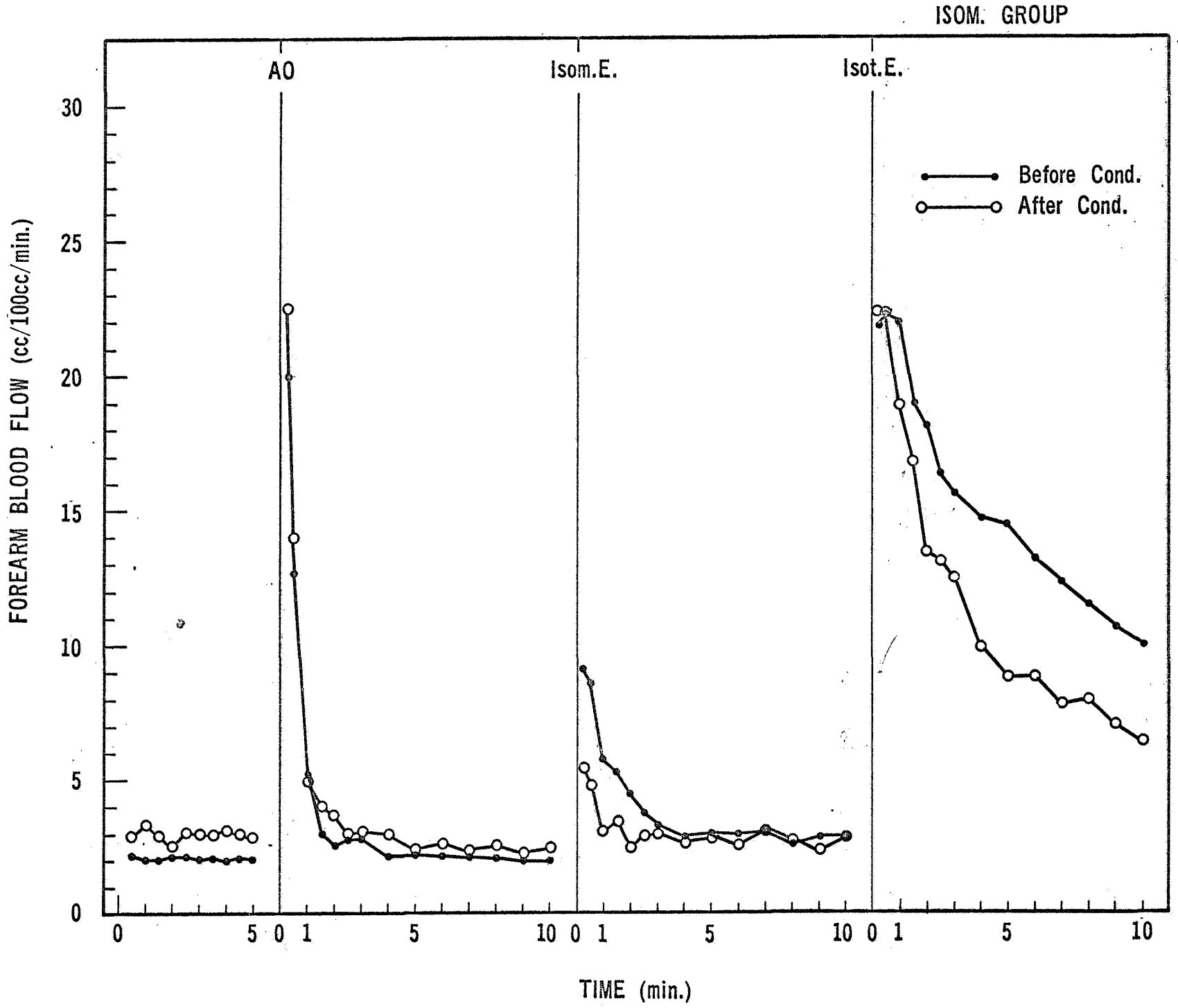

Figure 2

Figure 2

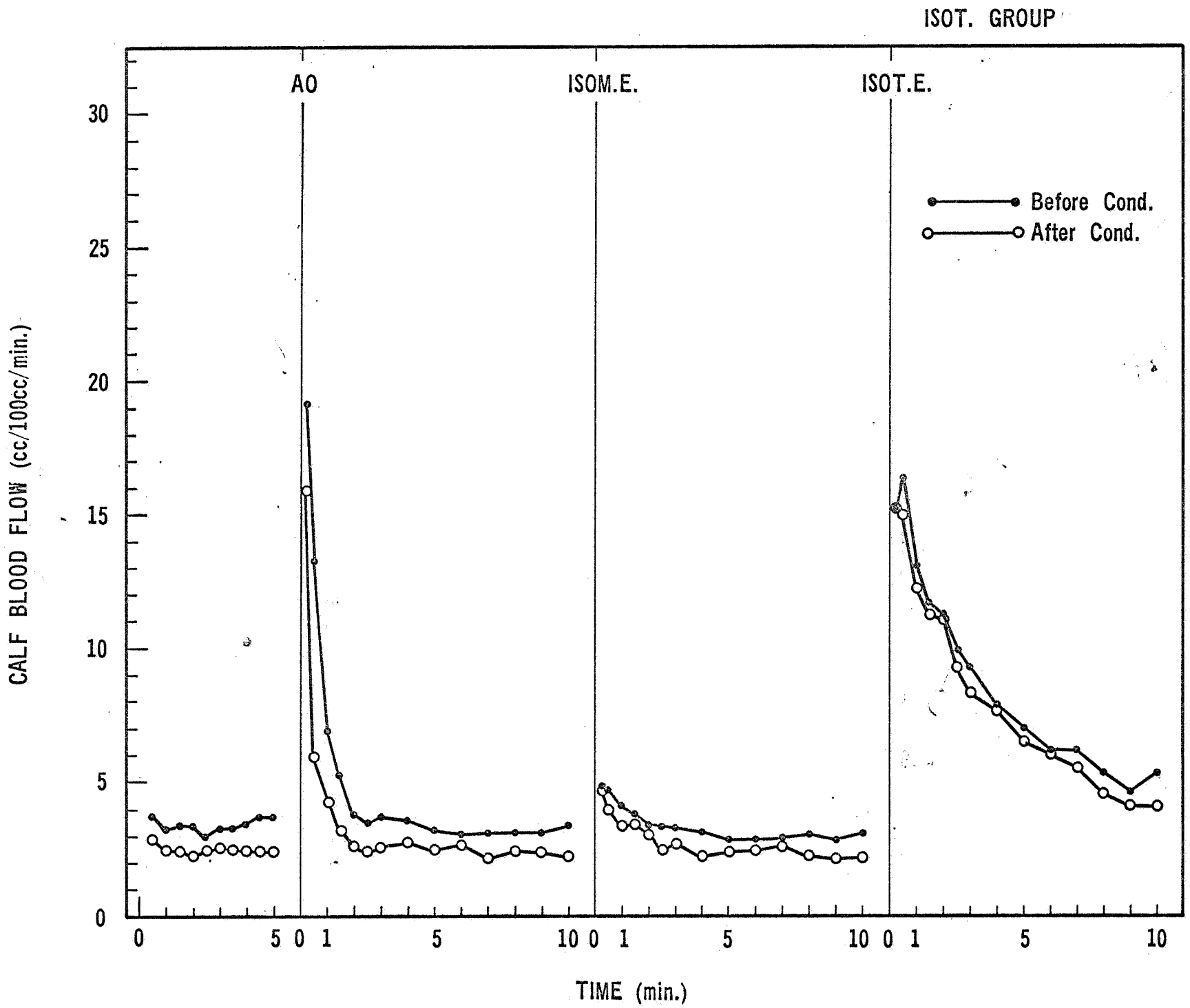

Figure 3

Figure 3

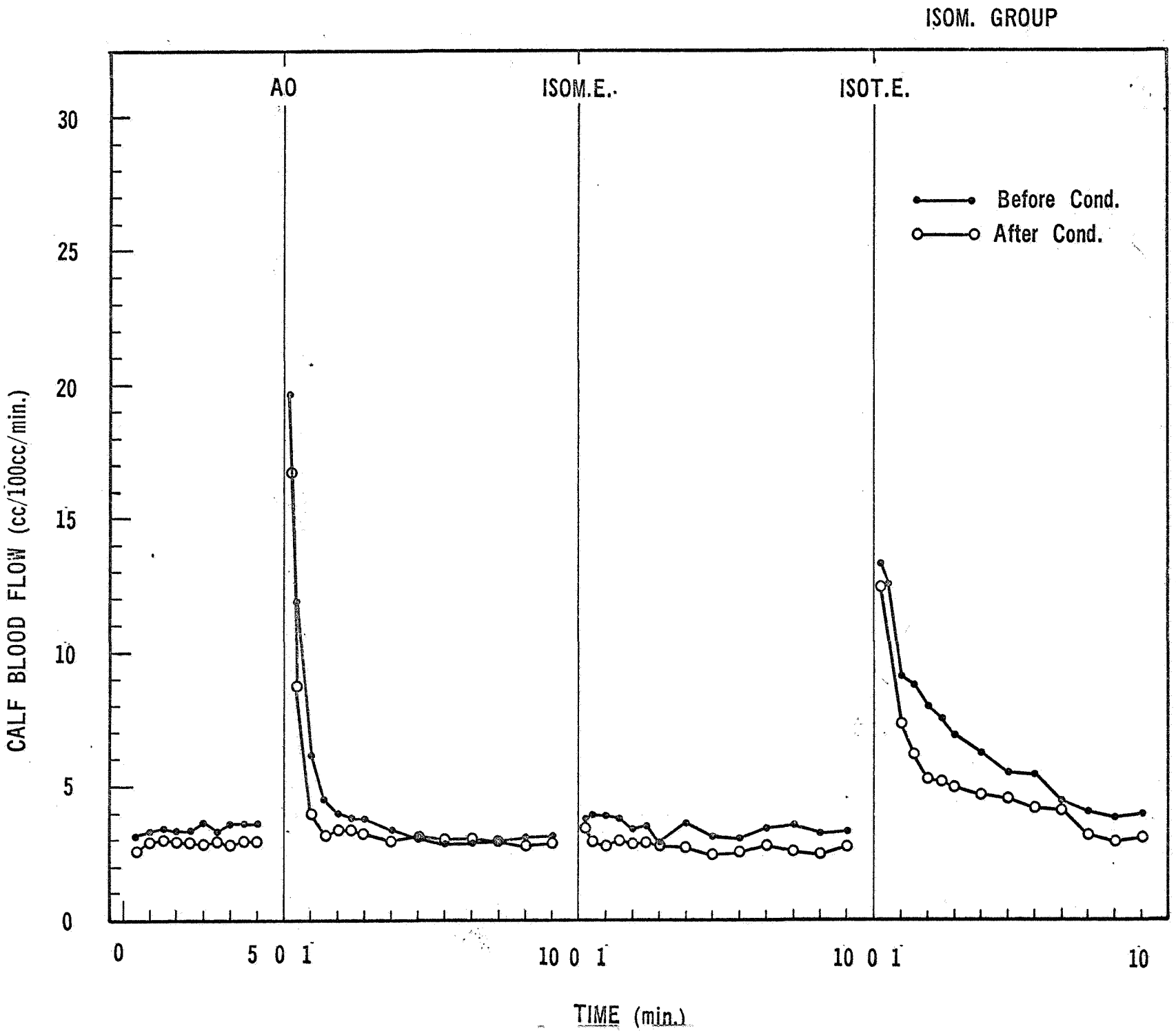

Figure 4

Figure 4

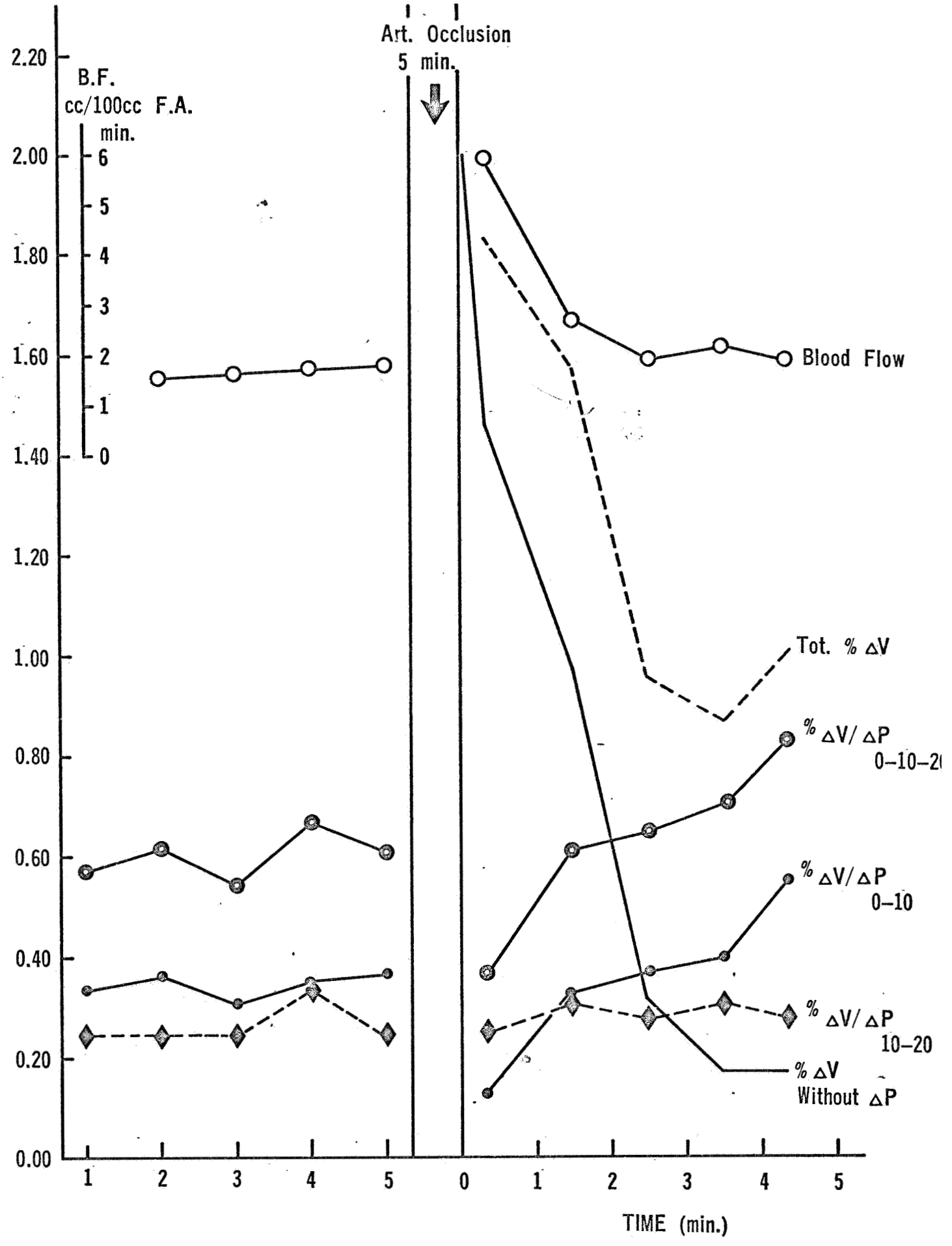
Art. Occlusion
5 min.
B.F.
cc/100cc
F.A.
min.
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
6
5
4
3
2
1
0
Blood Flow
Tot. % ΔV
% ΔV/ ΔP
0–10–20
% ΔV/ ΔP
0–10
% ΔV/ ΔP
10–20
% ΔV
Without ΔP
1
2
3
4
5
0
1
2
3
4
5
TIME (min.)

Figure 5

APPENDICES I - XIX: DATA AND GRAPHICAL MATERIAL

MUSCLE TRAINING AND BLOOD FLOW

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APPENDIX I

Data used to prepare Tables 1 - 7

Forearm circumference in millimeters

Tensions in kilograms

Peak blood flow in milliliters/100 milliliter arm

Excess blood flow in milliliters

Compliance in milliliters/100 milliliter arm · mm Hg.

SUMMARY OF BASIC DATA USED IN TABLE 1

FOREARM CIRCUMFERENCE. BEFORE. ISOTONIC GROUP
251.000 220.000 248.000 273.000 287.000 MEAN = 255.800 STD DEV =, 25.66

FOREARM CIRCUMFERENCE. AFTER. ISOTONIC GROUP
255.000 223.000 252.000 278.000 288.000 MEAN = 259.200 STD DEV =, 25.31

FOREARM CIRCUMFERENCE. BEFORE. ISOMETRIC GROUP
252.000 268.000 278.000 251.000 0.000 MEAN = 262.250 STD DEV =, 13.07

FOREARM CIRCUMFERENCE. AFTER. ISOMETRIC GROUP
255.000 275.000 282.000 254.000 0.000 MEAN = 266.500 STD DEV =, 14.15

CALF CIRCUMFERENCE. BEFORE. ISOTONIC GROUP
333.000 292.000 333.000 345.000 403.000 MEAN = 341.200 STD DEV =, 39.96

CALF CIRCUMFERENCE. AFTER. ISOTONIC GROUP
337.000 295.000 337.000 346.000 403.000 MEAN = 343.600 STD DEV =, 38.67

CALF CIRCUMFERENCE. BEFORE. ISOMETRIC GROUP
375.000 407.000 372.000 354.000 0.000 MEAN = 377.000 STD DEV =, 22.04

CALF CIRCUMFERENCE. AFTER. ISOMETRIC GROUP
375.000 409.000 373.000 354.000 0.000 MEAN = 377.750 STD DEV =, 22.88

SUMMARY OF BASIC DATA USED IN TABLE 2

HAND ISOMETRIC MAX TENSION. BEFORE. ISOTONIC GROUP
57.000 41.800 50.600 57.000 55.800 MEAN = 52.440 STD DEV =, 6.509

HAND ISOMETRIC MAX TENSION. AFTER. ISOTONIC GROUP
58.500 50.300 57.300 64.400 64.300 MEAN = 58.960 STD DEV =, 5.832

HAND ISOMETRIC MAX TENSION. BEFORE. ISOMETRIC GROUP
47.400 49.300 50.500 42.000 0.000 MEAN = 47.300 STD DEV =, 3.757

HAND ISOMETRIC MAX TENSION. AFTER. ISOMETRIC GROUP
61.500 55.700 61.100 52.200 0.000 MEAN = 57.625 STD DEV =, 4.481

HAND TIME AT MAX ISOMETRIC TENSION. BEFORE. ISOTONIC GROUP
17.500 26.500 17.000 22.000 26.000 MEAN = 21.800 STD DEV =, 4.508

HAND TIME AT MAX ISOMETRIC TENSION. AFTER. ISOTONIC GROUP
23.300 36.500 19.500 27.500 33.500 MEAN = 28.060 STD DEV =, 7.019

HAND TIME AT MAX ISOMETRIC TENSION. BEFORE. ISOMETRIC GROUP
31.800 22.500 11.900 14.000 0.000 MEAN = 20.050 STD DEV =, 9.075

HAND TIME AT MAX ISOMETRIC TENSION. AFTER. ISOMETRIC GROUP
26.500 26.000 11.000 19.000 0.000 MEAN = 20.625 STD DEV =, 7.273

HAND ISOMETRIC TENSION-TIME AT MAX TENSION. BEFORE. ISOTONIC GROUP
997.5001107.700 860.2001254.0001460.900 MEAN = 1136.060 STD DEV =, 232.128

HAND ISOMETRIC TENSION-TIME AT MAX TENSION. AFTER. ISOTONIC GROUP
1363.1001836.0001117.4001771.0002154.100 MEAN = 1648.320 STD DEV =, 409.058

HAND ISOMETRIC TENSION-TIME AT MAX TENSION. BEFORE. ISOMETRIC GROUP
1507.3001109.300 601.000 728.000 0.000 MEAN = 986.400 STD DEV =, 408.960

HAND ISOMETRIC TENSION-TIME AT MAX TENSION. AFTER. ISOMETRIC GROUP
1629.8001448.200 672.1001386.800 0.000 MEAN = 1284.225 STD DEV =, 420.923

SUMMARY OF BASIC DATA USED IN TABLE 3

FOOT ISOMETRIC MAX TENSION. BEFORE. ISOTONIC GROUP
90.100 58.500 90.800 101.500 120.500 MEAN = 92.280 STD DEV =, 22.524

FOOT ISOMETRIC MAX TENSION. AFTER. ISOTONIC GROUP
101.500 60.500 94.300 126.500 134.500 MEAN = 103.460 STD DEV =, 29.273

FOOT ISOMETRIC MAX TENSION. BEFORE. ISOMETRIC GROUP
80.000 101.300 106.000 94.800 0.000 MEAN = 95.525 STD DEV =, 11.323

FOOT ISOMETRIC MAX TENSION. AFTER. ISOMETRIC GROUP
100.500 124.800 120.300 109.300 0.000 MEAN = 113.725 STD DEV =, 10.960

FOOT TIME AT MAX ISOMETRIC TENSION. BEFORE. ISOTONIC GROUP
32.000 63.000 70.000 43.000 51.500 MEAN = 51.900 STD DEV =, 15.217

FOOT TIME AT MAX ISOMETRIC TENSION. AFTER. ISOTONIC GROUP
50.000 58.000 59.500 75.500 39.000 MEAN = 56.400 STD DEV =, 13.423

FOOT TIME AT MAX ISOMETRIC TENSION. BEFORE. ISOMETRIC GROUP
66.500 79.000 32.000 42.600 0.000 MEAN = 55.025 STD DEV =, 21.533

FOOT TIME AT MAX ISOMETRIC TENSION. AFTER. ISOMETRIC GROUP
39.000 72.500 50.000 56.000 24.000 MEAN = 48.300 STD DEV =, 18.199

FOOT ISOMETRIC TENSION-TIME AT MAX TENSION. BEFORE. ISOTONIC GROUP
2883.0003686.0006356.0004365.0006206.000 MEAN = 4699.200 STD DEV =,1537.228

FOOT ISOMETRIC TENSION-TIME AT MAX TENSION. AFTER. ISOTONIC GROUP
5075.0003509.0005610.9009550.8005245.500 MEAN = 5798.240 STD DEV =,2246.443

FOOT ISOMETRIC TENSION-TIME AT MAX TENSION. BEFORE. ISOMETRIC GROUP
5320.0008003.0003392.0004039.000 0.000 MEAN = 5188.500 STD DEV =,2040.218

FOOT ISOMETRIC TENSION-TIME AT MAX TENSION. AFTER. ISOMETRIC GROUP
7286.3006240.0006736.8002623.200 0.000 MEAN = 5721.575 STD DEV =,2109.324

SUMMARY OF BASIC DATA USED IN TABLE 4

HAND ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). BEFORE. ISOTONIC GROUP
51.500 41.300 46.800 50.000 59.300 MEAN = 49.780 STD DEV =, 6.604

HAND ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). AFTER. ISOTONIC GROUP
54.300 46.300 51.900 52.500 62.500 MEAN = 53.500 STD DEV =, 5.853

HAND ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). BEFORE. ISOMETRIC GROUP
43.700 52.600 42.400 40.000 0.000 MEAN = 44.675 STD DEV =, 5.501

HAND ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). AFTER. ISOMETRIC GROUP
48.700 59.700 48.000 40.600 0.000 MEAN = 49.250 STD DEV =, 7.872

FOOT ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). BEFORE. ISOTONIC GROUP
121.000 90.300 130.700 117.000 139.000 MEAN = 119.600 STD DEV =, 18.485

FOOT ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). AFTER. ISOTONIC GROUP
131.700 98.700 140.700 139.000 142.700 MEAN = 130.560 STD DEV =, 18.288

FOOT ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). BEFORE. ISOMETRIC GROUP
119.700 149.000 105.000 103.300 0.000 MEAN = 119.250 STD DEV =, 21.156

FOOT ISOMETRIC MAXIMUM TENSION (MEAN OF 3 TESTS). AFTER. ISOMETRIC GROUP
125.700 173.700 136.000 130.700 0.000 MEAN = 141.525 STD DEV =, 21.858

SUMMARY OF BASIC DATA USED IN TABLE 5

HAND ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). BEFORE. ISOTONIC GROUP
54.500 43.100 48.200 50.000 61.200 MEAN = 51.400 STD DEV =, 6.833

HAND ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). AFTER. ISOTONIC GROUP
56.700 48.500 54.500 56.400 65.900 MEAN = 56.400 STD DEV =, 6.252

HAND ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). BEFORE. ISOMETRIC GROUP
45.400 54.500 44.000 41.800 0.000 MEAN = 46.425 STD DEV =, 5.584

HAND ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). AFTER. ISOMETRIC GROUP
63.500 63.600 51.200 41.000 0.000 MEAN = 54.825 STD DEV =, 10.901

FOOT ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). BEFORE. ISOTONIC GROUP
127.000 95.000 129.000 120.000 141.000 MEAN = 122.400 STD DEV =, 17.082

FOOT ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). AFTER. ISOTONIC GROUP
128.000 189.000 138.000 135.000 0.000 MEAN = 147.500 STD DEV =, 27.982

FOOT ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). BEFORE. ISOMETRIC GROUP
123.000 160.000 109.000 106.000 0.000 MEAN = 124.500 STD DEV =, 24.799

FOOT ISOMETRIC MAXIMUM TENSION (MAX OF 3 TESTS). AFTER. ISOMETRIC GROUP
132.000 107.000 149.000 147.000 146.000 MEAN = 136.200 STD DEV =, 17.655

BASIC DATA FROM TABLE 6. PEAK BLOOD FLOW

ARM PEAK BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
18.200 27.800 16.500 20.300 20.100 MEAN = 20.580 STD DEV =, 4.323

ARM PEAK BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
23.400 18.000 17.700 15.100 21.800 MEAN = 19.200 STD DEV =, 3.350

ARM PEAK BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
21.700 22.300 17.200 18.700 0.000 MEAN = 19.975 STD DEV =, 2.430

ARM PEAK BLOOD FLOW. ARTERIAL OCCLUSION, AFTER. ISOMETRIC GROUP
29.700 21.800 19.900 18.600 0.000 MEAN = 22.500 STD DEV =, 4.977

CALF PEAK BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
25.100 16.600 21.600 16.400 16.200 MEAN = 19.180 STD DEV =, 4.005

CALF PEAK BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
15.000 9.700 20.800 16.100 18.100 MEAN = 15.940 STD DEV =, 4.127

CALF PEAK BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
22.500 22.400 12.700 21.300 0.000 MEAN = 19.725 STD DEV =, 4.715

CALF PEAK BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
16.200 20.400 12.000 18.100 0.000 MEAN = 16.675 STD DEV =, 3.558

ARM PEAK BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
22.000 14.500 8.520 8.300 14.050 MEAN = 13.474 STD DEV =, 5.599

ARM PEAK BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUPUP
12.800 13.000 11.800 4.830 9.650 MEAN = 10.416 STD DEV =, 3.394

ARM PEAK BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
8.000 9.900 5.110 15.200 0.000 MEAN = 9.552 STD DEV =, 4.249

ARM PEAK BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
9.100 6.800 4.020 3.870 0.000 MEAN = 5.947 STD DEV =, 2.496

CALF PEAK BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
6.150 3.860 6.950 4.960 3.420 MEAN = 5.068 STD DEV =, 1.492

CALF PEAK BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
4.760 3.700 9.200 3.100 3.500 MEAN = 4.852 STD DEV =, 2.507

CALF PEAK BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
4.160 7.000 2.850 3.990 0.000 MEAN = 4.500 STD DEV =, 1.765

CALF PEAK BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
4.840 4.430 2.250 3.820 0.000 MEAN = 3.835 STD DEV =, 1.137

ARM PEAK BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP
36.800 29.500 26.700 30.100 30.900 MEAN = 30.800 STD DEV =, 3.708

ARM PEAK BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP
34.500 21.500 25.400 14.500 25.300 MEAN = 24.240 STD DEV =, 7.248

ARM PEAK BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP
22.500 31.000 20.700 20.200 0.000 MEAN = 23.600 STD DEV =, 5.031

ARM PEAK BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

31.000	20.700	22.500	19.400	0.000	MEAN =	23.400	STD DEV =, 5.224

CALF PEAK BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP

20.500	11.000	0.000	16.000	19.400	MEAN =	16.725	STD DEV =, 4.270

CALF PEAK BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP

18.600	8.400	16.000	17.600	19.600	MEAN =	16.040	STD DEV =, 4.473

CALF PEAK BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP

0.000	16.200	8.650	15.700	0.000	MEAN =	13.517	STD DEV =, 4.222

CALF PEAK BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

0.000	12.650	12.400	14.600	0.000	MEAN =	13.217	STD DEV =, 1.205

BASIC DATA FROM TABLE 6 CTD. EXCESS BLOOD FLOW

ARM EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
4.630 10.920 6.290 16.810 14.720 MEAN = 10.674 STD DEV =, 5.240

ARM EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
8.060 5.990 9.030 15.410 3.390 MEAN = 8.376 STD DEV =, 4.488

ARM EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
14.400 7.680 10.940 13.750 0.000 MEAN = 11.692 STD DEV =, 3.068

ARM EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
16.080 8.020 5.760 11.750 0.000 MEAN = 10.402 STD DEV =, 4.520

CALF EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
8.580 9.950 3.860 16.510 6.800 MEAN = 9.140 STD DEV =, 4.707

CALF EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
7.030 1.840 5.900 9.310 4.490 MEAN = 5.714 STD DEV =, 2.793

CALF EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
6.010 12.790 8.230 7.130 0.000 MEAN = 11.040 STD DEV =, 4.121

CALF EXCESS BLOOD FLOW. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
7.070 8.690 9.260 8.050 0.000 MEAN = 8.267 STD DEV =, 0.939

ARM EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
5.670 5.690 7.950 3.700 28.070 MEAN = 16.216 STD DEV =, 14.618

ARM EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
7.410 18.250 3.060 1.090 12.750 MEAN = 8.512 STD DEV =, 7.050

ARM EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
0.200 20.700 2.220 22.450 0.000 MEAN = 16.392 STD DEV =, 9.497

ARM EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
8.920 0.980 0.240 1.400 0.000 MEAN = 2.885 STD DEV =, 4.052

CALF EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
1.320 0.960 4.170 0.560 0.090 MEAN = 1.420 STD DEV =, 1.604

CALF EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
4.570 1.030 7.290 0.280 0.160 MEAN = 2.666 STD DEV =, 3.149

CALF EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
0.370 5.010 6.700 0.570 0.000 MEAN = 3.162 STD DEV =, 3.186

CALF EXCESS BLOOD FLOW. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
5.190 0.000 1.860 0.310 0.000 MEAN = 2.453 STD DEV =, 2.494

ARM EXCESS BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP
25.050 140.600 112.120 164.830 181.870 MEAN = 164.894 STD DEV =, 42.668

ARM EXCESS BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP
9.610 128.770 88.050 63.310 116.000 MEAN = 99.148 STD DEV =, 25.344

ARM EXCESS BLOOD FLOW. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP
13.200 207.380 90.270 100.050 0.000 MEAN = 130.225 STD DEV =, 53.258

ARM EXCESS BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

108.350	55.740	78.260	84.820	0.000	MEAN =	81.792	STD DEV =, 21.646

CALF EXCESS BLOOD FLOW. ISOTONIC EXERCISE.BEFORE. ISOTONIC GROUP

82.180	31.070	0.000	42.930	38.110	MEAN =	48.572	STD DEV =, 22.928

CALF EXCESS BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP

76.620	16.350	0.000	37.470	43.870	MEAN =	43.577	STD DEV =, 24.970

CALF EXCESS BLOOD FLOW. ISOTONIC EXERCISE.BEFORE. ISOMETRIC GROUP

0.000	23.190	31.560	34.880	0.000	MEAN =	29.877	STD DEV =, 6.024

CALF EXCESS BLOOD FLOW. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

0.000	5.020	30.870	29.790	0.000	MEAN =	21.893	STD DEV =, 14.623

BASIC DATA FROM TABLE 7. VENOUS COMPLIANCE (REST)

ARM VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
0.618 0.736 0.582 0.420 0.332 MEAN = 0.538 STD DEV =, 0.161

ARM VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
0.600 0.642 0.418 0.414 0.332 MEAN = 0.481 STD DEV =, 0.133

ARM VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
0.624 0.368 0.356 0.392 0.000 MEAN = 0.435 STD DEV =, 0.127

ARM VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
0.710 0.298 0.430 0.388 0.000 MEAN = 0.456 STD DEV =, 0.178

CALF VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
0.460 0.328 0.398 0.362 0.326 MEAN = 0.375 STD DEV =, 0.056

CALF VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
0.334 0.268 0.410 0.304 0.234 MEAN = 0.310 STD DEV =, 0.067

CALF VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. BEFORE. ISOMETRIC GROUP
0.354 0.464 0.304 0.386 0.000 MEAN = 0.377 STD DEV =, 0.067

CALF VENOUS COMPLIANCE. REST. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
0.216 0.414 0.234 0.227 0.000 MEAN = 0.273 STD DEV =, 0.094

ARM VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
0.618 0.736 0.582 0.420 0.333 MEAN = 0.538 STD DEV =, 0.161

ARM VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
0.600 0.642 0.418 0.414 0.332 MEAN = 0.481 STD DEV =, 0.133

ARM VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
0.624 0.368 0.356 0.392 0.000 MEAN = 0.435 STD DEV =, 0.127

ARM VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
0.710 0.298 0.430 0.388 0.000 MEAN = 0.456 STD DEV =, 0.178

CALF VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
0.460 0.328 0.398 0.362 0.326 MEAN = 0.375 STD DEV =, 0.056

CALF VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
0.334 0.268 0.430 0.304 0.234 MEAN = 0.314 STD DEV =, 0.075

CALF VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. BEFORE. ISOMETRIC GROUP
0.354 0.464 0.304 0.386 0.000 MEAN = 0.377 STD DEV =, 0.067

CALF VENOUS COMPLIANCE. REST. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
0.216 0.414 0.234 0.194 0.000 MEAN = 0.264 STD DEV =, 0.101

ARM VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP
0.618 0.736 0.582 0.420 0.333 MEAN = 0.538 STD DEV =, 0.161

ARM VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP
0.600 0.642 0.418 0.414 0.332 MEAN = 0.481 STD DEV =, 0.133

ARM VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP
0.624 0.368 0.356 0.392 0.000 MEAN = 0.435 STD DEV =, 0.127

ARM VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

0.710	0.298	0.430	0.388	0.000	MEAN =	0.456	STD DEV =,	0.178

CALF VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP

0.460	0.328	0.398	0.362	0.326	MEAN =	0.375	STD DEV =,	0.056

CALF VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP

0.334	0.228	0.410	0.304	0.234	MEAN =	0.302	STD DEV =,	0.075

CALF VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP

0.354	0.464	0.304	0.386	0.000	MEAN =	0.377	STD DEV =,	0.067

CALF VENOUS COMPLIANCE. REST. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

0.216	0.414	0.234	0.194	0.000	MEAN =	0.264	STD DEV =,	0.101

BASIC DATA FROM TABLE7 CTD. VENOUS COMPLIANCE (EXERCISE)

ARM VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. BEFORE. ISOTONIC GROUP
0.446 0.496 0.505 0.348 0.319 MEAN = 0.423 STD DEV =, 0.085

ARM VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
0.679 0.648 0.488 0.458 0.355 MEAN = 0.526 STD DEV =, 0.136

ARM VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. BEFORE.ISOMETRIC GROUP
0.601 0.373 0.418 0.396 0.000 MEAN = 0.447 STD DEV =, 0.104

ARM VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. AFTER. ISOMETRIC GROUP
0.658 0.269 0.500 0.271 0.000 MEAN = 0.424 STD DEV =, 0.190

CALF VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION.BEFORE. ISOTONIC GROUP
0.436 0.351 0.411 0.410 0.330 MEAN = 0.388 STD DEV =, 0.045

CALF VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. AFTER. ISOTONIC GROUP
0.446 0.270 0.376 0.318 0.259 MEAN = 0.334 STD DEV =, 0.078

CALF VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION.BEFORE.ISOMETRIC GROUP
0.373 0.473 0.304 0.395 0.000 MEAN = 0.386 STD DEV =, 0.070

CALF VENOUS COMPLIANCE. EXERCISE. ARTERIAL OCCLUSION. AFTER.ISOMETRIC GROUP
0.205 0.434 0.253 0.243 0.000 MEAN = 0.284 STD DEV =, 0.102

ARM VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. BEFORE. ISOTONIC GROUP
0.758 0.503 0.546 0.443 0.324 MEAN = 0.515 STD DEV =, 0.160

ARM VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
0.803 0.519 0.543 0.398 0.333 MEAN = 0.519 STD DEV =, 0.181

ARM VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. BEFORE.ISOMETRIC GROUP
0.764 0.440 0.355 0.408 0.000 MEAN = 0.492 STD DEV =, 0.185

ARM VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. AFTER. ISOMETRIC GROUP
0.865 0.350 0.503 0.340 0.000 MEAN = 0.514 STD DEV =, 0.245

CALF VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE.BEFORE. ISOTONIC GROUP
0.441 0.280 0.376 0.393 0.296 MEAN = 0.357 STD DEV =, 0.068

CALF VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. AFTER. ISOTONIC GROUP
0.420 0.236 0.340 0.315 0.248 MEAN = 0.312 STD DEV =, 0.075

CALF VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE.BEFORE.ISOMETRIC GROUP
0.291 0.473 0.275 0.313 0.000 MEAN = 0.338 STD DEV =, 0.091

CALF VENOUS COMPLIANCE. EXERCISE. ISOMETRIC EXERCISE. AFTER.ISOMETRIC GROUP
0.181 0.386 0.224 0.284 0.000 MEAN = 0.269 STD DEV =, 0.089

ARM VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP
0.770 0.467 0.751 0.456 0.438 MEAN = 0.576 STD DEV =, 0.169

ARM VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP
0.736 0.171 0.575 0.345 0.415 MEAN = 0.448 STD DEV =, 0.217

ARM VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. BEFORE. ISOMETRIC GROUP
1.009 0.500 0.369 0.408 0.000 MEAN = 0.571 STD DEV =, 0.297

ARM VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

.863	0.321	0.575	0.359	0.000	MEAN =	0.529	STD DEV =,	0.249

CALF VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. BEFORE. ISOTONIC GROUP

.543	0.201	0.085	0.313	0.275	MEAN =	0.283	STD DEV =,	0.169

CALF VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. AFTER. ISOTONIC GROUP

.326	0.140	0.129	0.165	0.328	MEAN =	0.218	STD DEV =,	0.101

CALF VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. BEFORE.ISOMETRIC GROUP

.000	0.516	0.311	0.130	0.000	MEAN =	0.319	STD DEV =,	0.193

CALF VENOUS COMPLIANCE. EXERCISE. ISOTONIC EXERCISE. AFTER. ISOMETRIC GROUP

.000	0.415	0.190	0.165	0.000	MEAN =	0.257	STD DEV =,	0.138

APPENDIX II

Tables and graphs of arm blood flow measurements and group averages before and after Arterial Occlusion, comparisons before and after training.

Blood flow in milliliters/100 milliliter arm • minute

Time in minutes

Graphs; Abscissa, time
Ordinate, blood flow

Group D is isotonic conditioning group
S is isometric conditioning group

AVERAGES FOR ARM BLOODFLOW--AO--BEFORE TRAINING--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	2.91	4.40	3.10	2.84	2.81	3.212	0.674
1.00	2.14	5.21	2.65	2.40	2.92	3.064	1.234
1.50	2.30	4.83	3.57	2.50	3.04	3.248	1.013
2.00	2.30	5.70	2.41	2.72	3.04	3.234	1.408
2.50	2.60	5.52	2.65	2.83	3.28	3.376	1.228
3.00	2.60	5.97	2.76	2.83	3.04	3.440	1.423
3.50	2.75	6.50	2.76	2.94	3.04	3.598	1.627
4.00	2.75	6.80	3.22	2.40	2.92	3.618	1.803
4.50	2.75	7.10	3.22	2.50	3.04	3.722	1.908
5.00	2.91	6.51	2.65	2.50	3.16	3.546	1.676
		AFTER ARTERIAL OCCLUSION					
0.25 MIN	18.20	27.80	16.50	20.30	20.10	20.580	4.323
0.50	5.51	16.40	12.70	17.00	11.40	12.602	4.624
1.00	2.60	9.50	3.80	10.70	4.80	6.280	3.598
1.50	2.14	7.80	2.65	5.79	4.68	4.612	2.319
2.00	1.84	5.40	2.53	3.82	4.57	3.632	1.455
2.50	2.30	5.68	2.42	3.60	4.57	3.714	1.439
3.00	2.60	7.40	2.53	3.49	3.28	3.860	2.022
4.00	1.99	6.52	4.25	2.40	3.75	3.782	1.791
5.00	1.84	6.68	3.22	2.95	3.75	3.688	1.812
6.00	1.99	7.95	3.34	2.62	3.75	3.930	2.346
7.00	1.99	6.81	3.22	2.40	3.75	3.634	1.904
8.00	1.99	5.95	2.53	2.51	3.51	3.298	1.581
9.00	1.84	7.66	3.00	2.73	3.04	3.654	2.291
10.00	2.30	6.52	2.88	2.51	3.04	3.450	1.741

AVERAGES FOR AO ARM BLOOD FLOW--GROUP=D--AFTER TRAINING

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	3.32	2.75	2.92	2.52	3.95	3.092	0.562
1.00	3.45	3.12	3.43	2.52	3.84	3.272	0.492
1.50	2.83	3.12	3.56	2.87	3.73	3.222	0.406
2.00	2.95	2.75	3.05	2.52	3.62	2.978	0.412
2.50	2.83	2.87	3.30	2.87	3.95	3.164	0.480
3.00	2.83	2.50	3.05	2.64	3.84	2.972	0.527
3.50	2.22	3.00	2.79	2.64	4.17	2.964	0.732
4.00	2.58	2.75	3.30	2.52	4.38	3.106	0.776
4.50	2.70	2.75	2.67	2.52	4.17	2.962	0.681
5.00	3.08	2.87	2.67	2.87	3.84	3.066	0.456
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	23.40	18.00	21.80	17.70	15.10	19.200	3.350
0.50	7.75	5.25	13.20	15.30	5.92	9.484	4.507
1.00	4.18	3.38	7.61	8.65	4.50	5.664	2.317
1.50	4.56	2.63	4.57	5.75	3.62	4.226	1.169
2.00	3.32	2.87	4.19	3.84	3.95	3.634	0.532
2.50	2.70	2.87	3.94	3.36	3.73	3.320	0.534
3.00	2.83	2.87	4.19	3.72	3.62	3.446	0.585
4.00	2.96	2.12	4.32	3.23	3.34	3.194	0.790
5.00	2.46	2.62	4.44	2.52	3.18	3.044	0.831
6.00	2.34	2.37	3.68	3.11	3.07	2.914	0.565
7.00	2.70	2.62	4.18	2.28	2.74	2.904	0.736
8.00	2.46	2.50	3.17	2.52	3.61	2.852	0.516
9.00	2.46	2.62	3.68	2.64	2.85	2.850	0.484
10.00	2.83	2.62	3.55	2.04	2.74	2.756	0.540

AVERAGES FOR AO ARM BLOOD FLOW--BEFORE TRAINING--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.17	2.23	2.44	1.99	2.207	0.186
1.00	2.17	2.23	2.21	1.70	2.077	0.253
1.50	1.98	1.61	2.44	1.99	2.005	0.340
2.00	2.17	2.36	1.97	2.41	2.227	0.200
2.50	2.26	1.74	2.21	2.41	2.155	0.289
3.00	1.60	1.98	1.97	2.70	2.062	0.460
3.50	1.79	1.74	2.09	2.84	2.115	0.507
4.00	2.26	1.74	1.97	2.12	2.022	0.222
4.50	2.08	1.99	1.97	2.26	2.075	0.132
5.00	2.26	2.23	1.97	2.12	2.145	0.131
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	21.70	22.30	17.20	18.70	19.975	2.430
0.50	14.00	10.20	10.40	14.30	12.225	2.228
1.00	8.10	3.10	5.60	4.40	5.300	2.128
1.50	3.96	1.99	3.37	3.26	3.145	0.829
2.00	3.02	1.61	2.90	2.98	2.627	0.680
2.50	2.45	1.74	2.90	3.98	2.767	0.939
3.00	2.92	2.73	2.67	2.84	2.790	0.112
4.00	2.08	1.74	2.67	2.41	2.225	0.404
5.00	3.01	1.99	1.97	2.41	2.345	0.488
6.00	2.08	2.36	1.74	2.69	2.217	0.404
7.00	1.98	1.99	2.20	2.69	2.215	0.333
8.00	2.17	1.99	2.09	2.69	2.235	0.312
9.00	2.26	1.49	1.86	2.55	2.040	0.463
10.00	1.70	1.99	1.97	2.41	2.017	0.293

AVERAGES FOR AO ARM BLOOD FLOW--GROUP=S--AFTER TRAINING

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.32	3.75	3.08	2.42	2.892	0.664
1.00	2.32	4.60	3.90	2.42	3.310	1.123
1.50	2.32	4.24	2.84	2.18	2.895	0.941
2.00	2.08	0.00	3.31	2.54	2.643	0.621
2.50	3.01	4.12	3.20	2.06	3.097	0.845
3.00	2.66	4.48	2.72	2.06	2.980	1.043
3.50	3.13	4.24	3.08	2.06	3.127	0.891
4.00	3.13	4.12	3.08	2.54	3.217	0.658
4.50	2.43	4.85	2.60	2.30	3.045	1.210
5.00	2.43	3.63	2.84	2.66	2.890	0.521
		AFTER ARTERIAL OCCLUSION				
0.25 MIN	29.70	21.80	19.90	18.60	22.500	4.977
0.50	13.90	16.50	12.80	12.60	13.950	1.794
1.00	5.70	4.48	4.85	4.85	4.970	0.517
1.50	4.17	2.90	5.10	4.72	4.222	0.961
2.00	3.60	3.51	3.78	3.87	3.690	0.164
2.50	4.30	2.40	2.84	3.03	3.142	0.816
3.00	3.25	3.15	3.08	3.51	3.247	0.188
4.00	3.36	2.78	2.48	3.38	3.000	0.445
5.00	1.74	2.78	2.25	2.66	2.357	0.470
6.00	2.09	3.03	2.84	2.66	2.655	0.406
7.00	2.20	2.42	2.48	2.66	2.440	0.190
8.00	2.32	3.03	2.36	2.54	2.562	0.326
9.00	1.85	2.90	2.36	2.30	2.352	0.430
10.00	2.09	2.90	2.60	2.42	2.502	0.339

AVERAGES FOR CALF BLOOD FLOW-AO-BEFORE TRAINING--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	4.65	2.93	4.20	2.53	3.68	3.598	0.875
1.00	4.33	2.81	3.12	2.45	3.60	3.262	0.731
1.50	3.88	2.70	3.95	3.06	3.41	3.400	0.534
2.00	4.10	2.84	3.60	3.06	3.41	3.402	0.490
2.50	3.98	2.70	3.36	2.45	3.23	3.144	0.598
3.00	3.88	2.34	3.60	3.17	3.68	3.334	0.613
3.50	3.65	2.46	3.60	3.27	3.33	3.262	0.478
4.00	3.88	3.28	3.83	3.27	3.41	3.534	0.299
4.50	3.88	3.28	4.32	3.17	3.68	3.666	0.466
5.00	4.33	2.46	4.32	3.48	3.68	3.654	0.768
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	25.10	16.60	21.60	16.40	16.20	19.180	4.005
0.50	19.10	10.80	16.80	11.80	7.91	13.282	4.567
1.00	6.73	5.28	6.95	9.70	6.12	6.956	1.665
1.50	4.80	5.15	3.95	6.55	5.95	5.280	1.010
2.00	3.76	3.75	4.07	4.22	3.42	3.844	0.311
2.50	3.41	3.28	3.83	3.80	3.06	3.476	0.334
3.00	3.88	3.28	4.56	3.48	3.24	3.688	0.549
4.00	4.00	3.51	3.83	3.59	2.88	3.562	0.428
5.00	3.42	3.28	3.36	3.06	3.24	3.272	0.138
6.00	3.18	2.81	3.48	3.16	3.06	3.138	0.241
7.00	3.18	2.93	3.36	3.38	3.06	3.182	0.193
8.00	3.30	2.70	3.48	3.38	2.97	3.166	0.323
9.00	3.30	2.70	3.36	3.48	3.15	3.198	0.303
10.00	3.65	2.93	3.48	3.69	3.06	3.362	0.347

AVERAGES FOR CALF BLOOD FLOW-AO-AFTER TRAINING--GROUP=D

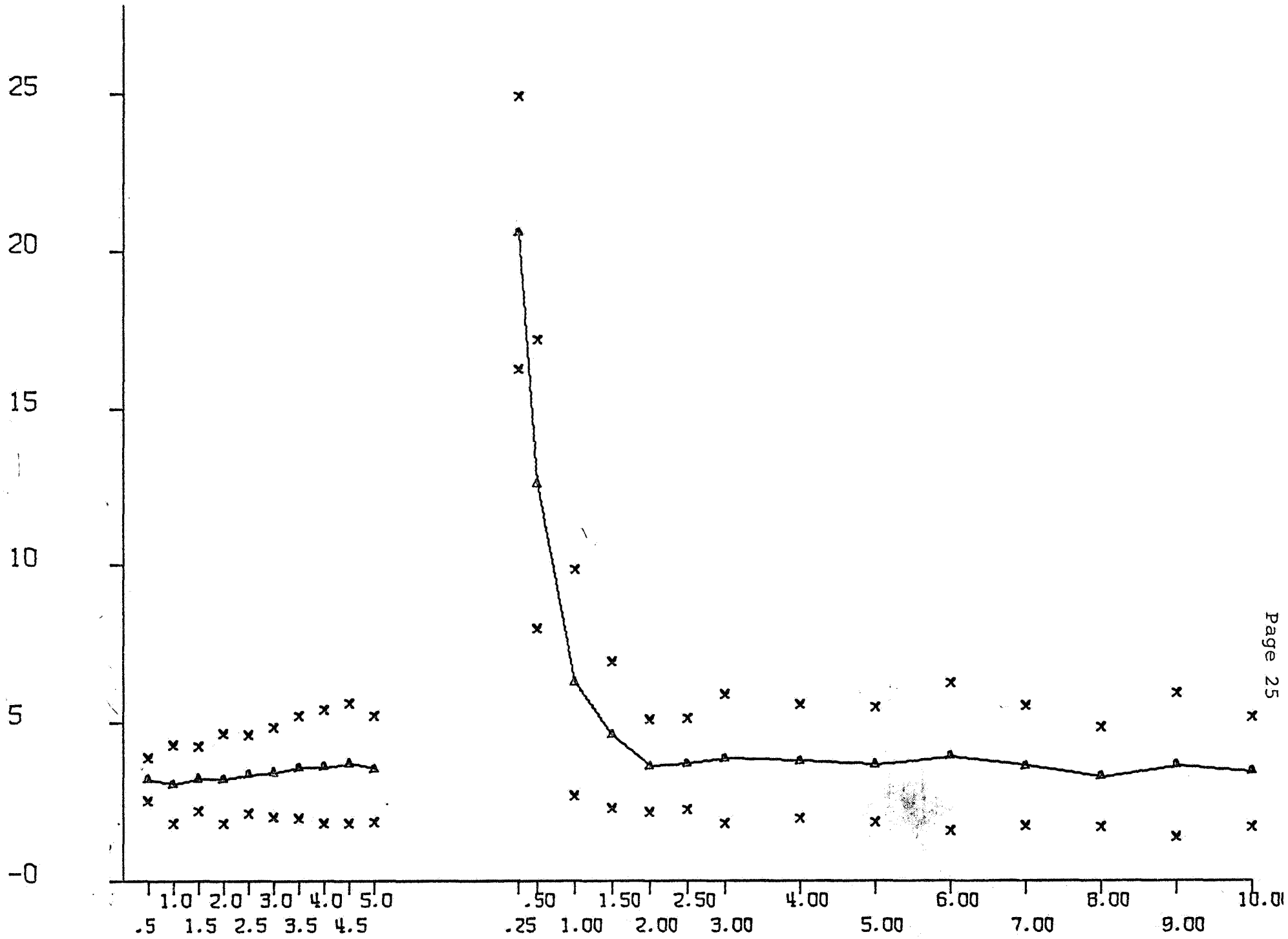
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	1.98	2.60	3.02	2.83	3.68	2.822	0.619
1.00	2.08	2.50	2.48	2.72	2.55	2.466	0.236
1.50	2.18	2.00	3.02	2.52	2.93	2.530	0.448
2.00	1.98	2.00	2.48	2.02	2.83	2.262	0.380
2.50	2.08	2.30	2.81	2.62	2.73	2.508	0.308
3.00	1.68	2.50	2.94	2.62	3.21	2.590	0.580
3.50	2.37	2.40	2.15	2.52	3.21	2.530	0.403
4.00	2.28	2.40	2.05	2.42	3.21	2.472	0.438
4.50	2.08	2.40	1.94	2.42	3.40	2.448	0.571
5.00	1.78	2.60	1.94	2.42	3.30	2.408	0.601
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	15.00	9.70	20.80	16.10	18.10	15.940	4.127
0.50	4.26	2.40	4.96	10.10	8.12	5.968	3.097
1.00	2.76	2.20	3.88	7.70	5.20	4.348	2.198
1.50	2.48	2.20	2.05	5.25	3.78	3.152	1.357
2.00	2.18	2.50	2.26	2.60	3.40	2.588	0.485
2.50	2.37	2.60	1.94	1.80	3.40	2.422	0.634
3.00	2.18	2.80	2.80	2.10	3.30	2.636	0.497
4.00	2.48	2.60	2.59	2.80	3.30	2.754	0.326
5.00	2.18	1.70	2.37	2.60	3.40	2.450	0.626
6.00	2.77	1.80	2.70	2.60	3.87	2.748	0.739
7.00	1.78	1.80	1.84	2.20	3.50	2.224	0.734
8.00	2.08	2.20	2.48	2.20	3.40	2.472	0.539
9.00	2.28	1.70	3.02	2.20	2.74	2.388	0.511
10.00	1.88	1.80	2.37	2.20	3.30	2.310	0.600

AVERAGES FOR CALF BLOOD FLOW-AO-BEFORE TRAINING--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	3.20	5.02	1.76	2.98	3.240	1.345
1.00	3.20	5.22	1.76	3.06	3.310	1.429
1.50	3.68	5.31	1.86	3.06	3.477	1.436
2.00	3.28	5.50	1.96	2.86	3.400	1.504
2.50	3.58	4.95	2.16	3.06	3.437	1.167
3.00	3.87	5.50	2.06	3.27	3.675	1.431
3.50	3.28	5.22	2.06	3.06	3.405	1.321
4.00	3.87	5.41	2.16	3.06	3.625	1.380
4.50	3.68	5.41	1.96	3.17	3.555	1.432
5.00	3.68	5.31	2.16	3.27	3.605	1.305
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	22.50	22.40	12.70	21.30	19.725	4.715
0.50	14.30	14.90	6.67	11.60	11.867	3.750
1.00	9.60	7.38	3.63	4.00	6.152	2.851
1.50	6.40	6.35	2.65	3.07	4.617	2.037
2.00	4.26	6.15	2.94	2.86	4.052	1.539
2.50	4.07	6.25	2.35	2.76	3.857	1.756
3.00	3.97	6.25	2.55	2.46	3.807	1.769
4.00	4.45	5.13	1.96	2.25	3.447	1.579
5.00	3.87	4.48	2.06	2.15	3.140	1.221
6.00	3.29	4.39	1.86	1.94	2.870	1.207
7.00	3.10	4.48	2.06	1.94	2.895	1.178
8.00	3.58	4.57	1.67	2.15	2.992	1.328
9.00	3.87	4.76	1.67	2.04	3.085	1.474
10.00	4.07	4.76	1.86	2.04	3.182	1.453

AVERAGES FOR CALF BLOOD FLOW-AO-AFTER TRAINING--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.61	3.95	1.50	2.43	2.622	1.010
1.00	2.61	4.35	1.50	2.95	2.852	1.175
1.50	2.42	4.95	1.69	2.78	2.960	1.402
2.00	2.32	4.95	1.50	2.78	2.887	1.473
2.50	2.70	4.78	1.60	2.43	2.877	1.352
3.00	2.61	4.52	1.60	2.43	2.790	1.234
3.50	2.51	4.95	1.69	2.78	2.982	1.391
4.00	2.42	4.52	1.69	2.69	2.830	1.203
4.50	2.70	4.78	1.60	2.95	3.007	1.319
5.00	2.70	4.47	1.78	2.87	2.955	1.118
		AFTER ARTERIAL OCCLUSION				
0.25 MIN	16.20	20.40	12.00	18.10	16.675	3.558
0.50	12.40	8.51	5.82	8.50	8.807	2.709
1.00	4.45	5.62	2.68	3.30	4.012	1.299
1.50	2.70	4.95	2.54	2.78	3.242	1.143
2.00	2.90	5.20	2.35	3.04	3.372	1.254
2.50	3.28	5.20	1.88	3.04	3.350	1.377
3.00	3.00	4.85	2.35	3.04	3.310	1.074
4.00	2.90	3.57	2.44	3.12	3.007	0.470
5.00	2.90	4.50	2.25	2.60	3.062	0.994
6.00	2.90	4.85	1.97	2.78	3.125	1.222
7.00	2.90	4.60	2.25	2.78	3.132	1.018
8.00	2.71	4.08	2.44	2.60	2.957	0.756
9.00	2.90	3.56	1.97	2.69	2.780	0.655
10.00	3.10	3.83	2.06	2.95	2.985	0.727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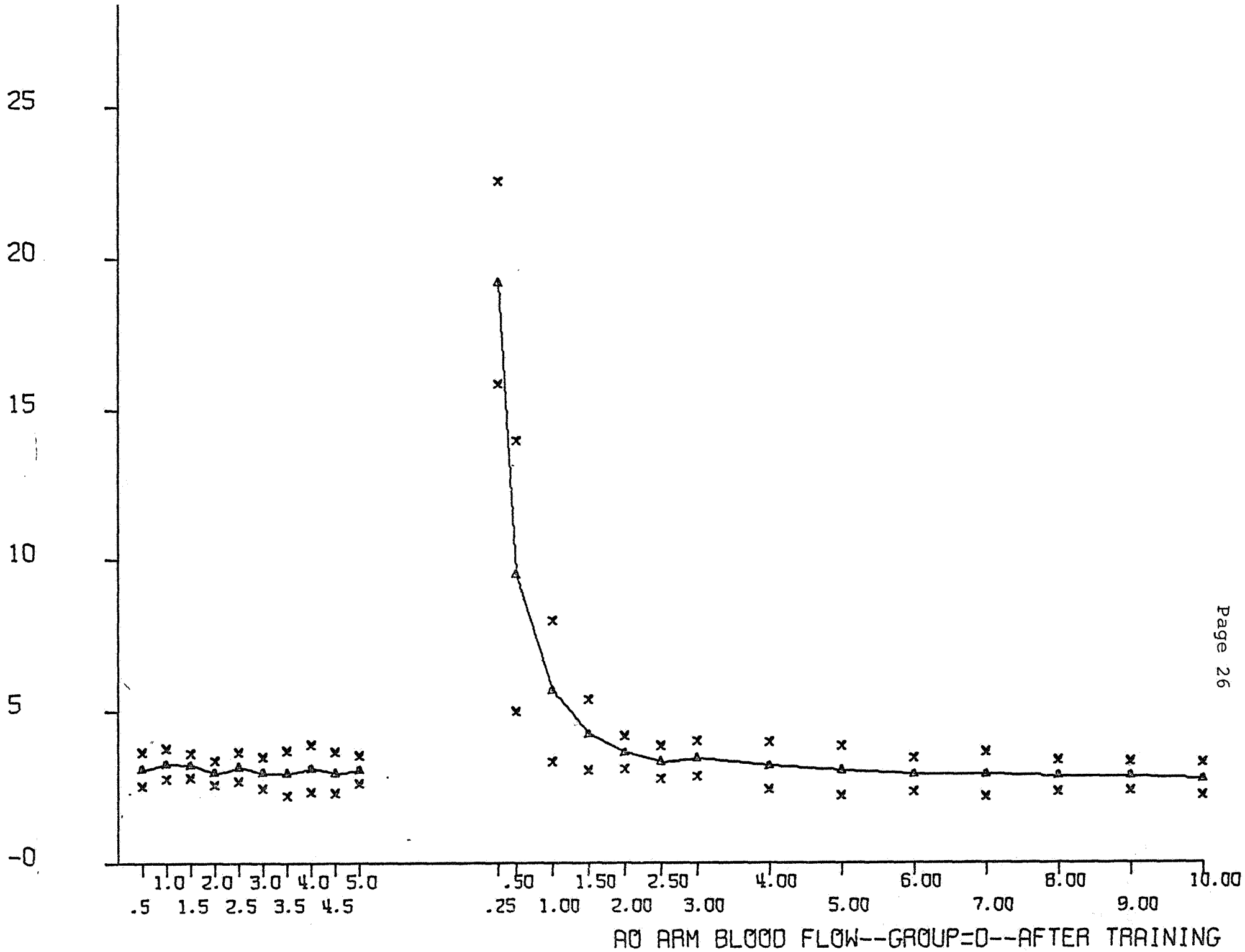
ARM BLOODFLOW--AO--BEFORE TRAINING--GROUP=D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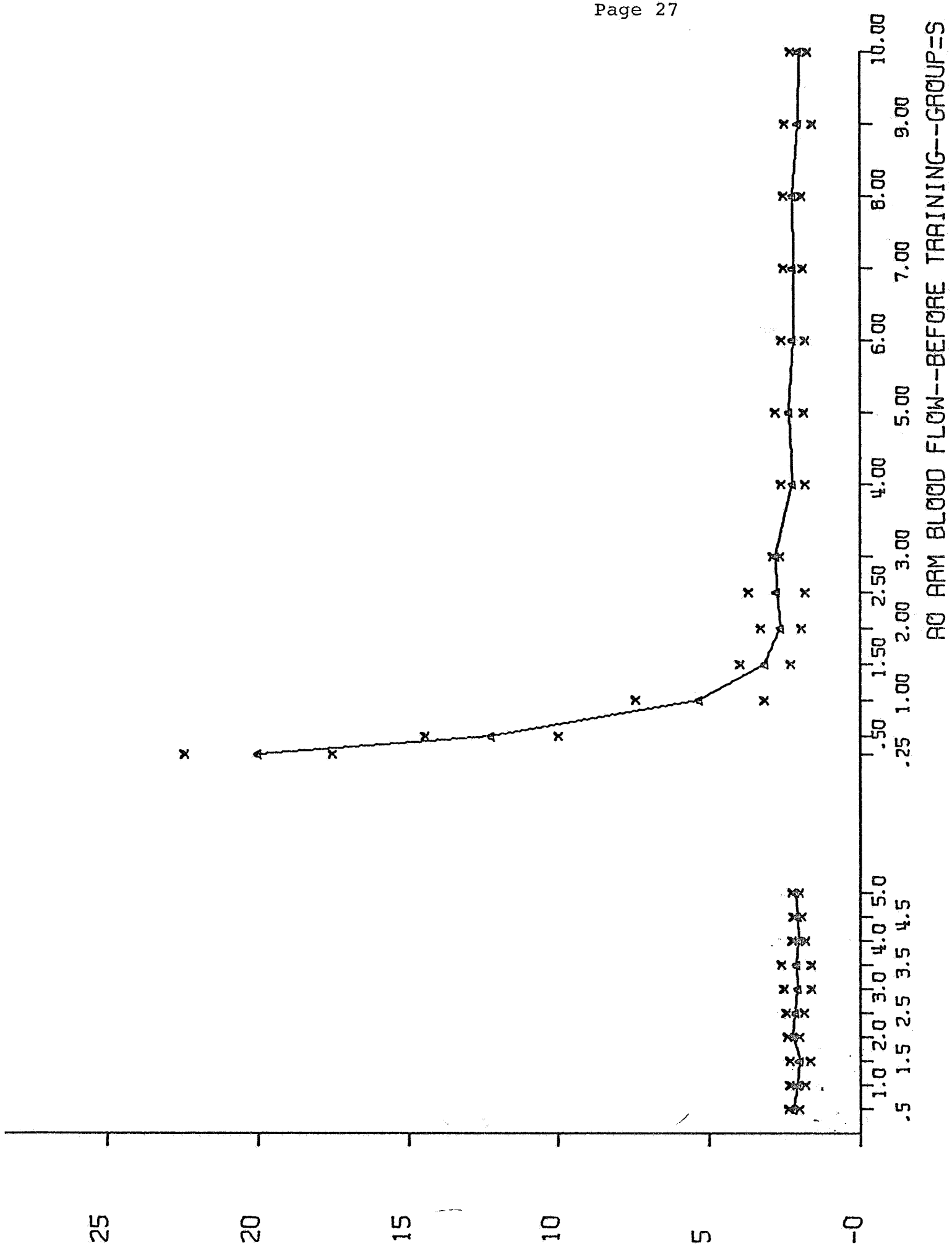
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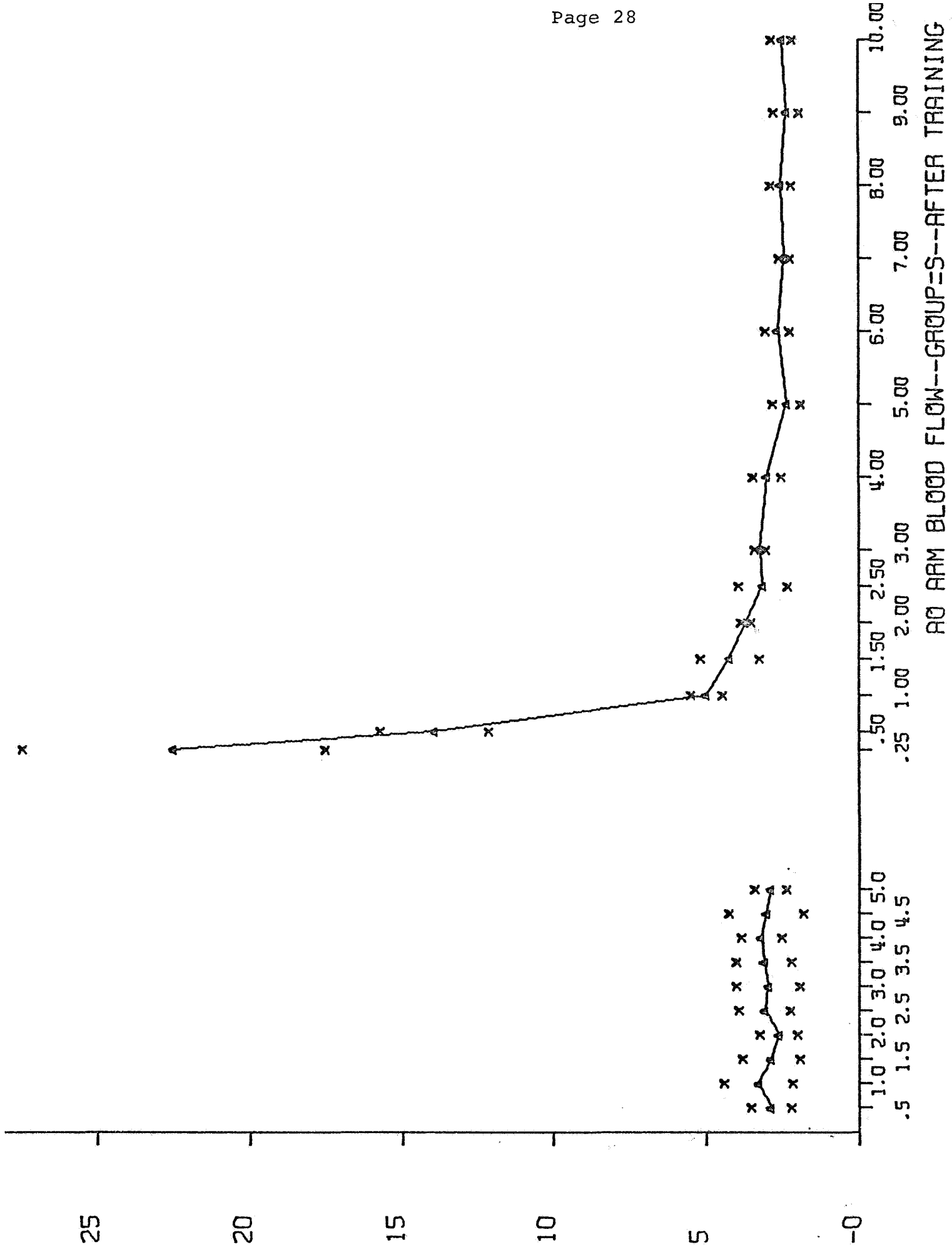
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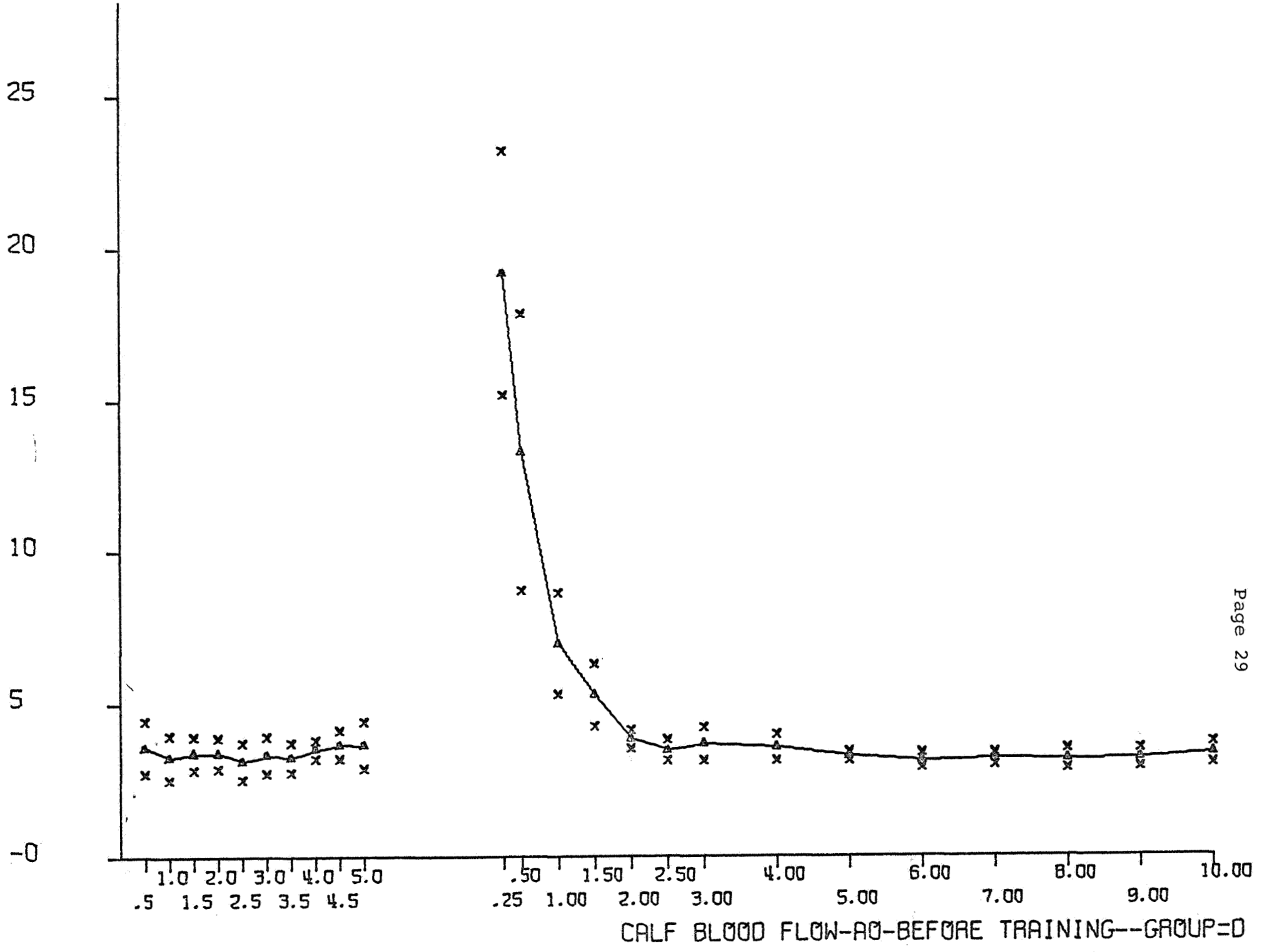
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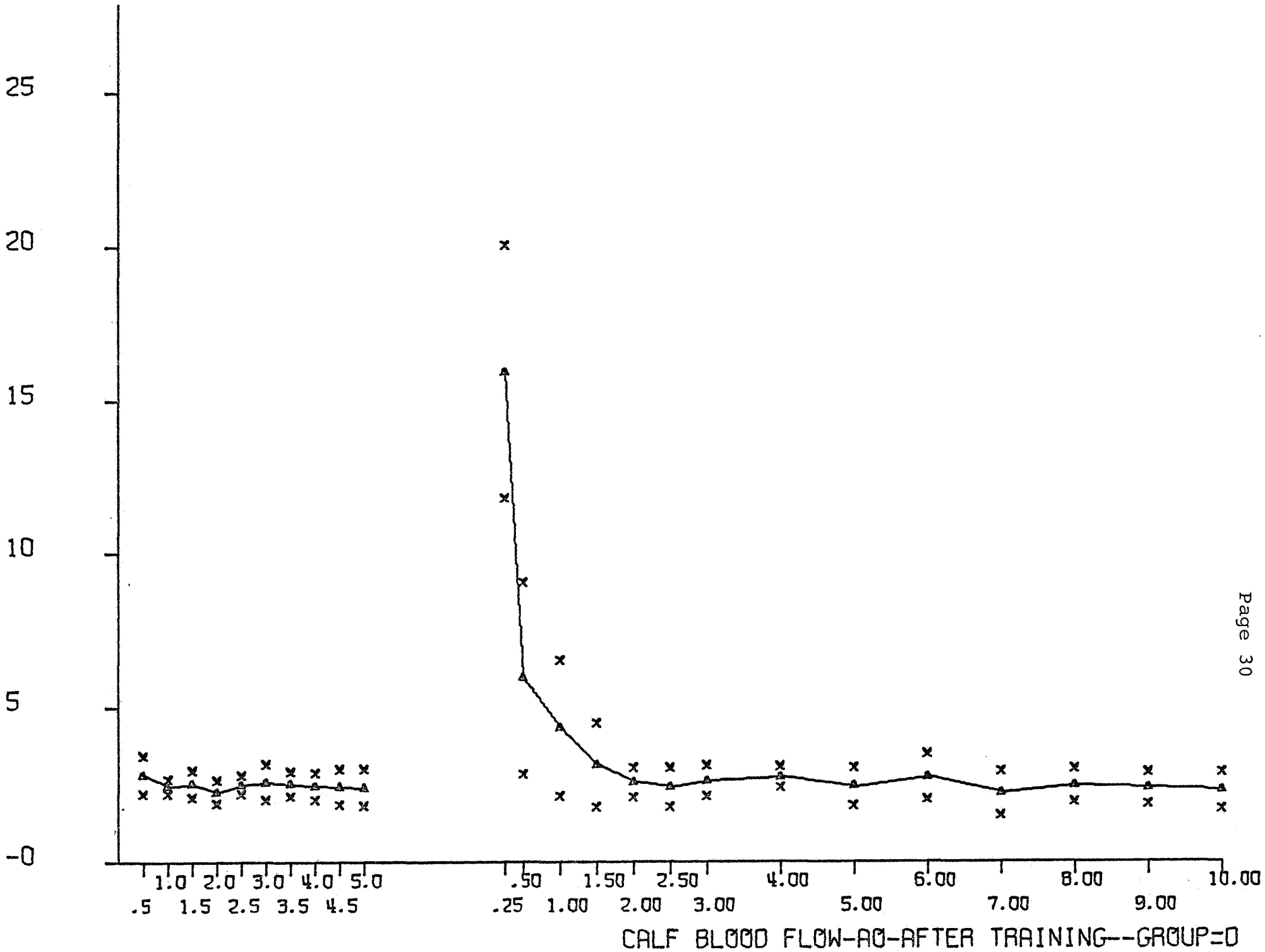
CALF BLOOD FLOW-AO-BEFORE TRAINING--GROUP=D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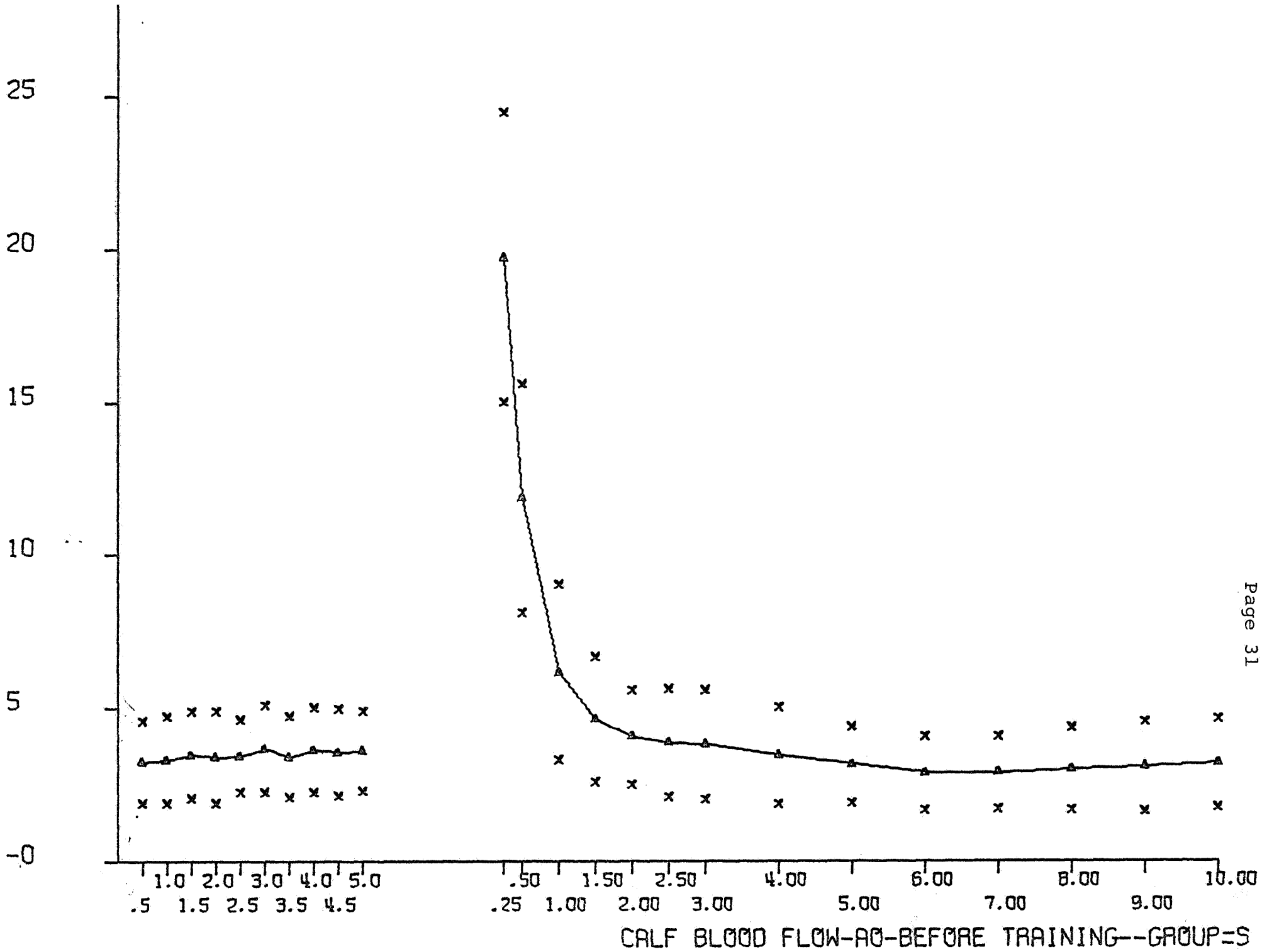
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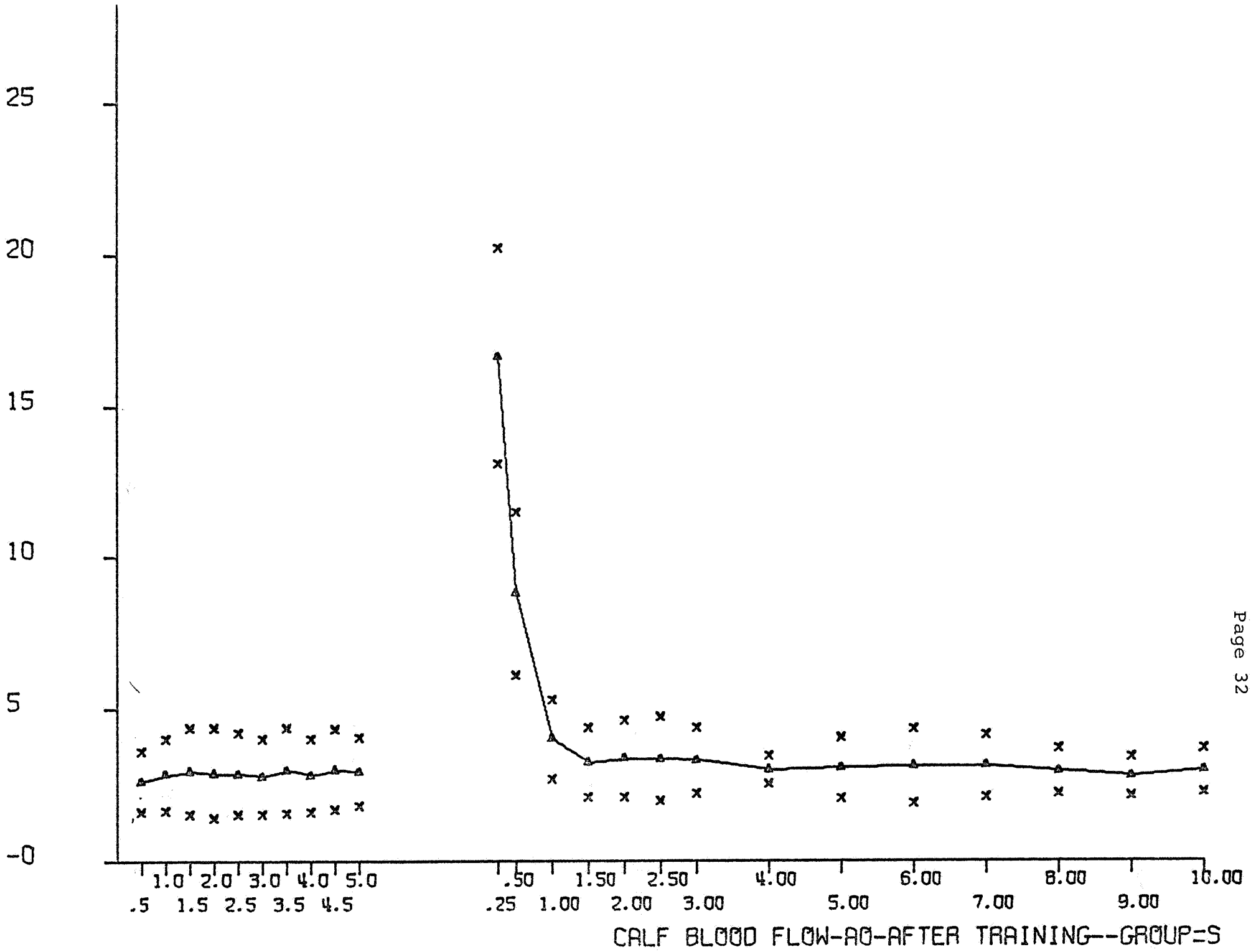
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CALF BLOOD FLOW-AO-AFTER TRAINING--GROUP=S

APPENDIX III

Tables and graphs of arm blood flow measurements and group averages before and after isometric exercise, before and after conditioning period.

Blood flow in milliliters/100 milliliter arm · minute

Time in minutes

Graphs; Abscissa, time
Ordinate, blood flow

Group D is isotonic conditioning group
C is isometric conditioning group

AVERAGES FOR ARM BLOODFLOW-ISOMET--BEFORE TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	2.91	4.40	3.10	2.84	2.81	3.212	0.674
1.00	2.14	5.21	2.65	2.40	2.92	3.064	1.234
1.50	2.30	4.83	3.57	2.50	3.04	3.248	1.013
2.00	2.30	5.70	2.41	2.72	3.04	3.234	1.408
2.50	2.60	5.52	2.65	2.83	3.28	3.376	1.228
3.00	2.60	5.97	2.76	2.83	3.04	3.440	1.423
3.50	2.75	6.50	2.76	2.94	3.04	3.598	1.627
4.00	2.75	6.80	3.22	2.40	2.92	3.618	1.803
4.50	2.75	7.10	3.22	2.50	3.04	3.722	1.908
5.00	2.91	6.51	2.65	2.50	3.16	3.546	1.676
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	20.50	14.50	8.52	8.30	10.55	12.474	5.130
0.50	22.00	11.05	7.61	7.97	14.05	12.536	5.899
1.00	13.30	9.51	6.92	3.71	9.85	8.658	3.578
1.50	12.40	7.10	4.38	3.06	6.10	6.608	3.592
2.00	6.60	4.83	4.03	3.06	7.73	5.250	1.900
2.50	6.90	6.80	3.10	2.40	7.02	5.244	2.291
3.00	5.35	4.78	2.65	2.73	7.02	4.506	1.851
4.00	4.60	4.26	2.53	2.40	5.39	3.836	1.318
5.00	3.83	4.40	2.42	2.40	5.27	3.664	1.254
6.00	5.03	3.83	2.07	2.73	3.51	3.434	1.125
7.00	3.83	3.97	2.65	1.74	4.22	3.282	1.052
8.00	3.37	3.69	3.15	2.40	3.75	3.272	0.545
9.00	3.22	3.83	2.07	2.18	4.33	3.126	0.996
10.00	3.22	4.96	2.65	2.40	3.87	3.420	1.030

AVERAGES FOR ARM BLOODFLOW--ISOMET--AFTER TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	3.32	2.75	2.92	2.52	3.95	3.092	0.562
1.00	3.45	3.12	3.43	2.52	3.84	3.272	0.492
1.50	2.83	3.12	3.56	2.87	3.73	3.222	0.406
2.00	2.95	2.75	3.05	2.52	3.62	2.978	0.412
2.50	2.83	2.87	3.30	2.87	3.95	3.164	0.480
3.00	2.83	2.50	3.05	2.64	3.84	2.972	0.527
3.50	2.22	3.00	2.79	2.64	4.17	2.964	0.732
4.00	2.58	2.75	3.30	2.52	4.38	3.106	0.776
4.50	2.70	2.75	2.67	2.52	4.17	2.962	0.681
5.00	3.08	2.87	2.67	2.87	3.84	3.066	0.456
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	12.80	10.50	11.80	4.83	9.65	9.916	3.088
0.50	9.60	13.00	11.40	3.24	9.55	9.358	3.707
1.00	6.40	9.00	7.72	2.88	7.90	6.780	2.368
1.50	4.93	9.75	9.15	2.40	7.25	6.696	3.051
2.00	3.33	5.62	7.35	3.36	5.86	5.104	1.737
2.50	3.33	5.25	7.35	2.76	5.55	4.848	1.842
3.00	2.58	3.87	5.84	2.28	5.43	4.000	1.614
4.00	2.45	3.37	5.84	2.76	4.66	3.816	1.413
5.00	2.58	3.50	5.32	3.24	4.10	3.748	1.034
6.00	2.46	3.62	4.44	2.76	4.17	3.490	0.862
7.00	2.83	3.00	5.78	2.64	3.55	3.560	1.287
8.00	2.34	3.00	4.32	2.52	3.00	3.036	0.775
9.00	2.34	2.62	4.06	2.60	3.33	2.990	0.702
10.00	2.58	2.50	4.06	2.63	3.07	2.968	0.649

AVERAGES FOR ARM BLOODFLOW-ISOMET--BEFORE TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.17	2.23	2.44	1.99	2.207	0.186
1.00	2.17	2.23	2.21	1.70	2.077	0.253
1.50	1.98	1.61	2.44	1.99	2.005	0.340
2.00	2.17	2.36	1.97	2.41	2.227	0.200
2.50	2.26	1.74	2.21	2.41	2.155	0.289
3.00	1.60	1.98	1.97	2.70	2.062	0.460
3.50	1.79	1.74	2.09	2.84	2.115	0.507
4.00	2.26	1.74	1.97	2.12	2.022	0.222
4.50	2.08	1.99	1.97	2.26	2.075	0.132
5.00	2.26	2.23	1.97	2.12	2.145	0.131
		AFTER ARTERIAL OCCLUSION				
0.25 MIN	8.00	9.90	5.11	13.30	9.077	3.436
0.50	7.18	7.70	4.65	15.20	8.683	4.545
1.00	6.60	6.70	3.25	6.67	5.805	1.704
1.50	6.90	5.95	2.44	5.95	5.310	1.965
2.00	4.70	5.10	2.32	5.95	4.517	1.555
2.50	4.34	4.10	1.97	4.68	3.772	1.225
3.00	3.40	3.97	2.20	3.98	3.387	0.837
4.00	3.40	2.23	1.97	3.83	2.857	0.898
5.00	3.30	3.22	2.32	3.70	3.135	0.582
6.00	3.20	3.73	1.97	2.98	2.970	0.737
7.00	3.96	3.48	1.97	3.26	3.167	0.850
8.00	2.26	2.60	2.09	3.41	2.590	0.586
9.00	3.11	2.98	2.20	3.12	2.852	0.440
10.00	3.20	3.10	1.97	3.41	2.920	0.646

AVERAGES FOR ARM BLOODFLOW--ISOMET--AFTER TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.32	3.75	3.08	2.42	2.892	0.664
1.00	2.32	4.60	3.90	2.42	3.310	1.123
1.50	2.32	4.24	2.84	2.18	2.895	0.941
2.00	2.08	0.00	3.31	2.54	2.643	0.621
2.50	3.01	4.12	3.20	2.06	3.097	0.845
3.00	2.66	4.48	2.72	2.06	2.980	1.043
3.50	3.13	4.24	3.08	2.06	3.127	0.891
4.00	3.13	4.12	3.08	2.54	3.217	0.658
4.50	2.43	4.85	2.60	2.30	3.045	1.210
5.00	2.43	3.63	2.84	2.66	2.890	0.521
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	9.10	4.72	4.02	3.87	5.427	2.476
0.50	6.03	6.80	2.48	3.87	4.795	1.980
1.00	4.64	2.40	2.36	3.15	3.137	1.066
1.50	5.21	3.63	2.60	2.66	3.525	1.218
2.00	2.43	2.90	2.72	2.18	2.557	0.318
2.50	3.36	3.51	2.60	2.42	2.972	0.543
3.00	3.48	3.75	2.60	2.66	3.122	0.580
4.00	3.01	3.03	2.60	2.06	2.675	0.455
5.00	3.71	2.90	2.60	2.54	2.937	0.539
6.00	1.85	3.15	2.95	2.42	2.592	0.583
7.00	3.71	3.75	2.72	2.30	3.120	0.725
8.00	2.32	2.90	3.08	2.42	2.680	0.368
9.00	1.85	2.54	2.84	2.30	2.382	0.418
10.00	2.32	4.00	2.60	2.54	2.865	0.766

AVERAGES FOR CALF BLOODFLOW--ISOMET--BEFORE TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	4.65	2.93	4.20	2.53	3.68	3.598	0.875
1.00	4.33	2.81	3.12	2.45	3.60	3.262	0.731
1.50	3.88	2.70	3.95	3.06	3.41	3.400	0.534
2.00	4.10	2.84	3.60	3.06	3.41	3.402	0.490
2.50	3.98	2.70	3.36	2.45	3.23	3.144	0.598
3.00	3.88	2.34	3.60	3.17	3.68	3.334	0.613
3.50	3.65	2.46	3.60	3.27	3.33	3.262	0.478
4.00	3.88	3.28	3.83	3.27	3.41	3.534	0.299
4.50	3.88	3.28	4.32	3.17	3.68	3.666	0.466
5.00	4.33	2.46	4.32	3.48	3.68	3.654	0.768
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	6.05	3.28	6.95	4.96	3.42	4.932	1.608
0.50	6.15	3.86	6.25	4.22	3.42	4.780	1.327
1.00	4.65	3.28	6.71	2.74	3.42	4.160	1.588
1.50	3.65	3.40	4.80	3.38	3.68	3.782	0.586
2.00	3.08	2.46	5.28	3.38	3.42	3.524	1.054
2.50	3.65	2.58	3.83	3.16	3.78	3.400	0.530
3.00	4.33	2.23	3.60	3.06	3.42	3.328	0.769
4.00	3.53	2.34	2.88	3.90	3.42	3.214	0.610
5.00	3.08	2.11	2.76	3.27	3.24	2.892	0.482
6.00	3.30	2.46	2.88	2.53	3.24	2.882	0.389
7.00	3.30	2.70	2.76	2.74	3.60	3.020	0.407
8.00	3.53	3.05	2.16	2.74	3.78	3.052	0.643
9.00	3.30	2.05	2.88	2.85	3.24	2.864	0.499
10.00	3.20	3.05	3.00	2.64	3.42	3.062	0.287

AVERAGES FOR CALF BLOODFLOW--ISOMET--AFTER TRAIN.-GROUP=D

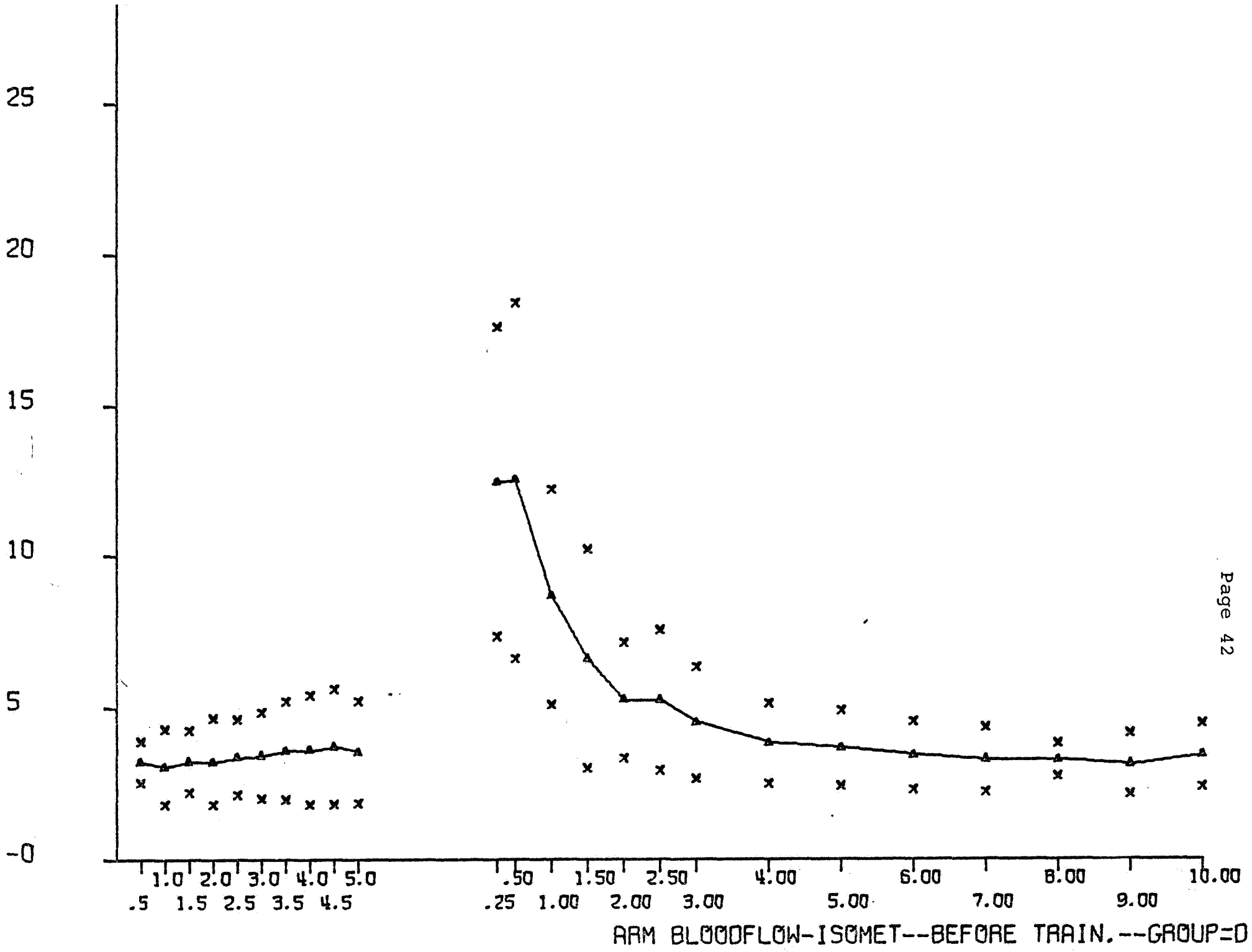
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	1.98	2.60	3.02	2.83	3.68	2.822	0.619
1.00	2.08	2.50	2.48	2.72	2.55	2.466	0.236
1.50	2.18	2.00	3.02	2.52	2.93	2.530	0.448
2.00	1.98	2.00	2.48	2.02	2.83	2.262	0.380
2.50	2.08	2.30	2.81	2.62	2.73	2.508	0.308
3.00	1.68	2.50	2.94	2.62	3.21	2.590	0.580
3.50	2.37	2.40	2.15	2.52	3.21	2.530	0.403
4.00	2.28	2.40	2.05	2.42	3.21	2.472	0.438
4.50	2.08	2.40	1.94	2.42	3.40	2.448	0.571
5.00	1.78	2.60	1.94	2.42	3.30	2.408	0.601
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	4.76	3.40	9.20	3.10	3.50	4.792	2.545
0.50	3.97	3.70	6.28	3.00	3.20	4.030	1.316
1.00	3.97	2.90	4.97	2.00	3.20	3.408	1.122
1.50	2.77	2.70	6.26	2.50	3.12	3.470	1.576
2.00	2.77	2.40	5.51	2.00	2.92	3.120	1.383
2.50	2.37	2.00	3.02	2.20	2.83	2.484	0.429
3.00	2.57	2.10	3.45	2.20	3.02	2.668	0.567
4.00	1.98	1.70	3.13	2.00	2.83	2.328	0.616
5.00	2.37	1.90	3.13	2.20	3.02	2.524	0.532
6.00	1.98	1.70	3.56	2.00	3.02	2.452	0.797
7.00	2.28	2.20	3.35	2.40	3.02	2.650	0.507
8.00	2.77	2.20	1.84	2.20	2.45	2.292	0.344
9.00	2.08	2.10	2.26	2.10	2.36	2.180	0.124
10.00	2.18	1.80	2.48	2.10	2.64	2.240	0.330

AVERAGES FOR CALF BLOODFLOW--ISOMET--BEFORE TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	3.20	5.02	1.76	2.98	3.240	1.345
1.00	3.20	5.22	1.76	3.06	3.310	1.429
1.50	3.68	5.31	1.86	3.06	3.477	1.436
2.00	3.28	5.50	1.96	2.86	3.400	1.504
2.50	3.58	4.95	2.16	3.06	3.437	1.167
3.00	3.87	5.50	2.06	3.27	3.675	1.431
3.50	3.28	5.22	2.06	3.06	3.405	1.321
4.00	3.87	5.41	2.16	3.06	3.625	1.380
4.50	3.68	5.41	1.96	3.17	3.555	1.432
5.00	3.68	5.31	2.16	3.27	3.605	1.305
		AFTER ARTERIAL OCCLUSION				
0.25 MIN	4.07	5.41	2.26	3.88	3.905	1.291
0.50	4.16	5.69	1.96	3.99	3.950	1.531
1.00	3.48	6.35	2.45	3.88	4.040	1.654
1.50	3.58	7.00	2.55	3.06	4.047	2.013
2.00	3.68	6.15	2.85	2.86	3.885	1.559
2.50	2.80	5.50	2.55	3.06	3.477	1.364
3.00	3.87	5.60	2.75	2.35	3.642	1.455
4.00	2.80	4.66	2.35	2.25	3.015	1.122
5.00	4.55	5.05	2.65	2.35	3.650	1.349
6.00	2.90	5.05	2.35	2.15	3.112	1.330
7.00	4.07	4.85	2.55	2.35	3.455	1.206
8.00	4.75	4.95	2.35	2.25	3.575	1.475
9.00	4.07	4.66	2.16	2.25	3.285	1.271
10.00	4.16	4.48	2.65	2.35	3.410	1.066

AVERAGES FOR CALF BLOODFLOW--ISOMET--AFTER TRAIN.-GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.61	3.95	1.50	2.43	2.622	1.010
1.00	2.61	4.35	1.50	2.95	2.852	1.175
1.50	2.42	4.95	1.69	2.78	2.960	1.402
2.00	2.32	4.95	1.50	2.78	2.887	1.473
2.50	2.70	4.78	1.60	2.43	2.877	1.352
3.00	2.61	4.52	1.60	2.43	2.790	1.234
3.50	2.51	4.95	1.69	2.78	2.982	1.391
4.00	2.42	4.52	1.69	2.69	2.830	1.203
4.50	2.70	4.78	1.60	2.95	3.007	1.319
5.00	2.70	4.47	1.78	2.87	2.955	1.118
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	4.84	3.15	2.25	3.82	3.515	1.093
0.50	3.87	3.40	1.78	2.78	2.957	0.903
1.00	3.28	3.75	1.69	2.60	2.830	0.895
1.50	3.87	3.82	1.78	2.87	3.085	0.984
2.00	3.20	4.00	1.78	2.69	2.917	0.930
2.50	3.10	4.17	1.69	2.87	2.957	1.017
3.00	2.80	3.40	2.16	2.78	2.785	0.506
4.00	3.10	3.06	1.69	2.95	2.700	0.676
5.00	3.10	2.89	1.60	2.43	2.505	0.665
6.00	2.61	3.74	1.69	2.43	2.617	0.848
7.00	2.13	4.43	1.88	2.60	2.760	1.153
8.00	2.32	3.40	1.97	2.78	2.617	0.618
9.00	2.42	3.31	1.88	2.26	2.467	0.606
10.00	2.51	3.91	2.16	2.69	2.817	0.761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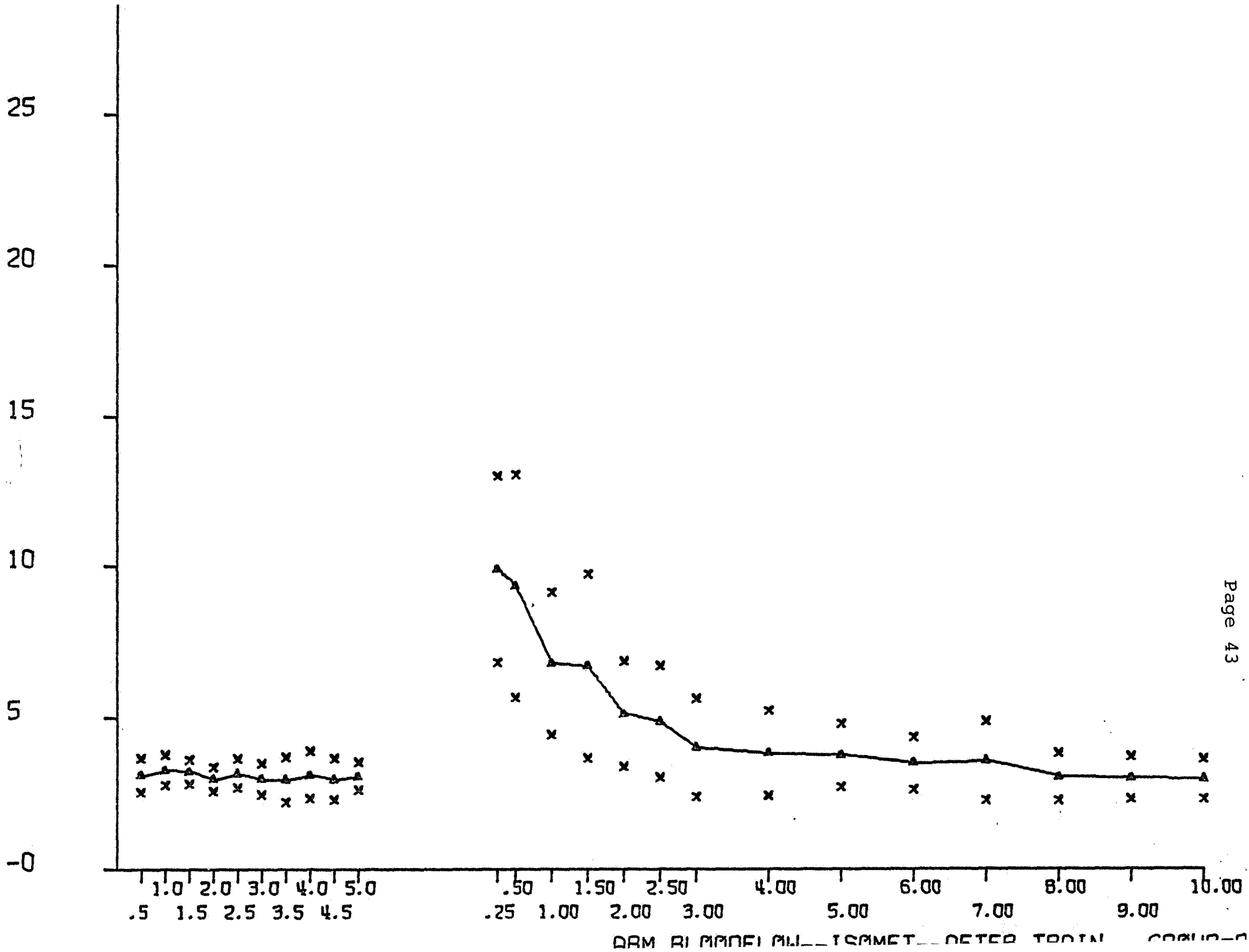
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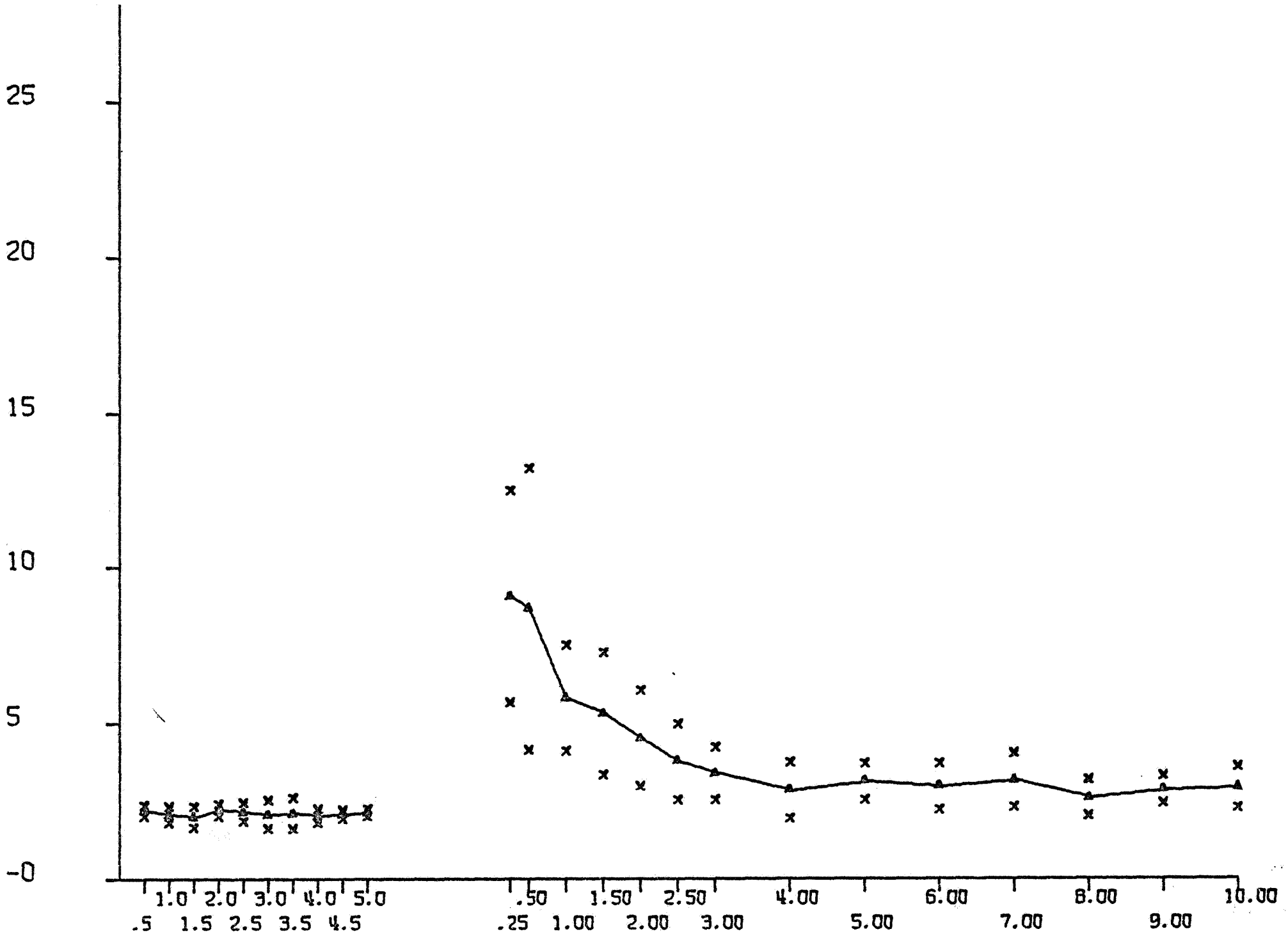
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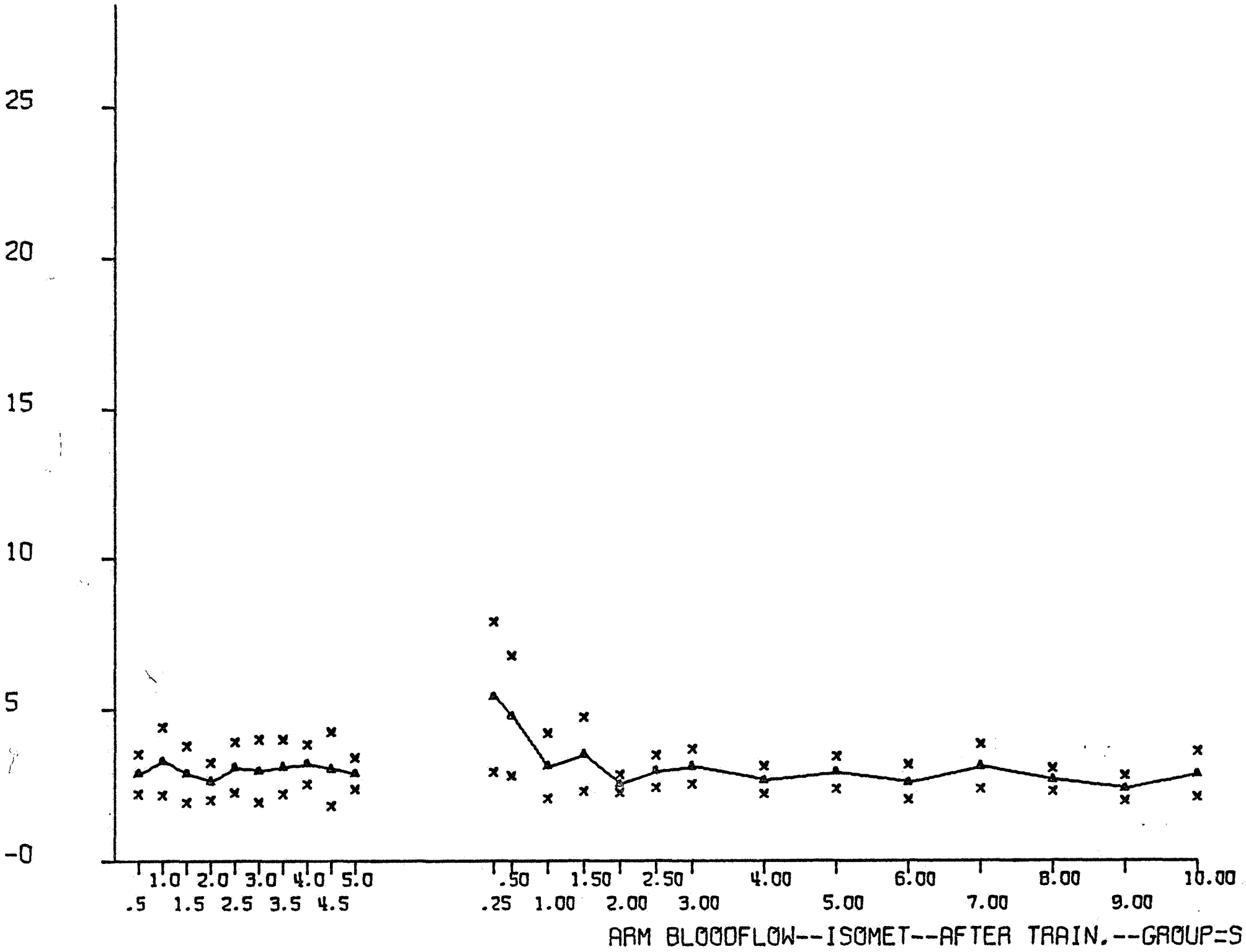
ARM BLOODFLOW-ISOMET--BEFORE TRAIN.--GROUP=S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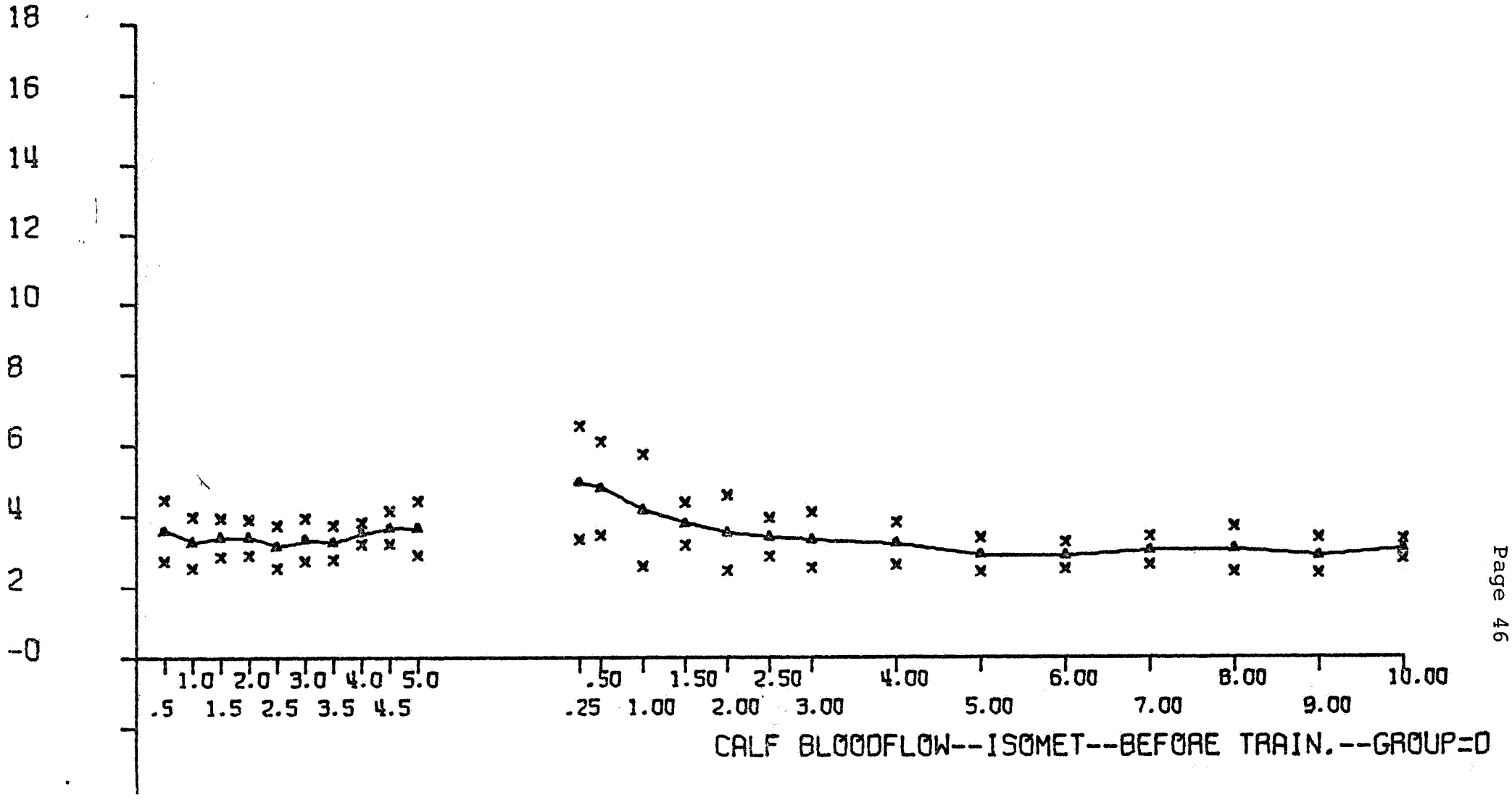
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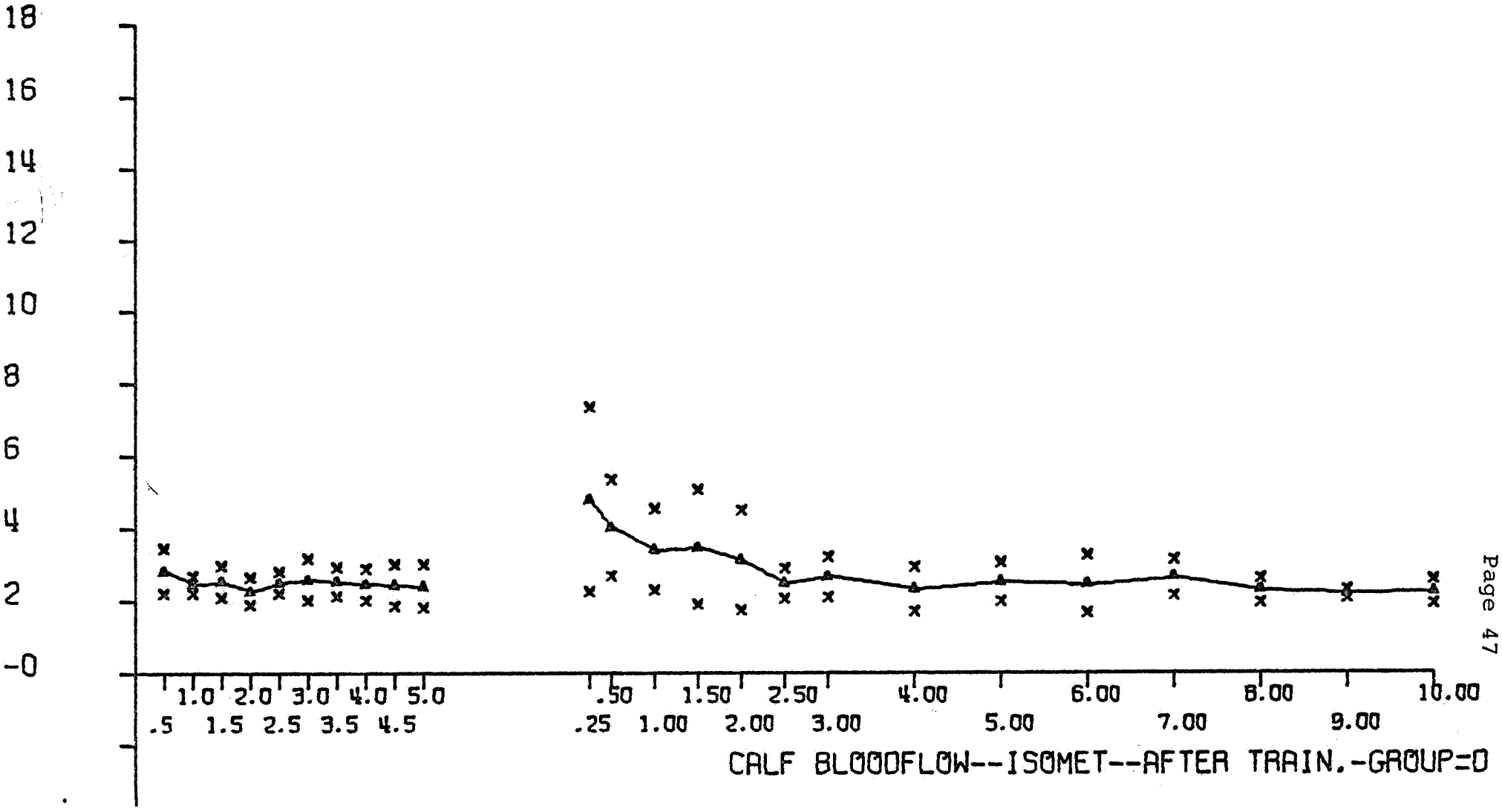
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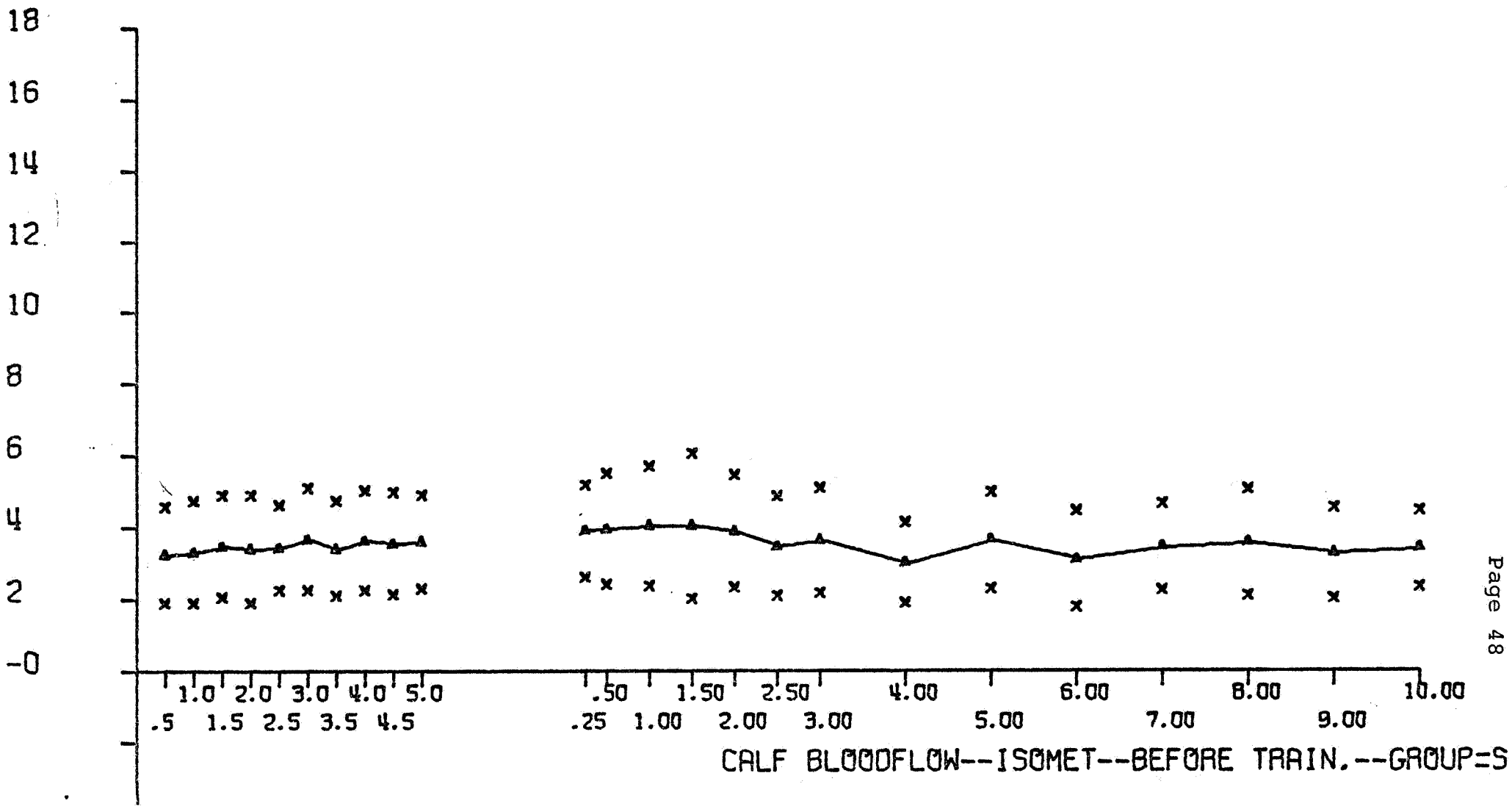
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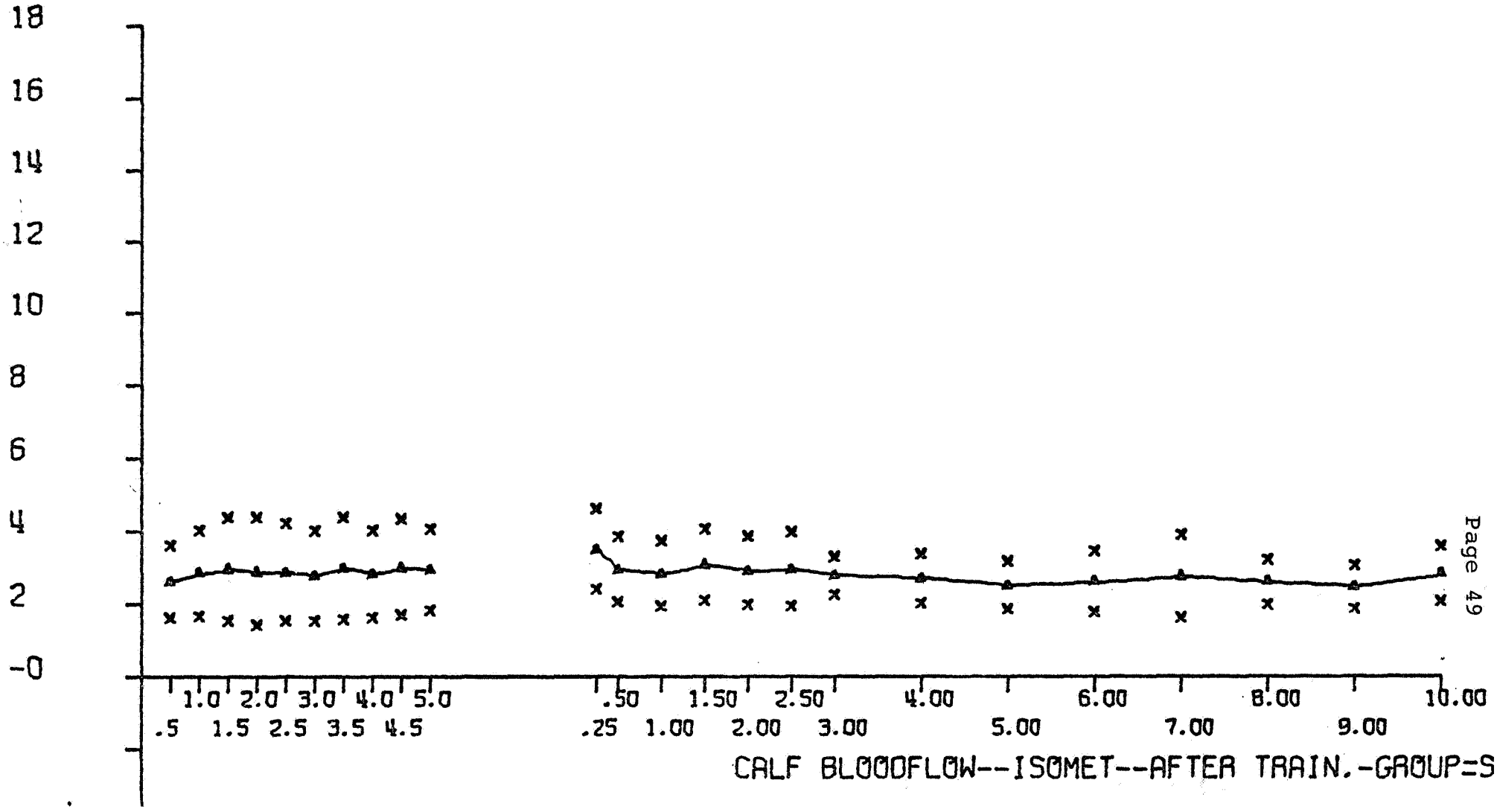
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CALF BLOODFLOW--ISOMET--AFTER TRAIN.-GROUP=S

APPENDIX IV

Tables and charts of arm blood flow measurements and group averages before and after isotonic exercise, comparisons before and after conditioning period.

Blood flow in milliliters/100 milliliter arm • minute

Time in minutes

Graphs; Abscissa, time
Ordinate, blood flow

Group D is isotonic conditioning group
S is isometric conditioning group

AVERAGES FOR ARM BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	2.91	4.40	3.10	2.84	2.81	3.212	0.674
1.00	2.14	5.21	2.65	2.40	2.92	3.064	1.234
1.50	2.30	4.83	3.57	2.50	3.04	3.248	1.013
2.00	2.30	5.70	2.41	2.72	3.04	3.234	1.408
2.50	2.60	5.52	2.65	2.83	3.28	3.376	1.228
3.00	2.60	5.97	2.76	2.83	3.04	3.440	1.423
3.50	2.75	6.50	2.76	2.94	3.04	3.598	1.627
4.00	2.75	6.80	3.22	2.40	2.92	3.618	1.803
4.50	2.75	7.10	3.22	2.50	3.04	3.722	1.908
5.00	2.91	6.51	2.65	2.50	3.16	3.546	1.676
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	32.20	27.00	26.70	28.40	30.90	29.040	2.423
0.50	36.20	28.40	22.60	30.10	30.40	29.540	4.870
1.00	36.80	29.50	17.30	28.00	29.50	28.220	7.003
1.50	31.60	26.10	12.20	24.00	25.80	23.940	7.152
2.00	33.70	23.80	13.80	24.00	22.90	23.640	7.049
2.50	25.40	24.70	12.70	20.00	20.10	20.580	5.071
3.00	25.40	22.70	15.90	20.30	18.20	20.500	3.720
4.00	24.20	20.40	12.90	20.00	20.10	19.520	4.095
5.00	23.80	19.90	11.30	19.60	20.10	18.940	4.601
6.00	21.00	17.60	12.40	18.80	18.70	17.700	3.209
7.00	21.00	15.00	12.10	14.80	18.20	16.220	3.437
8.00	20.30	14.30	11.80	14.40	20.10	16.180	3.815
9.00	18.70	12.30	12.20	11.55	17.30	14.410	3.327
10.00	15.80	11.00	12.20	10.25	15.00	12.850	2.446

AVERAGES FOR ARM BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD. DEV
TIME			CONTROL PERIOD				
0.50 MIN	3.32	2.75	2.92	2.52	3.95	3.092	0.562
1.00	3.45	3.12	3.43	2.52	3.84	3.272	0.492
1.50	2.83	3.12	3.56	2.87	3.73	3.222	0.406
2.00	2.95	2.75	3.05	2.52	3.62	2.978	0.412
2.50	2.83	2.87	3.30	2.87	3.95	3.164	0.480
3.00	2.83	2.50	3.05	2.64	3.84	2.972	0.527
3.50	2.22	3.00	2.79	2.64	4.17	2.964	0.732
4.00	2.58	2.75	3.30	2.52	4.38	3.106	0.776
4.50	2.70	2.75	2.67	2.52	4.17	2.962	0.681
5.00	3.08	2.87	2.67	2.87	3.84	3.066	0.456
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	31.00	21.50	25.40	14.50	24.10	23.300	6.021
0.50	34.50	20.80	19.00	13.90	25.30	22.700	7.758
1.00	24.60	17.70	14.00	11.30	21.80	17.880	5.452
1.50	19.20	17.00	12.70	11.55	20.60	16.210	3.965
2.00	17.70	16.00	10.40	11.55	20.00	15.130	4.070
2.50	17.70	18.50	9.40	10.30	18.60	14.900	4.634
3.00	16.20	16.75	11.90	9.50	16.40	14.150	3.268
4.00	8.37	16.00	11.00	9.25	16.20	12.164	3.716
5.00	9.22	15.70	10.10	8.40	13.75	11.434	3.140
6.00	14.50	15.50	8.65	7.20	13.30	11.830	3.685
7.00	6.65	13.70	9.25	7.70	10.20	9.500	2.718
8.00	6.90	13.50	9.90	6.35	10.60	9.450	2.917
9.00	5.67	11.75	9.80	5.75	12.00	8.994	3.117
10.00	4.68	10.20	9.80	6.22	10.20	8.220	2.592

AVERAGES FOR ARM BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.17	2.23	2.44	1.99	2.207	0.186
1.00	2.17	2.23	2.21	1.70	2.077	0.253
1.50	1.98	1.61	2.44	1.99	2.005	0.340
2.00	2.17	2.36	1.97	2.41	2.227	0.200
2.50	2.26	1.74	2.21	2.41	2.155	0.289
3.00	1.60	1.98	1.97	2.70	2.062	0.460
3.50	1.79	1.74	2.09	2.84	2.115	0.507
4.00	2.26	1.74	1.97	2.12	2.022	0.222
4.50	2.08	1.99	1.97	2.26	2.075	0.132
5.00	2.26	2.23	1.97	2.12	2.145	0.131
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	22.50	24.00	20.70	20.20	21.850	1.741
0.50	22.50	29.30	19.70	17.60	22.275	5.095
1.00	20.60	31.00	18.80	17.60	22.000	6.125
1.50	19.60	29.30	15.60	11.30	18.950	7.687
2.00	18.30	28.30	15.80	10.20	18.150	7.567
2.50	16.30	25.30	13.90	10.20	16.425	6.427
3.00	16.80	25.30	9.85	10.50	15.612	7.179
4.00	14.00	21.30	11.10	12.45	14.712	4.549
5.00	14.80	20.80	10.00	12.45	14.512	4.627
6.00	13.10	21.60	8.02	9.95	13.167	5.999
7.00	10.60	19.10	8.70	11.20	12.400	4.592
8.00	9.55	16.40	7.80	12.20	11.487	3.741
9.00	8.40	17.10	7.80	9.50	10.700	4.324
10.00	8.20	15.40	6.05	10.20	9.962	4.002

AVERAGES FOR ARM BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.32	3.75	3.08	2.42	2.892	0.664
1.00	2.32	4.60	3.90	2.42	3.310	1.123
1.50	2.32	4.24	2.84	2.18	2.895	0.941
2.00	2.08	0.00	3.31	2.54	2.643	0.621
2.50	3.01	4.12	3.20	2.06	3.097	0.845
3.00	2.66	4.48	2.72	2.06	2.980	1.043
3.50	3.13	4.24	3.08	2.06	3.127	0.891
4.00	3.13	4.12	3.08	2.54	3.217	0.658
4.50	2.43	4.85	2.60	2.30	3.045	1.210
5.00	2.43	3.63	2.84	2.66	2.890	0.521
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	31.00	18.20	22.50	17.90	22.400	6.106
0.50	30.10	20.70	19.40	19.40	22.400	5.170
1.00	23.20	17.90	15.60	17.40	18.525	3.269
1.50	21.80	12.40	16.10	16.90	16.800	3.867
2.00	17.20	12.60	12.80	11.10	13.425	2.629
2.50	15.50	12.10	14.40	10.60	13.150	2.213
3.00	15.50	10.80	11.80	11.80	12.475	2.071
4.00	11.60	8.70	9.70	9.45	9.862	1.234
5.00	9.30	7.15	9.12	9.65	8.805	1.125
6.00	11.40	7.15	7.32	9.20	8.767	1.986
7.00	9.50	6.18	6.50	8.95	7.782	1.686
8.00	9.05	5.81	9.22	7.40	7.870	1.600
9.00	6.72	5.87	7.93	8.00	7.130	1.025
10.00	6.95	4.85	7.45	6.30	6.387	1.128

AVERAGES FOR CALF BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=D

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	4.65	2.93	4.20	2.53	3.68	3.598	0.875
1.00	4.33	2.81	3.12	2.45	3.60	3.262	0.731
1.50	3.88	2.70	3.95	3.06	3.41	3.400	0.534
2.00	4.10	2.84	3.60	3.06	3.41	3.402	0.490
2.50	3.98	2.70	3.36	2.45	3.23	3.144	0.598
3.00	3.88	2.34	3.60	3.17	3.68	3.334	0.613
3.50	3.65	2.46	3.60	3.27	3.33	3.262	0.478
4.00	3.88	3.28	3.83	3.27	3.41	3.534	0.299
4.50	3.88	3.28	4.32	3.17	3.68	3.666	0.466
5.00	4.33	2.46	4.32	3.48	3.68	3.654	0.768
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	20.50	9.50	0.00	13.30	17.60	15.225	4.829
0.50	19.10	11.00	0.00	16.00	19.40	16.375	3.899
1.00	19.80	8.55	0.00	11.40	12.20	12.987	4.804
1.50	18.70	7.05	0.00	10.80	10.05	11.650	4.971
2.00	16.80	7.40	0.00	10.30	10.60	11.275	3.956
2.50	14.20	7.05	0.00	9.00	9.55	9.950	3.030
3.00	15.20	7.05	0.00	7.50	7.55	9.325	3.923
4.00	12.60	5.86	0.00	6.75	6.50	7.928	3.137
5.00	10.70	5.02	0.00	6.01	6.40	7.032	2.513
6.00	9.90	5.02	0.00	4.43	5.30	6.162	2.518
7.00	9.80	4.45	0.00	5.50	4.86	6.152	2.470
8.00	6.95	4.92	0.00	5.17	4.50	5.385	1.079
9.00	5.70	2.80	0.00	4.65	3.70	4.212	1.247
10.00	7.30	3.62	0.00	4.75	3.96	4.907	1.664

AVERAGES FOR CALF BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=D

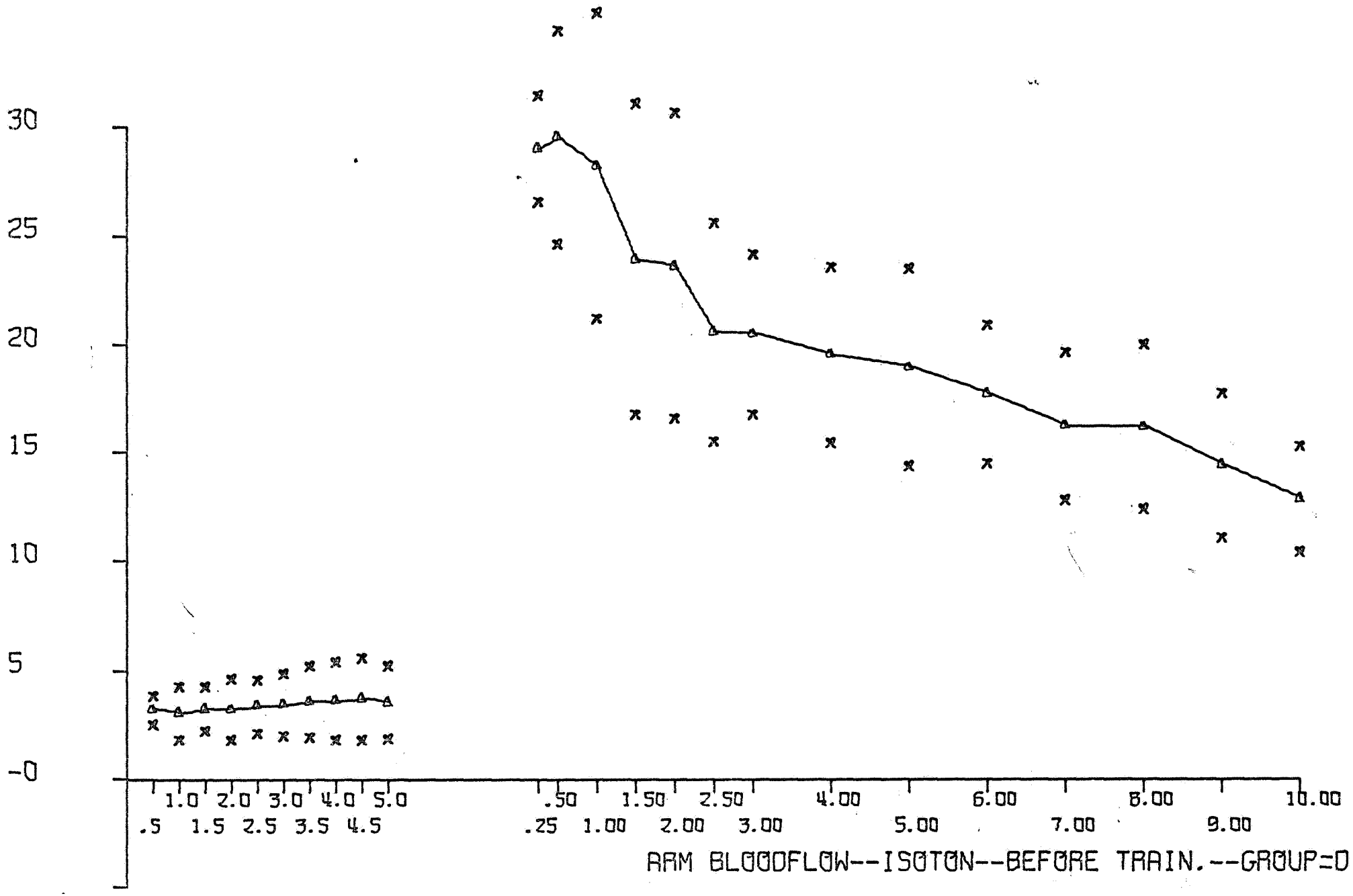
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			CONTROL PERIOD				
0.50 MIN	1.98	2.60	3.02	2.83	3.68	2.822	0.619
1.00	2.08	2.50	2.48	2.72	2.55	2.466	0.236
1.50	2.18	2.00	3.02	2.52	2.93	2.530	0.448
2.00	1.98	2.00	2.48	2.02	2.83	2.262	0.380
2.50	2.08	2.30	2.81	2.62	2.73	2.508	0.308
3.00	1.68	2.50	2.94	2.62	3.21	2.590	0.580
3.50	2.37	2.40	2.15	2.52	3.21	2.530	0.403
4.00	2.28	2.40	2.05	2.42	3.21	2.472	0.438
4.50	2.08	2.40	1.94	2.42	3.40	2.448	0.571
5.00	1.78	2.60	1.94	2.42	3.30	2.408	0.601
			AFTER ARTERIAL OCCLUSION				
0.25 MIN	18.60	8.40	12.10	17.60	19.60	15.260	4.809
0.50	18.20	6.80	16.00	15.20	18.90	15.020	4.841
1.00	15.40	6.50	12.50	10.80	15.90	12.220	3.823
1.50	15.40	5.50	11.20	10.80	13.60	11.300	3.742
2.00	13.10	5.60	12.75	11.00	13.20	11.130	3.217
2.50	11.90	5.50	9.60	10.20	9.20	9.280	2.351
3.00	11.70	3.80	9.52	8.12	8.50	8.328	2.888
4.00	9.30	3.50	10.35	7.20	7.95	7.660	2.623
5.00	7.22	3.60	9.50	5.20	7.55	6.614	2.272
6.00	7.12	3.50	8.32	4.92	6.80	6.132	1.911
7.00	7.12	3.20	8.00	4.92	4.72	5.592	1.941
8.00	6.52	2.40	5.82	3.41	4.63	4.556	1.690
9.00	5.52	2.20	5.82	3.91	3.78	4.246	1.468
10.00	5.52	1.90	6.05	3.41	3.96	4.168	1.668

AVERAGES FOR CALF BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	3.20	5.02	1.76	2.98	3.240	1.345
1.00	3.20	5.22	1.76	3.06	3.310	1.429
1.50	3.68	5.31	1.86	3.06	3.477	1.436
2.00	3.28	5.50	1.96	2.86	3.400	1.504
2.50	3.58	4.95	2.16	3.06	3.437	1.167
3.00	3.87	5.50	2.06	3.27	3.675	1.431
3.50	3.28	5.22	2.06	3.06	3.405	1.321
4.00	3.87	5.41	2.16	3.06	3.625	1.380
4.50	3.68	5.41	1.96	3.17	3.555	1.432
5.00	3.68	5.31	2.16	3.27	3.605	1.305
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	0.00	16.20	8.05	15.70	13.317	4.568
0.50	0.00	16.20	8.65	12.90	12.583	3.785
1.00	0.00	11.80	7.05	8.80	9.217	2.402
1.50	0.00	11.60	6.27	8.60	8.823	2.672
2.00	0.00	9.15	6.47	8.40	8.007	1.383
2.50	0.00	8.50	5.60	8.60	7.567	1.704
3.00	0.00	7.10	5.98	7.89	6.990	0.960
4.00	0.00	6.53	5.60	7.17	6.433	0.789
5.00	0.00	5.77	5.40	5.72	5.630	0.201
6.00	0.00	6.62	4.80	5.22	5.547	0.953
7.00	0.00	5.41	4.02	4.09	4.507	0.783
8.00	0.00	5.22	3.43	3.78	4.143	0.949
9.00	0.00	5.22	2.64	3.88	3.913	1.290
10.00	0.00	5.60	2.74	3.68	4.007	1.458

AVERAGES FOR CALF BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=S

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			CONTROL PERIOD			
0.50 MIN	2.61	3.95	1.50	2.43	2.622	1.010
1.00	2.61	4.35	1.50	2.95	2.852	1.175
1.50	2.42	4.95	1.69	2.78	2.960	1.402
2.00	2.32	4.95	1.50	2.78	2.887	1.473
2.50	2.70	4.78	1.60	2.43	2.877	1.352
3.00	2.61	4.52	1.60	2.43	2.790	1.234
3.50	2.51	4.95	1.69	2.78	2.982	1.391
4.00	2.42	4.52	1.69	2.69	2.830	1.203
4.50	2.70	4.78	1.60	2.95	3.007	1.319
5.00	2.70	4.47	1.78	2.87	2.955	1.118
			AFTER ARTERIAL OCCLUSION			
0.25 MIN	0.00	12.40	10.50	14.60	12.500	2.052
0.50	0.00	12.65	12.40	12.85	12.633	0.225
1.00	0.00	6.55	7.35	8.43	7.443	0.943
1.50	0.00	4.85	6.58	7.12	6.183	1.186
2.00	0.00	4.08	4.98	6.95	5.337	1.468
2.50	0.00	4.42	4.33	6.78	5.177	1.389
3.00	0.00	3.91	4.70	6.25	4.953	1.190
4.00	0.00	3.83	4.90	5.39	4.707	0.798
5.00	0.00	4.00	4.90	5.02	4.640	0.557
6.00	0.00	3.40	4.23	5.02	4.217	0.810
7.00	0.00	4.35	3.76	4.34	4.150	0.338
8.00	0.00	3.23	2.60	3.65	3.160	0.528
9.00	0.00	3.57	2.16	2.95	2.893	0.707
10.00	0.00	4.34	2.44	2.78	3.187	1.013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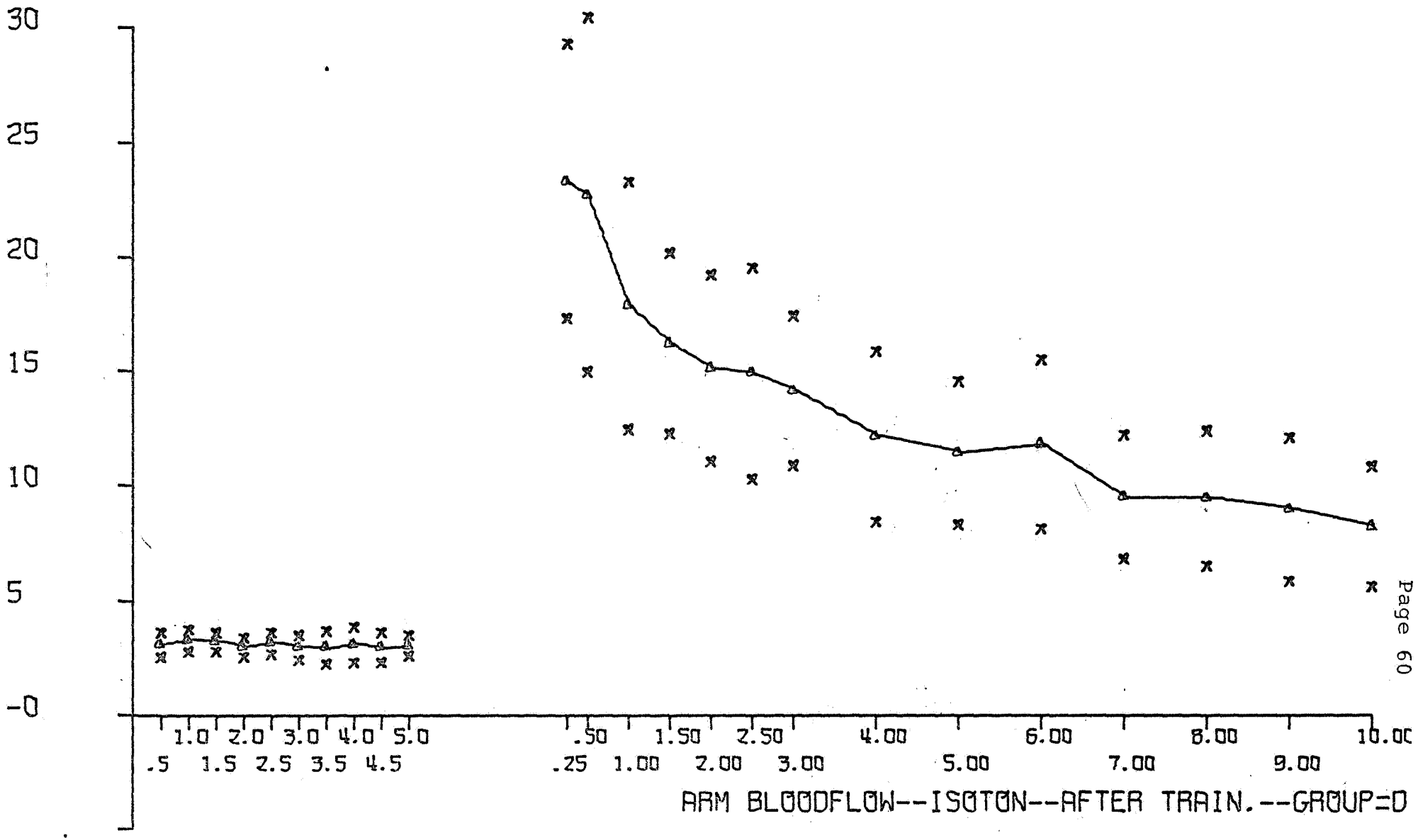
ARM BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=D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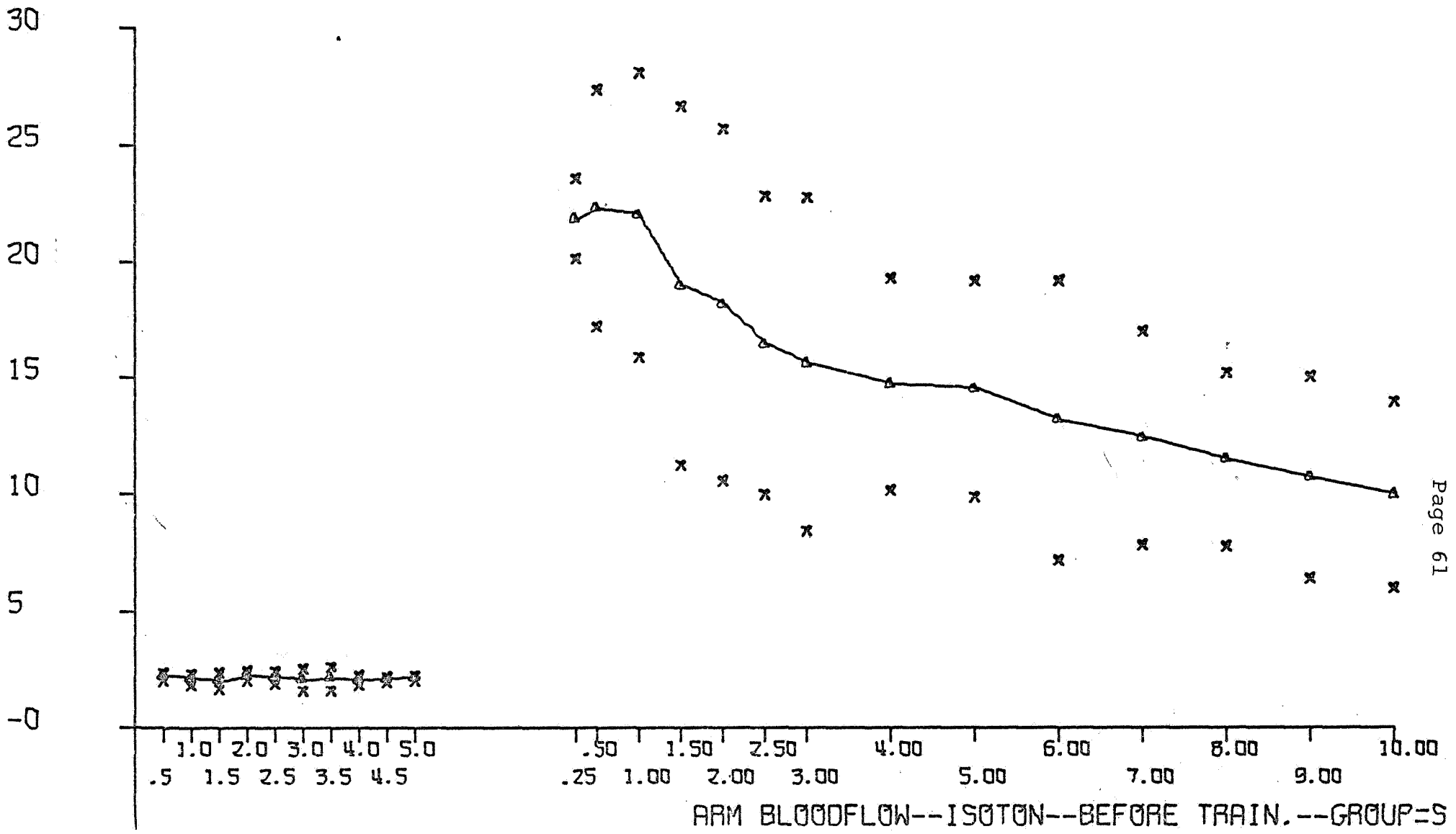
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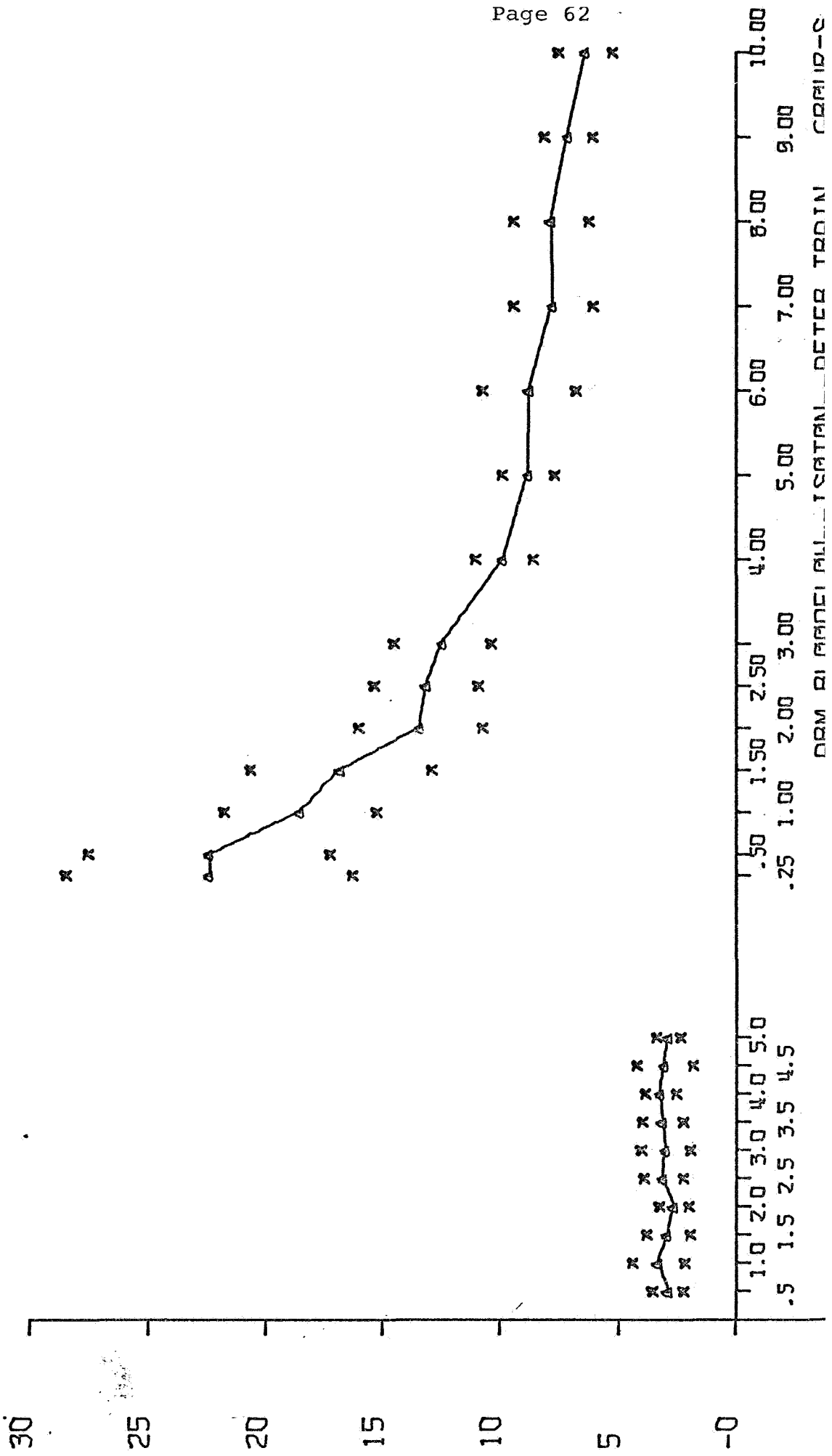
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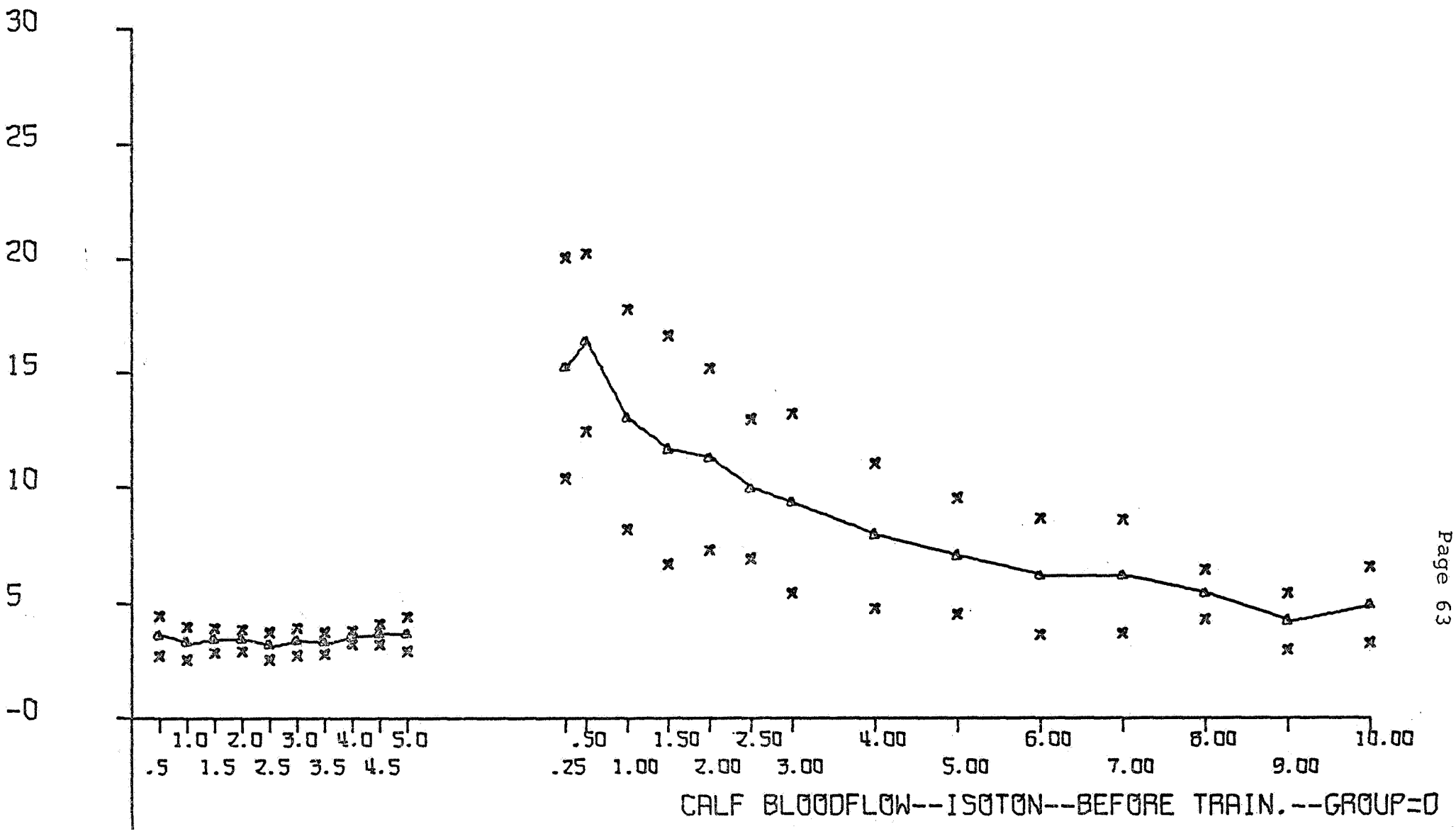
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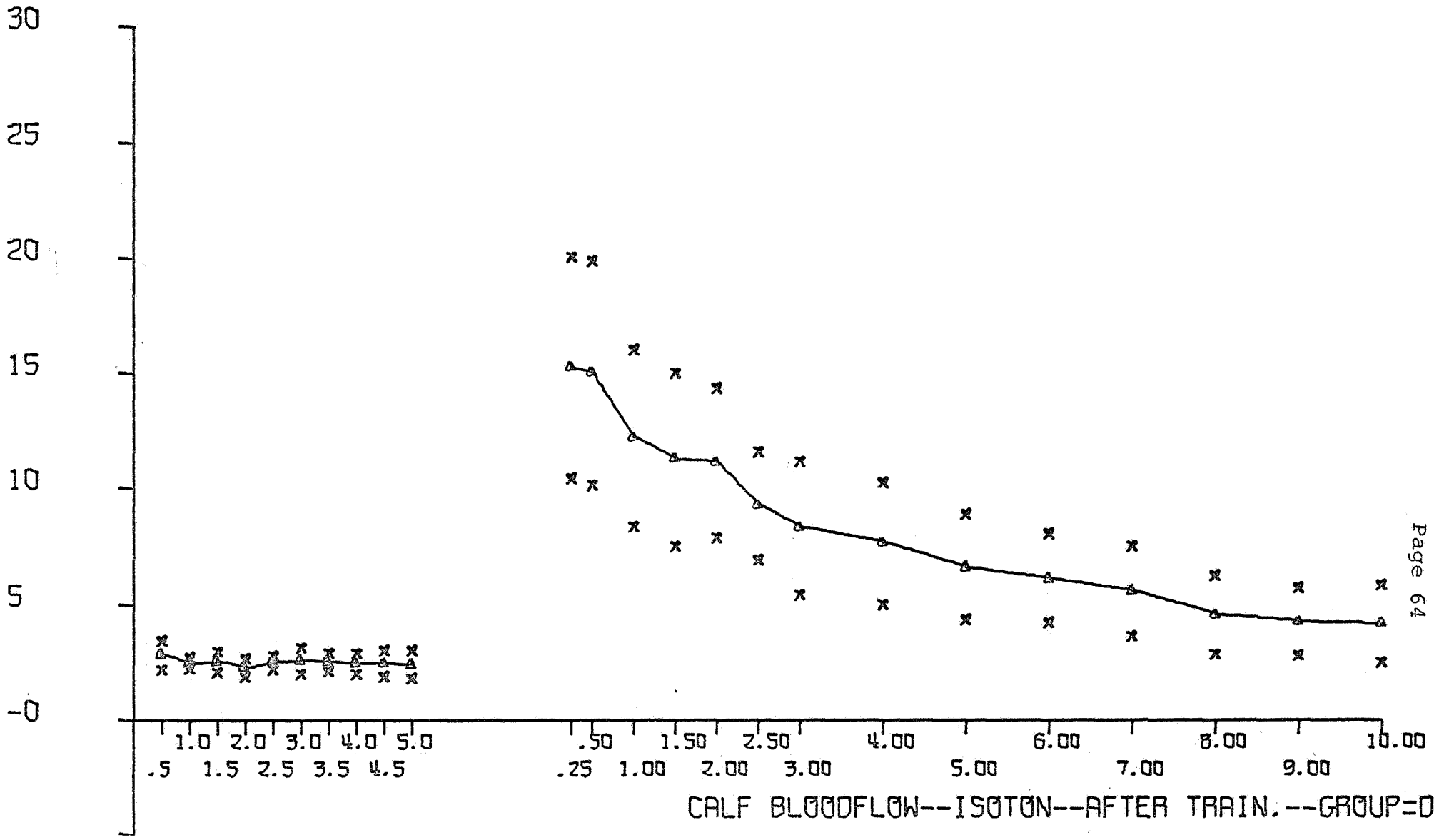
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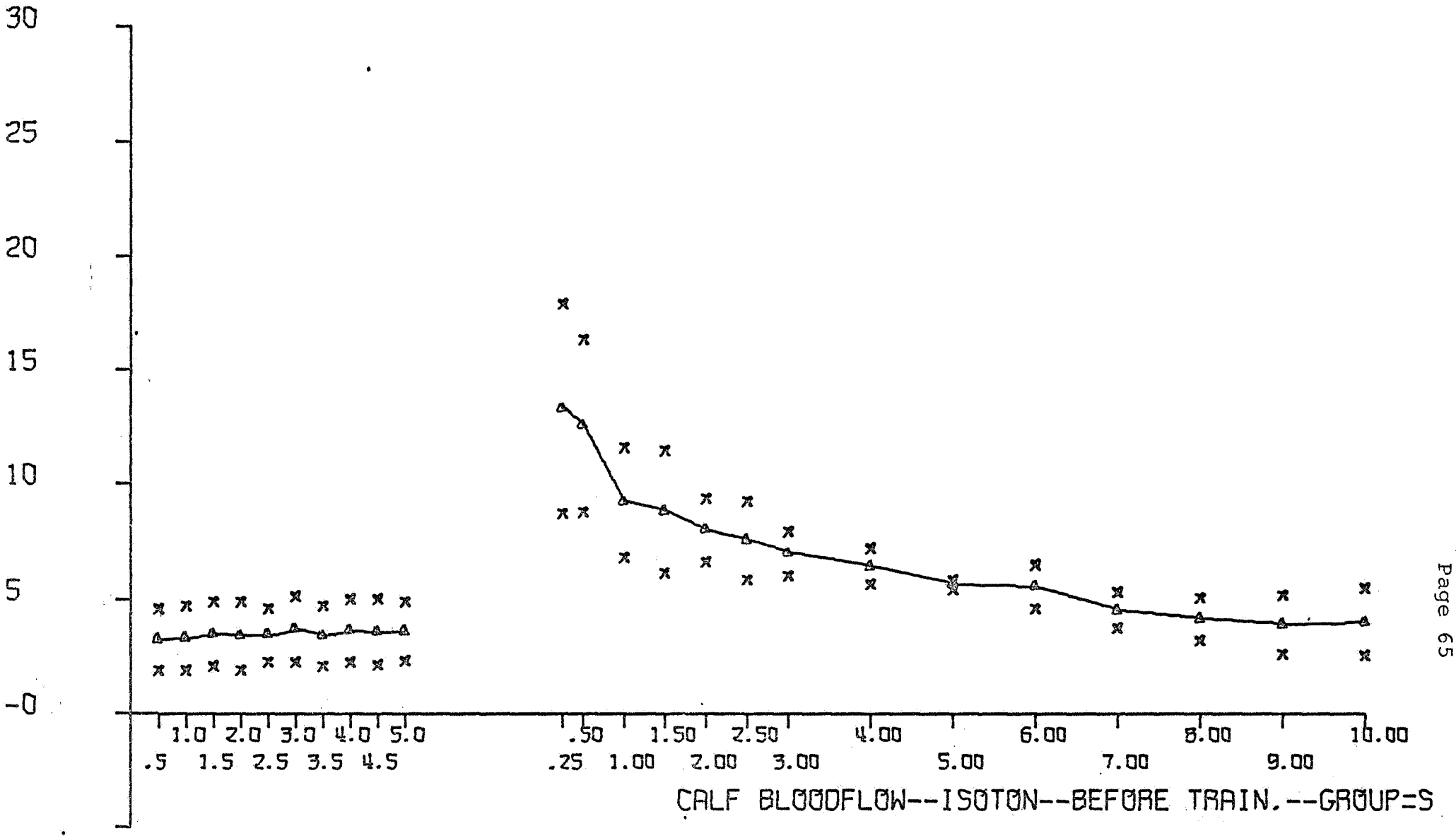
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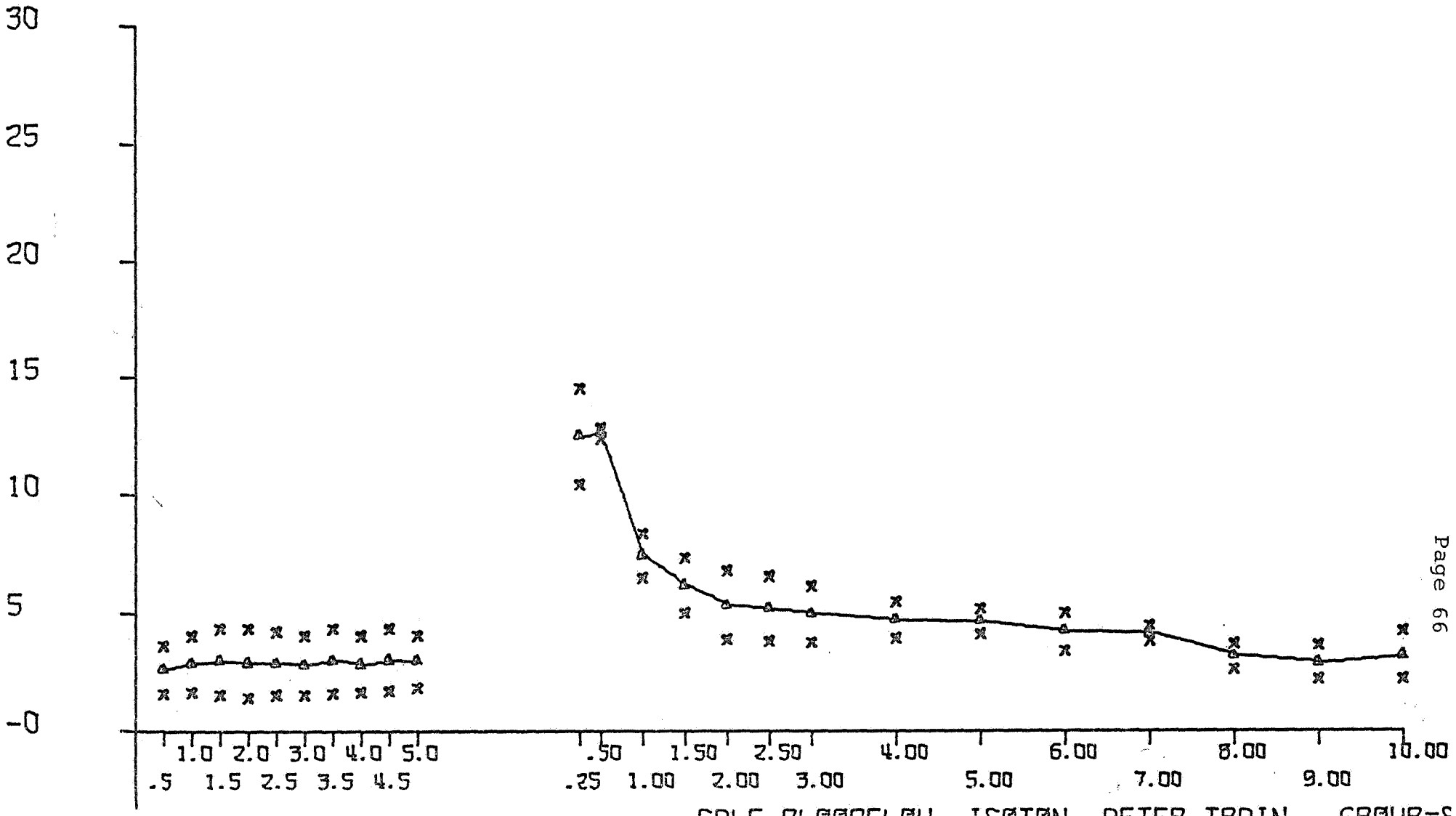
CALF BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=S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CALF BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=S

APPENDIX V

Integrals of area under arm blood flow time plot after Arterial Occlusion (grouped averages), before and after conditioning.

Steps in minutes after release of arterial occlusion

Mean blood flow in milliliters/100 milliliters arm • minute

Area cumulative in milliliters/100 milliliters arm • minute

GROUP ABF B AO D 5

ARM BLOODFLOW--AO--BEFORE TRAINING--GROUP=D

REST VALUES = 3.212 3.064 3.248 3.234 3.376
3.440 3.598 3.618 3.722 3.546

AVERAGE AT REST = 3.406

STEP	MEAN	AREA	CUMULATIVE
0.25	20.580	3.220	3.220
0.50	12.602	2.472	5.692
1.00	6.280	2.263	7.956
1.50	4.612	0.765	8.721
2.00	3.632	0.269	8.989
2.50	3.714	0.100	9.089
3.00	3.860	0.143	9.232
4.00	3.782	0.311	9.544
5.00	3.688	0.247	9.791
6.00	3.930	0.302	10.093
7.00	3.634	0.282	10.375
8.00	3.298	0.045	10.420
9.00	3.654	0.053	10.473
10.00	3.450	0.110	10.583

GROUP ABF A AO D 5

AC ARM BLOOD FLOW--GROUP=D--AFTER TRAINING

REST VALUES = 3.092 3.272 3.222 2.978 3.164
2.972 2.964 3.106 2.962 3.066

AVERAGE AT REST = 3.080

STEP	MEAN	AREA	CUMULATIVE
0.25	19.200	3.023	3.023
0.50	9.484	2.112	5.134
1.00	5.664	1.685	6.820
1.50	4.226	0.699	7.519
2.00	3.634	0.319	7.838
2.50	3.320	0.149	7.987
3.00	3.446	0.114	8.100
4.00	3.194	0.180	8.281
5.00	3.044	0.029	8.310
6.00	2.914	-0.076	8.234
7.00	2.904	-0.128	8.106
8.00	2.852	-0.151	7.955
9.00	2.850	-0.172	7.783
10.00	2.756	-0.208	7.576

GROUP ABF B AO S 9

AO ARM BLOOD FLOW--BEFORE TRAINING--GROUP=S

REST VALUES =	2.207	2.077	2.005	2.227	2.155
	2.062	2.115	2.022	2.075	2.145

AVERAGE AT REST = 2.109

STEP	MEAN	AREA	CUMULATIVE
0.25	19.975	3.350	3.350
0.50	12.225	2.623	5.973
1.00	5.300	2.495	8.468
1.50	3.145	0.793	9.261
2.00	2.627	0.291	9.552
2.50	2.767	0.221	9.773
3.00	2.790	0.251	10.024
4.00	2.225	0.299	10.323
5.00	2.345	0.132	10.455
6.00	2.217	0.129	10.584
7.00	2.215	0.080	10.664
8.00	2.235	0.087	10.751
9.00	2.040	0.021	10.772
10.00	2.017	-0.060	10.712

GROUP ABF A AC S 9

AC ARM BLOOD FLOW--GROUP=S--AFTER TRAINING

REST VALUES = 2.892 3.310 2.895 2.643 3.097
2.980 3.127 3.217 3.045 2.890

AVERAGE AT REST = 3.010

STEP	MEAN	AREA	CUMULATIVE
0.25	22.500	3.654	3.654
0.50	13.950	2.853	6.507
1.00	4.970	2.419	8.926
1.50	4.222	0.595	9.521
2.00	3.690	0.355	9.876
2.50	3.142	0.152	10.028
3.00	3.247	0.069	10.098
4.00	3.000	0.085	10.183
5.00	2.357	-0.248	9.935
6.00	2.655	-0.378	9.557
7.00	2.440	-0.347	9.211
8.00	2.562	-0.381	8.829
9.00	2.352	-0.414	8.415
10.00	2.502	-0.437	7.978

GROUP CBF B AO D 5

CALF BLOOD FLOW-AO-BEFORE TRAINING--GROUP=D

REST VALUES = 3.598 3.262 3.400 3.402 3.144
3.334 3.262 3.534 3.666 3.654

AVERAGE AT REST = 3.426

STEP	MEAN	AREA	CUMULATIVE
0.25	19.180	2.954	2.954
0.50	13.282	2.401	5.355
1.00	6.956	2.510	7.865
1.50	5.280	1.010	8.875
2.00	3.844	0.426	9.301
2.50	3.476	0.088	9.389
3.00	3.688	0.059	9.447
4.00	3.562	0.150	9.597
5.00	3.272	-0.006	9.590
6.00	3.138	-0.165	9.425
7.00	3.182	-0.199	9.226
8.00	3.166	-0.189	9.037
9.00	3.198	-0.183	8.854
10.00	3.362	-0.109	8.745

GROUP CBF A AO D 5

CALF BLCOD FLOW-AO-AFTER TRAINING--GROUP=D

REST VALUES = 2.822 2.466 2.530 2.262 2.508
2.590 2.530 2.472 2.448 2.408

AVERAGE AT REST = 2.504

STEP	MEAN	AREA	CUMULATIVE
0.25	15.940	2.519	2.519
0.50	5.968	1.584	4.104
1.00	4.348	0.995	5.099
1.50	3.152	0.467	5.567
2.00	2.588	0.137	5.704
2.50	2.422	0.001	5.704
3.00	2.636	0.010	5.714
4.00	2.754	0.144	5.858
5.00	2.450	0.074	5.931
6.00	2.748	0.072	6.003
7.00	2.224	-0.013	5.990
8.00	2.472	-0.117	5.873
9.00	2.388	-0.055	5.818
10.00	2.310	-0.116	5.702

GROUP CBF B AO S 9

CALF BLOOD FLOW-AO-BEFORE TRAINING--GROUP=S

REST VALUES = 3.240 3.310 3.477 3.400 3.437
3.675 3.405 3.625 3.555 3.605

AVERAGE AT REST = 3.473

STEP	MEAN	AREA	CUMULATIVE
0.25	19.725	3.047	3.047
0.50	11.867	2.311	5.358
1.00	6.152	2.076	7.434
1.50	4.617	0.717	8.151
2.00	4.052	0.323	8.474
2.50	3.857	0.181	8.655
3.00	3.807	0.135	8.789
4.00	3.447	0.116	8.905
5.00	3.140	-0.135	8.770
6.00	2.870	-0.351	8.419
7.00	2.895	-0.443	7.977
8.00	2.992	-0.397	7.580
9.00	3.085	-0.326	7.254
10.00	3.182	-0.255	6.999

GROUP CBF A AO S 9

CALF BLOOD FLOW-AO-AFTER TRAINING--GROUP=S

REST VALUES = 2.622 2.852 2.960 2.887 2.877
2.790 2.982 2.830 3.007 2.955

AVERAGE AT REST = 2.876

STEP	MEAN	AREA	CUMULATIVE
0.25	16.675	2.587	2.587
0.50	8.807	1.850	4.437
1.00	4.012	1.325	5.762
1.50	3.242	0.282	6.043
2.00	3.372	0.162	6.205
2.50	3.350	0.182	6.387
3.00	3.310	0.170	6.557
4.00	3.007	0.212	6.769
5.00	3.062	0.119	6.887
6.00	3.125	0.163	7.050
7.00	3.132	0.189	7.240
8.00	2.957	0.126	7.366
9.00	2.780	-0.006	7.360
10.00	2.985	0.005	7.365

APPENDIX VI

Integrals of area under blood flow time plot after isometric exercise (grouped averages), before and after conditioning.

Steps in minutes after exercise

Mean blood flow in milliliters/100 milliliters arm · minute

Area cumulative in milliliters/100 milliliters arm · minute

GROUP ABF B M D 5

ARM BLOODFLOW-ISOMET--BEFORE TRAIN.--GROUP=D

REST VALUES = 3.212 3.064 3.248 3.234 3.376
3.440 3.598 3.618 3.722 3.546

AVERAGE AT REST = 3.406

STEP	MEAN	AREA	CUMULATIVE
0.25	12.474	1.700	1.700
0.50	12.536	1.706	3.406
1.00	8.658	2.697	6.103
1.50	6.608	1.585	7.688
2.00	5.250	0.946	8.634
2.50	5.244	0.690	9.325
3.00	4.506	0.551	9.876
4.00	3.836	0.574	10.450
5.00	3.664	0.258	10.708
6.00	3.434	0.107	10.815
7.00	3.282	-0.036	10.779
8.00	3.272	-0.097	10.683
9.00	3.126	-0.155	10.528
10.00	3.420	-0.100	10.428

ROUP ABF A M D 5

ARM BLOODFLOW--ISOMET--AFTER TRAIN.--GROUP=D

EST VALUES =	3.092	3.272	3.222	2.978	3.164
	2.972	2.964	3.106	2.962	3.066

VERAGE AT REST = 3.080

STEP	MEAN	AREA	CUMULATIVE
0.25	9.916	1.282	1.282
0.50	9.358	1.229	2.511
1.00	6.780	1.871	4.382
1.50	6.696	1.372	5.754
2.00	5.104	1.058	6.812
2.50	4.848	0.711	7.523
3.00	4.000	0.504	8.027
4.00	3.816	0.621	8.648
5.00	3.748	0.527	9.175
6.00	3.490	0.404	9.579
7.00	3.560	0.334	9.913
8.00	3.036	0.164	10.077
9.00	2.990	-0.050	10.026
10.00	2.968	-0.076	9.951

GROUP ABF B M S 9

ARM BLOODFLOW-ISOMET--BEFORE TRAIN.--GROUP=S

REST VALUES = 2.207 2.077 2.005 2.227 2.155
2.062 2.115 2.022 2.075 2.145

AVERAGE AT REST = 2.109

STEP	MEAN	AREA	CUMULATIVE
0.25	9.077	1.307	1.307
0.50	8.683	1.270	2.576
1.00	5.805	1.926	4.502
1.50	5.310	1.293	5.795
2.00	4.517	1.052	6.847
2.50	3.772	0.763	7.610
3.00	3.387	0.551	8.161
4.00	2.857	0.760	8.921
5.00	3.135	0.665	9.586
6.00	2.970	0.708	10.294
7.00	3.167	0.720	11.014
8.00	2.590	0.577	11.591
9.00	2.852	0.459	12.050
10.00	2.920	0.583	12.632

GROUP ABF A M S 9

ARM BLOODFLOW--ISOMET--AFTER TRAIN.--GROUP=S

REST VALUES = 2.892 3.310 2.895 2.643 3.097
2.980 3.127 3.217 3.045 2.890

AVERAGE AT REST = 3.010

STEP	MEAN	AREA	CUMULATIVE
0.25	5.427	0.453	0.453
0.50	4.795	0.394	0.847
1.00	3.137	0.359	1.206
1.50	3.525	0.121	1.326
2.00	2.557	0.012	1.338
2.50	2.972	-0.092	1.246
3.00	3.122	0.014	1.260
4.00	2.675	-0.083	1.177
5.00	2.937	-0.153	1.024
6.00	2.592	-0.184	0.840
7.00	3.120	-0.115	0.725
8.00	2.680	-0.082	0.643
9.00	2.382	-0.359	0.284
10.00	2.865	-0.290	-0.005

GROUP CBF B M D 5

CALF BLCODFLOW--ISOMET--BEFORE TRAIN.--GROUP=D

REST VALUES = 3.598 3.262 3.400 3.402 3.144
3.334 3.262 3.534 3.666 3.654

AVERAGE AT REST = 3.426

STEP	MEAN	AREA	CUMULATIVE
0.25	4.932	0.282	0.282
0.50	4.780	0.268	0.551
1.00	4.160	0.392	0.942
1.50	3.782	0.205	1.147
2.00	3.524	0.085	1.232
2.50	3.400	0.014	1.246
3.00	3.328	-0.023	1.223
4.00	3.214	-0.116	1.107
5.00	2.892	-0.279	0.827
6.00	2.882	-0.404	0.423
7.00	3.020	-0.356	0.067
8.00	3.052	-0.292	-0.225
9.00	2.864	-0.351	-0.576
10.00	3.062	-0.347	-0.922

GROUP CBF A M D 5

CALF BLOODFLOW--ISOMET--AFTER TRAIN.-GROUP=D

REST VALUES = 2.822 2.466 2.530 2.262 2.508
2.590 2.530 2.472 2.448 2.408

AVERAGE AT REST = 2.504

STEP	MEAN	AREA	CUMULATIVE
0.25	4.792	0.429	0.429
0.50	4.030	0.358	0.787
1.00	3.408	0.456	1.242
1.50	3.470	0.351	1.593
2.00	3.120	0.297	1.890
2.50	2.484	0.112	2.002
3.00	2.668	0.027	2.029
4.00	2.328	-0.004	2.025
5.00	2.524	-0.058	1.967
6.00	2.452	-0.012	1.955
7.00	2.650	0.036	1.991
8.00	2.292	-0.024	1.966
9.00	2.180	-0.201	1.765
10.00	2.240	-0.220	1.545

GROUP CBF B M S 9

CALF BLOODFLOW--ISOMET--BEFORE TRAIN.--GROUP=S

REST VALUES = 3.240 3.310 3.477 3.400 3.437
3.675 3.405 3.625 3.555 3.605

AVERAGE AT REST = 3.473

STEP	MEAN	AREA	CUMULATIVE
0.25	3.905	0.081	0.081
0.50	3.950	0.085	0.166
1.00	4.040	0.196	0.362
1.50	4.047	0.214	0.576
2.00	3.885	0.185	0.761
2.50	3.477	0.078	0.839
3.00	3.642	0.032	0.871
4.00	3.015	-0.108	0.763
5.00	3.650	-0.105	0.658
6.00	3.112	-0.069	0.589
7.00	3.455	-0.142	0.447
8.00	3.575	0.032	0.478
9.00	3.285	-0.032	0.446
10.00	3.410	-0.094	0.352

GROUP CBF A M S 9

CALF BLOODFLOW--ISOMET--AFTER TRAIN.-GROUP=S

REST VALUES = 2.622 2.852 2.960 2.887 2.877
2.790 2.982 2.830 3.007 2.955

AVERAGE AT REST = 2.876

STEP	MEAN	AREA	CUMULATIVE
0.25	3.515	0.120	0.120
0.50	2.957	0.067	0.187
1.00	2.830	0.006	0.194
1.50	3.085	0.030	0.224
2.00	2.917	0.047	0.271
2.50	2.957	0.023	0.294
3.00	2.785	-0.002	0.292
4.00	2.700	-0.100	0.192
5.00	2.505	-0.205	-0.014
6.00	2.617	-0.236	-0.250
7.00	2.760	-0.141	-0.391
8.00	2.617	-0.141	-0.532
9.00	2.467	-0.251	-0.782
10.00	2.817	-0.176	-0.958

APPENDIX VII

Integrals of area under blood flow time plot after isotonic exercise (grouped averages), before and after conditioning.

Steps in minutes after exercise

Mean blood flow in milliliters/100 milliliters arm · minute

Area cumulative in milliliters/100 milliliters arm · minute

GROUP ABF B T D 5

ARM BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=D

REST VALUES = 3.212 3.064 3.248 3.234 3.376
3.440 3.598 3.618 3.722 3.546

AVERAGE AT REST = 3.406

STEP	MEAN	AREA	CUMULATIVE
0.25	29.040	4.806	4.806
0.50	29.540	4.853	9.660
1.00	28.220	9.553	19.213
1.50	23.940	8.503	27.715
2.00	23.640	7.644	35.359
2.50	20.580	7.014	42.373
3.00	20.500	6.425	48.799
4.00	19.520	12.453	61.252
5.00	18.940	11.868	73.120
6.00	17.700	11.186	84.306
7.00	16.220	10.166	94.471
8.00	16.180	9.596	104.067
9.00	14.410	8.917	112.984
10.00	12.850	7.668	120.652

GROUP ABF A T D 5

ARM BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=D

REST VALUES = 3.092 3.272 3.222 2.978 3.164
2.972 2.964 3.106 2.962 3.066

AVERAGE AT REST = 3.080

STEP	MEAN	AREA	CUMULATIVE
0.25	23.300	3.791	3.791
0.50	22.700	3.735	7.526
1.00	17.880	6.454	13.980
1.50	16.210	5.237	19.217
2.00	15.130	4.721	23.938
2.50	14.900	4.476	28.414
3.00	14.150	4.292	32.706
4.00	12.164	7.558	40.264
5.00	11.434	6.539	46.803
6.00	11.830	6.414	53.218
7.00	9.500	5.689	58.906
8.00	9.450	4.796	63.703
9.00	8.994	4.607	68.309
10.00	8.220	4.145	72.455

GROUP ABF B T S 9

ARM BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=S

REST VALUES = 2.207 2.077 2.005 2.227 2.155
2.062 2.115 2.022 2.075 2.145

AVERAGE AT REST = 2.109

STEP	MEAN	AREA	CUMULATIVE
0.25	21.850	3.701	3.701
0.50	22.275	3.741	7.443
1.00	22.000	7.511	14.953
1.50	18.950	6.887	21.841
2.00	18.150	6.165	28.006
2.50	16.425	5.692	33.698
3.00	15.612	5.216	38.914
4.00	14.712	9.790	48.704
5.00	14.512	9.377	58.081
6.00	13.167	8.798	66.879
7.00	12.400	8.006	74.885
8.00	11.487	7.376	82.261
9.00	10.700	6.738	88.999
10.00	9.962	6.166	95.166

GROUP ABF A T S 9

ARM BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=S

REST VALUES = 2.892 3.310 2.895 2.643 3.097
2.980 3.127 3.217 3.045 2.890

AVERAGE AT REST = 3.010

STEP	MEAN	AREA	CUMULATIVE
0.25	22.400	3.636	3.636
0.50	22.400	3.636	7.271
1.00	18.525	6.545	13.816
1.50	16.800	5.495	19.311
2.00	13.425	4.539	23.850
2.50	13.150	3.854	27.704
3.00	12.475	3.676	31.380
4.00	9.862	6.119	37.499
5.00	8.805	4.743	42.242
6.00	8.767	4.332	46.574
7.00	7.782	3.949	50.523
8.00	7.870	3.612	54.135
9.00	7.130	3.368	57.503
10.00	6.387	2.812	60.315

GROUP CBF B T D 5

CALF BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=D

REST VALUES = 3.598 3.262 3.400 3.402 3.144
3.334 3.262 3.534 3.666 3.654

AVERAGE AT REST = 3.426

STEP	MEAN	AREA	CUMULATIVE
0.25	15.225	2.212	2.212
0.50	16.375	2.320	4.533
1.00	12.987	4.221	8.753
1.50	11.650	3.335	12.088
2.00	11.275	3.014	15.102
2.50	9.950	2.695	17.797
3.00	9.325	2.329	20.127
4.00	7.928	3.901	24.027
5.00	7.032	3.041	27.068
6.00	6.162	2.379	29.447
7.00	6.152	2.049	31.495
8.00	5.385	1.757	33.252
9.00	4.212	1.030	34.282
10.00	4.907	0.850	35.132

GROUP CBF A T D 5

CALF BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=D

REST VALUES = 2.822 2.466 2.530 2.262 2.508
2.590 2.530 2.472 2.448 2.408

AVERAGE AT REST = 2.504

STEP	MEAN	AREA	CUMULATIVE
0.25	15.260	2.392	2.392
0.50	15.020	2.369	4.761
1.00	12.220	4.169	8.930
1.50	11.300	3.471	12.401
2.00	11.130	3.267	15.668
2.50	9.280	2.888	18.556
3.00	8.328	2.363	20.918
4.00	7.660	4.118	25.036
5.00	6.614	3.475	28.511
6.00	6.132	2.902	31.413
7.00	5.592	2.519	33.932
8.00	4.556	1.928	35.860
9.00	4.246	1.423	37.283
10.00	4.168	1.278	38.560

GROUP CBF B T S 9

CALF BLOODFLOW--ISOTON--BEFORE TRAIN.--GROUP=S

REST VALUES = 3.240 3.310 3.477 3.400 3.437
3.675 3.405 3.625 3.555 3.605

AVERAGE AT REST = 3.473

STEP	MEAN	AREA	CUMULATIVE
0.25	13.317	1.846	1.846
0.50	12.583	1.777	3.623
1.00	9.217	2.785	6.408
1.50	8.823	2.080	8.488
2.00	8.007	1.853	10.341
2.50	7.567	1.618	11.959
3.00	6.990	1.427	13.386
4.00	6.433	2.429	15.815
5.00	5.630	1.919	17.734
6.00	5.547	1.587	19.321
7.00	4.507	1.166	20.486
8.00	4.143	0.639	21.125
9.00	3.913	0.416	21.542
10.00	4.007	0.365	21.907

GROUP CBF A T S 9

CALF BLOODFLOW--ISOTON--AFTER TRAIN.--GROUP=S

REST VALUES =	2.622	2.852	2.960	2.887	2.877
	2.790	2.982	2.830	3.007	2.955

AVERAGE AT REST = 2.876

STEP	MEAN	AREA	CUMULATIVE
0.25	12.500	1.804	1.804
0.50	12.633	1.817	3.621
1.00	7.443	2.686	6.307
1.50	6.183	1.476	7.783
2.00	5.337	1.081	8.865
2.50	5.177	0.893	9.758
3.00	4.953	0.821	10.578
4.00	4.707	1.465	12.044
5.00	4.640	1.348	13.392
6.00	4.217	1.164	14.556
7.00	4.150	0.980	15.536
8.00	3.160	0.584	16.121
9.00	2.893	0.113	16.233
10.00	3.187	0.123	16.356

APPENDIX VIII

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after arterial occlusion, before and after conditioning, 0 to 110 mm Hg.

Units: milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.09	0.04	0.02	0.02	0.062	0.055
2.00	0.12	0.08	0.05	0.02	0.02	0.060	0.043
3.25	0.17	0.09	0.06	0.02	0.02	0.074	0.064
4.50	0.15	0.08	0.05	0.02	0.04	0.070	0.051
5.75	0.18	0.08	0.04	0.02	0.00	0.082	0.072
			POST CONDITIONING				
1.00 MIN	0.16	0.04	0.03	0.02	0.02	0.055	0.061
2.25	0.12	0.02	0.03	0.03	0.02	0.045	0.044
3.50	0.18	0.04	0.02	0.03	0.02	0.058	0.071
4.75	0.16	0.04	0.02	0.02	0.02	0.053	0.062
6.00	0.16	0.07	0.03	0.02	0.02	0.062	0.060
7.25	0.16	0.06	0.02	0.02	0.02	0.058	0.061
8.50	0.16	0.05	0.03	0.02	0.04	0.061	0.058
9.75	0.14	0.04	0.02	0.02	0.04	0.053	0.051

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.16	0.11	0.01	0.02	0.05	0.071	0.064
2.00	0.13	0.16	0.02	0.04	0.06	0.083	0.060
3.25	0.15	0.13	0.02	0.04	0.05	0.080	0.059
4.50	0.15	0.11	0.02	0.04	0.05	0.075	0.054
5.75	0.17	0.12	0.02	0.04	0.05	0.082	0.064
			POST CONDITIONING				
1.00 MIN	0.11	0.11	0.06	0.01	0.05	0.068	0.041
2.25	0.20	0.13	0.04	0.02	0.06	0.091	0.073
3.50	0.14	0.16	0.04	0.02	0.06	0.085	0.062
4.75	0.17	0.11	0.02	0.04	0.06	0.081	0.061
6.00	0.13	0.11	0.02	0.02	0.06	0.068	0.050
7.25	0.20	0.11	0.01	0.04	0.06	0.083	0.072
8.50	0.17	0.11	0.02	0.04	0.07	0.083	0.060
9.75	0.22	0.08	0.02	0.02	0.06	0.080	0.081

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.05	0.06	0.09	0.06	0.065	0.017
2.00	0.06	0.03	0.09	0.06	0.059	0.023
3.25	0.05	0.03	0.07	0.06	0.053	0.017
4.50	0.05	0.04	0.07	0.07	0.056	0.017
5.75	0.12	0.05	0.08	0.07	0.079	0.028
		POST CONDITIONING				
1.00 MIN	0.02	0.03	0.02	0.08	0.036	0.029
2.25	0.02	0.05	0.11	0.03	0.052	0.041
3.50	0.02	0.04	0.08	0.03	0.041	0.026
4.75	0.05	0.06	0.11	0.05	0.067	0.030
6.00	0.07	0.04	0.06	0.05	0.056	0.015
7.25	0.06	0.06	0.06	0.04	0.053	0.006
8.50	0.04	0.04	0.09	0.05	0.053	0.024
9.75	0.07	0.04	0.04	0.04	0.048	0.015

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.09	0.05	0.04	0.01	0.050	0.034
2.00	0.08	0.07	0.04	0.03	0.054	0.026
3.25	0.07	0.08	0.02	0.03	0.048	0.029
4.50	0.06	0.05	0.06	0.03	0.049	0.016
5.75	0.07	0.07	0.00	0.04	0.059	0.017
			POST CONDITIONING			
1.00 MIN	0.14	0.03	0.06	0.00	0.059	0.061
2.25	0.08	0.03	0.07	-0.00	0.047	0.038
3.50	0.07	0.06	0.05	0.01	0.049	0.025
4.75	0.08	0.07	0.04	0.01	0.051	0.031
6.00	0.05	0.04	0.02	0.01	0.031	0.017
7.25	0.05	0.04	0.02	0.01	0.031	0.017
8.50	0.04	0.05	0.02	0.01	0.030	0.017
9.75	0.09	0.05	0.02	0.00	0.055	0.037

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.09	0.04	0.05	0.03	0.07	0.053	0.023
2.00	0.09	0.05	0.05	0.02	0.06	0.056	0.027
3.25	0.00	0.05	0.05	0.03	0.05	0.044	0.012
4.50	0.12	0.04	0.05	0.03	0.05	0.060	0.037
5.75	0.09	0.02	0.07	0.04	0.04	0.052	0.027
			POST CONDITIONING				
1.00 MIN	0.06	0.02	0.07	0.04	0.04	0.045	0.020
2.25	0.09	0.02	0.06	0.05	0.04	0.053	0.024
3.50	0.08	0.03	0.07	0.03	0.07	0.055	0.024
4.75	0.06	0.04	0.05	0.04	0.06	0.051	0.008
6.00	0.07	0.02	0.05	0.04	0.06	0.049	0.018
7.25	0.07	0.04	0.06	0.05	0.06	0.057	0.010
8.50	0.07	0.04	0.05	0.04	0.04	0.049	0.012
9.75	0.08	0.04	0.05	0.03	0.04	0.049	0.018

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=D--0-10 MMHG

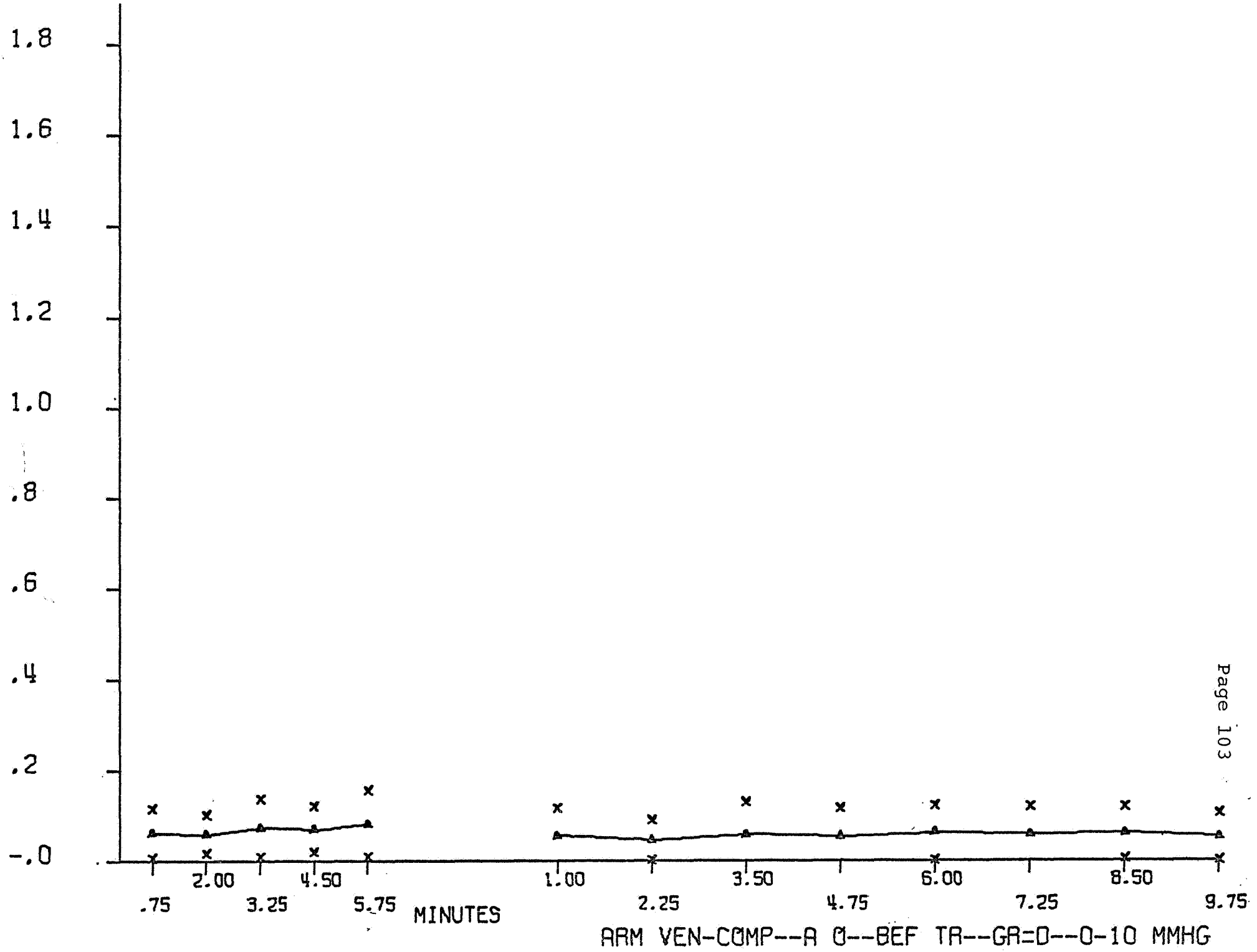
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.07	0.01	0.06	0.05	0.06	0.051	0.023
2.00	0.07	0.01	0.08	0.06	0.07	0.059	0.028
3.25	0.07	0.02	0.09	0.07	0.07	0.064	0.026
4.50	0.05	0.02	0.08	0.05	0.06	0.052	0.021
5.75	0.05	0.02	0.00	0.05	0.06	0.046	0.018
			POST CONDITIONING				
1.00 MIN	0.12	-0.00	0.03	0.02	0.06	0.045	0.045
2.25	0.07	0.01	0.06	0.04	0.06	0.049	0.023
3.50	0.07	0.01	0.06	0.06	0.08	0.055	0.026
4.75	0.07	0.01	0.06	0.05	0.07	0.054	0.026
6.00	0.07	0.01	0.05	0.05	0.08	0.051	0.026
7.25	0.07	0.02	0.08	0.04	0.06	0.054	0.022
8.50	0.08	-0.00	0.06	0.04	0.08	0.053	0.033
9.75	0.07	0.01	0.06	0.05	0.08	0.054	0.026

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.06	0.07	0.05	0.04	0.055	0.013
2.00	0.07	0.06	0.06	0.02	0.053	0.020
3.25	0.05	0.07	0.06	0.04	0.055	0.013
4.50	0.07	0.07	0.05	0.02	0.051	0.025
5.75	0.07	0.06	0.05	0.03	0.053	0.016
			POST CONDITIONING			
1.00 MIN	0.03	0.04	0.00	0.03	0.027	0.018
2.25	0.04	0.08	0.03	0.03	0.048	0.024
3.50	0.06	0.08	0.03	0.02	0.046	0.031
4.75	0.05	0.06	0.03	0.03	0.045	0.014
6.00	0.06	0.07	0.03	0.04	0.050	0.016
7.25	0.06	0.07	0.04	0.03	0.050	0.017
8.50	0.03	0.07	0.04	0.02	0.040	0.022
9.75	0.07	0.07	0.03	0.03	0.048	0.023

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.08	0.03	0.04	0.048	0.019
2.00	0.04	0.09	0.04	0.03	0.051	0.025
3.25	0.04	0.08	0.03	0.04	0.048	0.019
4.50	0.03	0.09	0.04	0.04	0.051	0.025
5.75	0.04	0.08	0.04	0.05	0.053	0.020
		POST CONDITIONING				
1.00 MIN	0.01	0.06	0.03	0.03	0.035	0.020
2.25	0.03	0.07	0.03	0.02	0.038	0.021
3.50	0.01	0.08	0.03	0.04	0.040	0.026
4.75	0.04	0.08	0.04	0.04	0.049	0.018
6.00	0.04	0.09	0.04	0.05	0.056	0.026
7.25	0.03	0.08	0.04	0.04	0.049	0.022
8.50	0.06	0.08	0.04	0.03	0.053	0.018
9.75	0.04	0.09	0.04	0.04	0.053	0.024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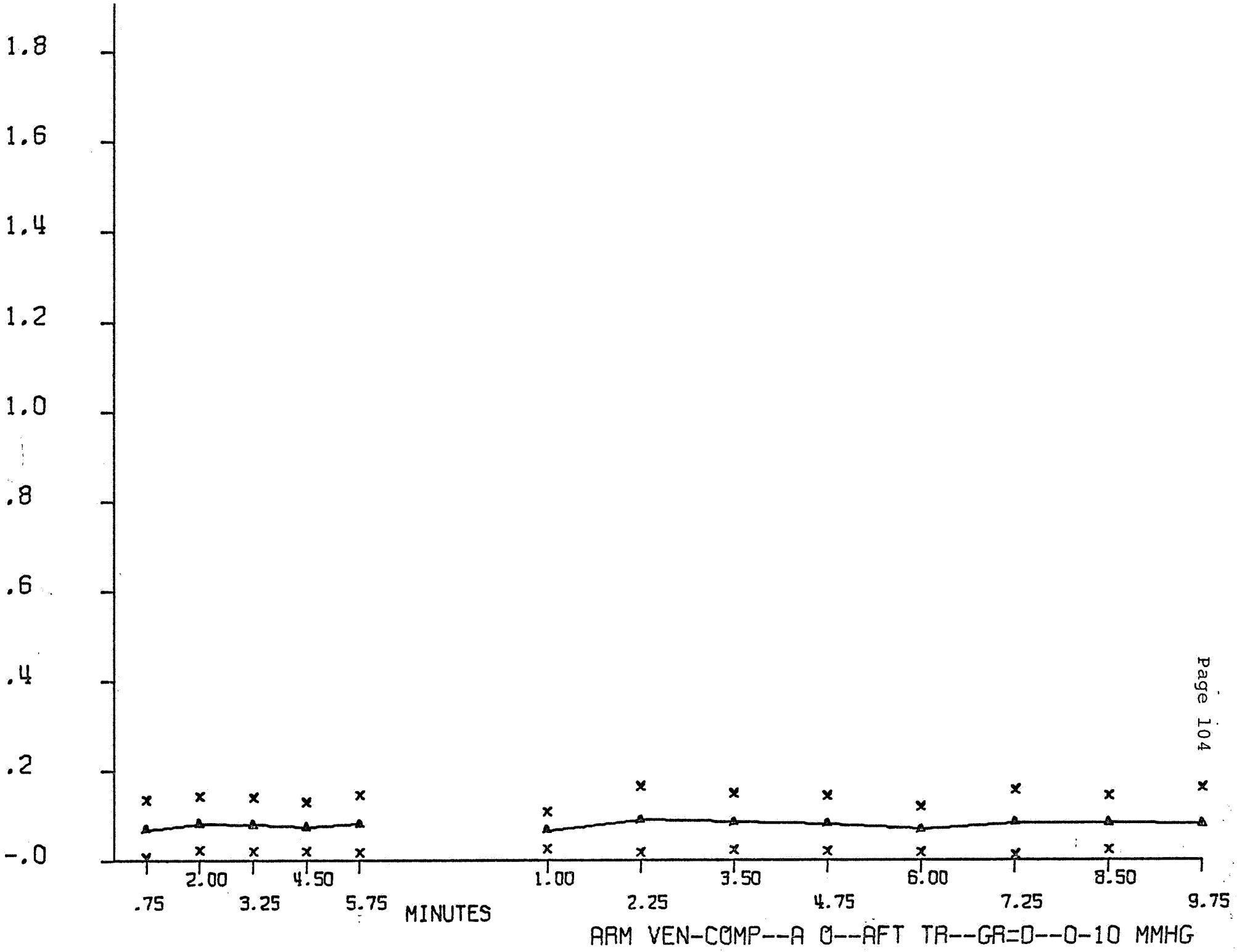
MINUTES
ARM VEN-COMP--A 0--BEF TR--GR=0--0-10 MMHG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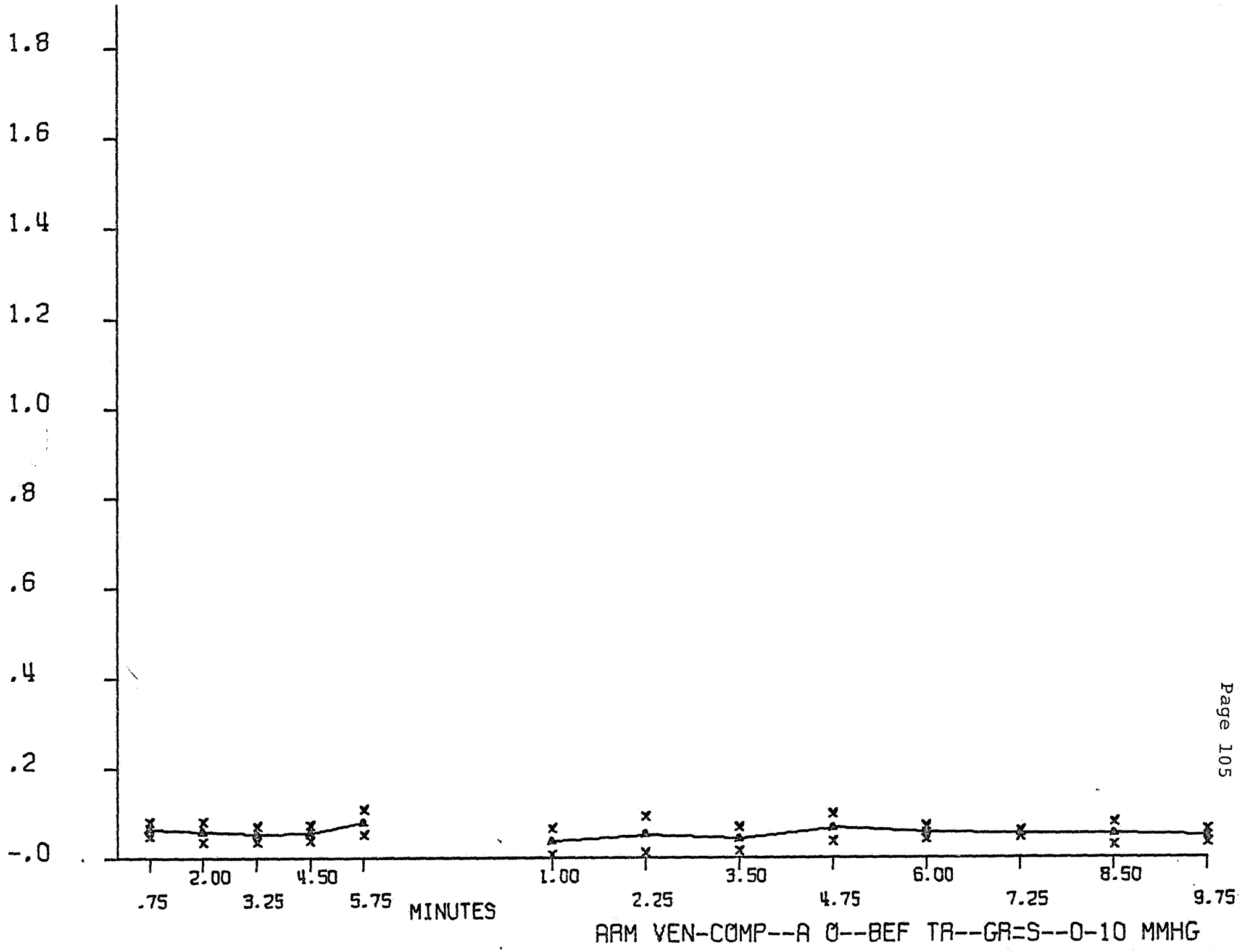
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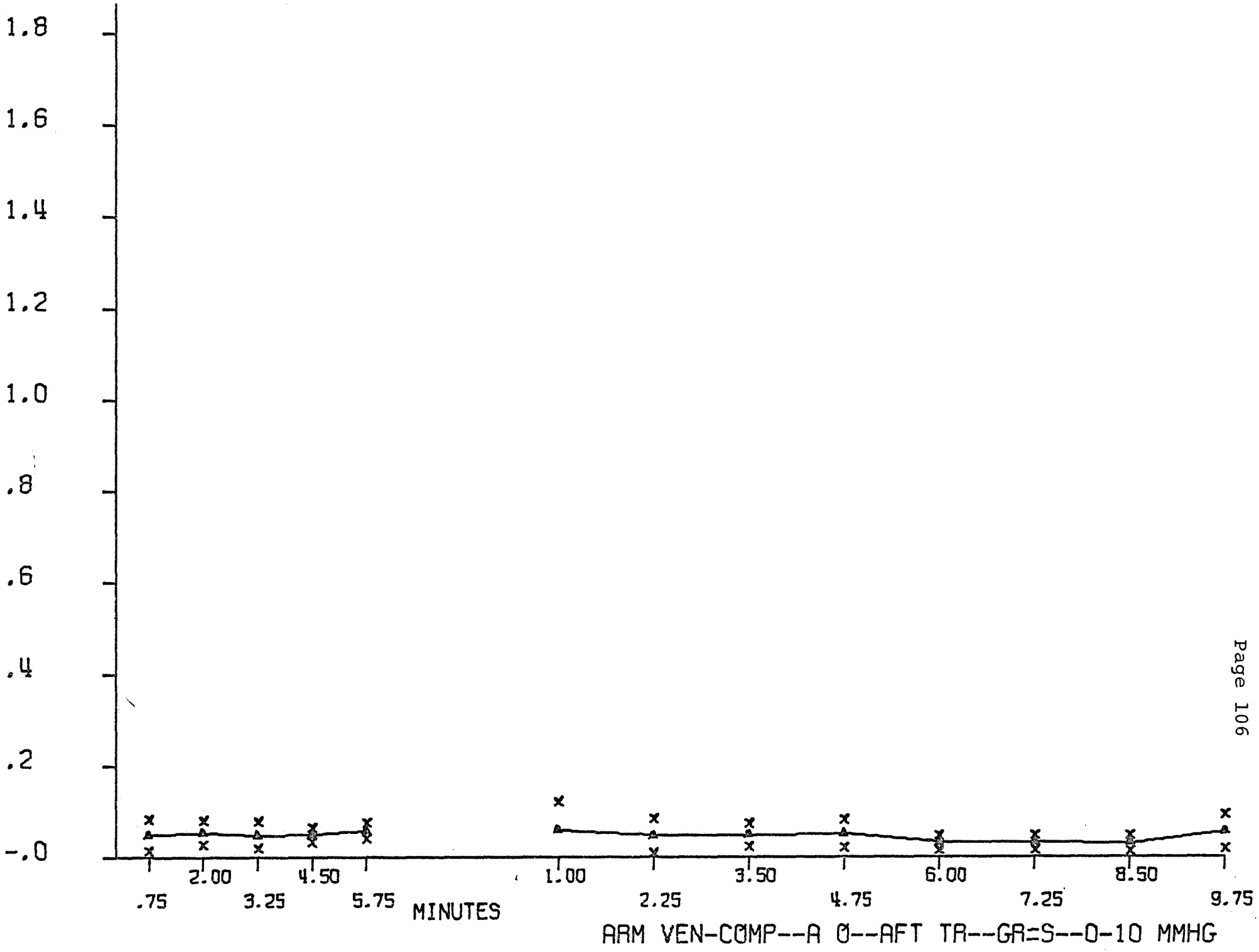
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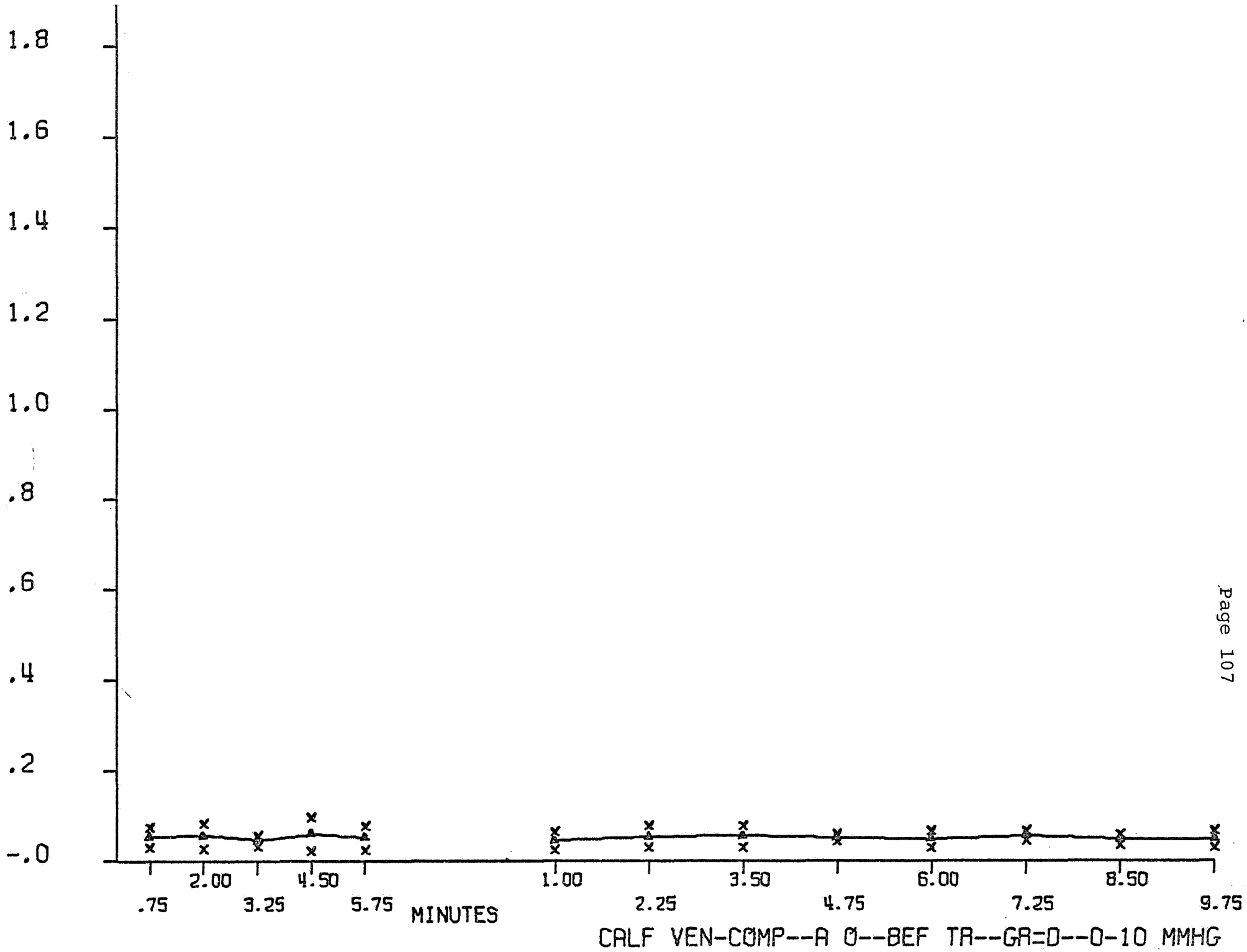
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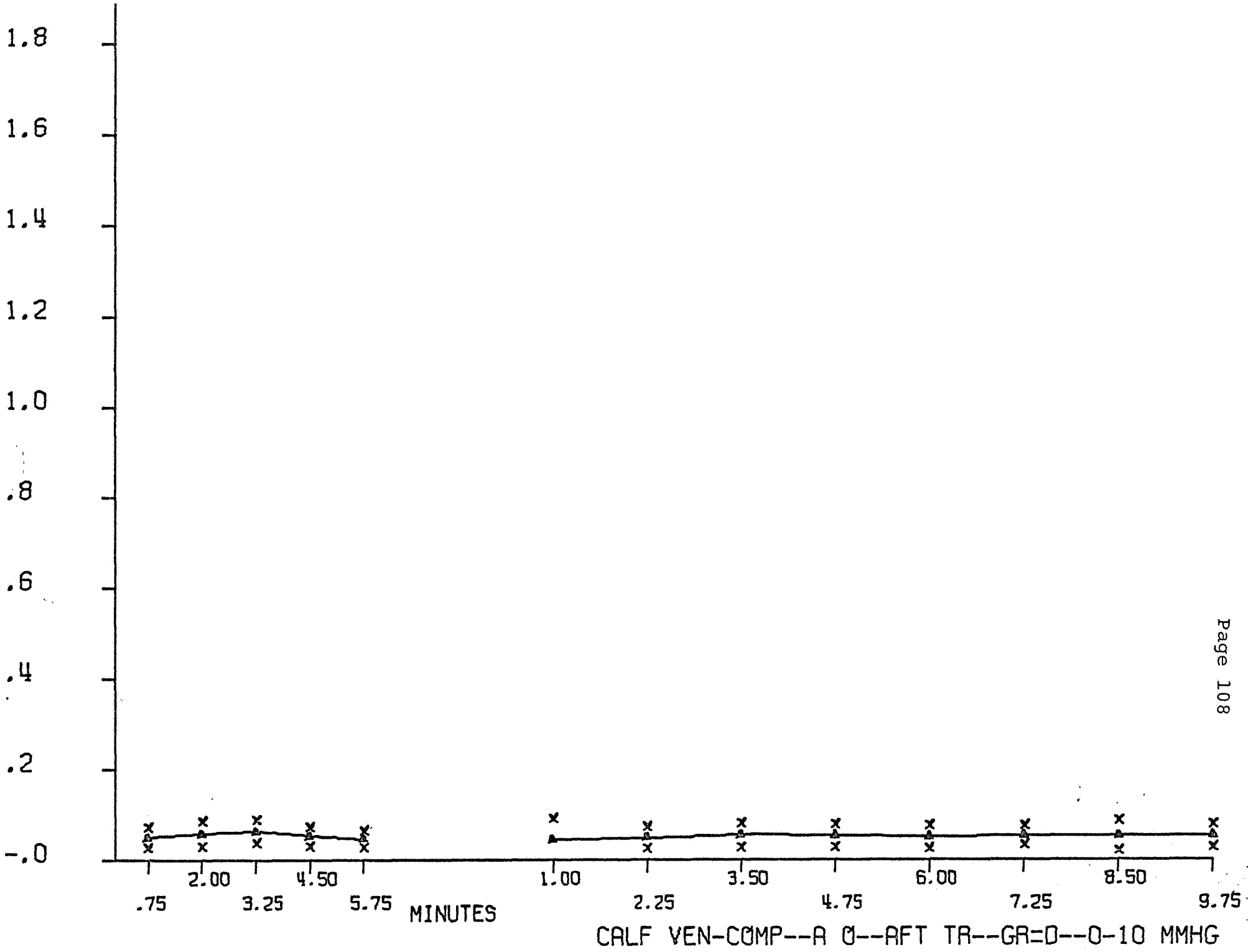
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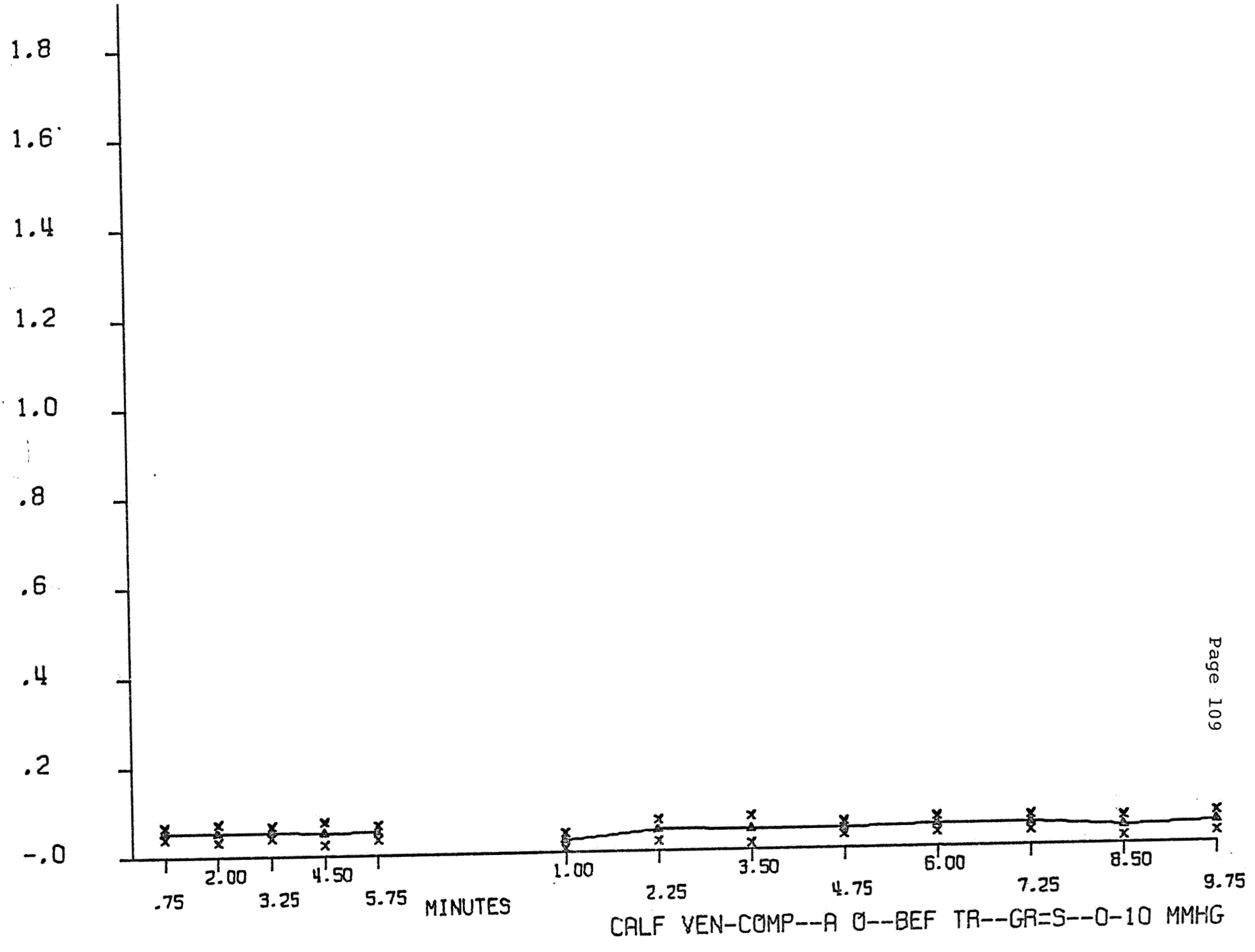
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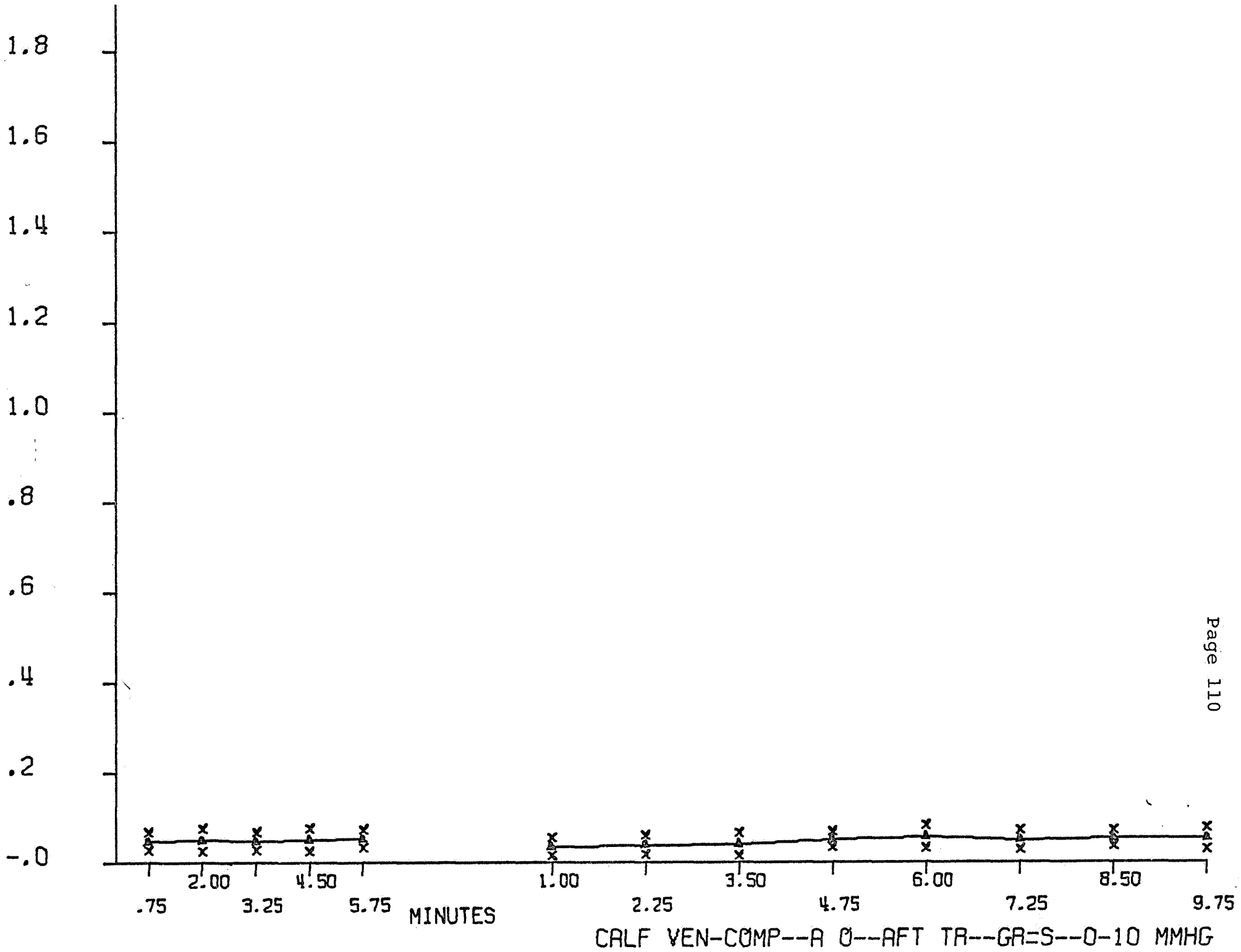
MINUTES
CALF VEN-COMP--A 0--BEF TR--GR=S--0-10 MMHG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6.00
7.25
8.50
9.75
MINUTES
CALF VEN-COMP--A 0--AFT TR--GR=S--0-10 MMHG

APPENDIX IX

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after arterial occlusion, before and after conditioning, 10 to 20 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.27	0.37	0.20	0.22	0.12	0.235	0.095
2.00	0.27	0.41	0.19	0.23	0.12	0.243	0.108
3.25	0.21	0.31	0.23	0.22	0.12	0.219	0.070
4.50	0.26	0.29	0.26	0.22	0.12	0.229	0.068
5.75	0.23	0.36	0.26	0.23	0.00	0.269	0.062
			POST CONDITIONING				
1.00 MIN	0.33	0.26	0.41	0.22	0.12	0.269	0.109
2.25	0.23	0.38	0.33	0.25	0.13	0.266	0.098
3.50	0.23	0.33	0.26	0.25	0.12	0.238	0.074
4.75	0.18	0.31	0.29	0.23	0.13	0.231	0.075
6.00	0.18	0.29	0.27	0.22	0.13	0.220	0.064
7.25	0.18	0.30	0.27	0.21	0.13	0.220	0.068
8.50	0.18	0.29	0.27	0.23	0.13	0.222	0.064
9.75	0.20	0.30	0.25	0.21	0.13	0.220	0.063

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.23	0.21	0.17	0.22	0.11	0.189	0.049
2.00	0.24	0.24	0.18	0.17	0.10	0.187	0.058
3.25	0.24	0.29	0.18	0.22	0.11	0.209	0.069
4.50	0.25	0.29	0.20	0.17	0.11	0.206	0.071
5.75	0.22	0.23	0.20	0.17	0.15	0.195	0.032
			POST CONDITIONING				
1.00 MIN	0.41	0.21	0.30	0.23	0.09	0.250	0.119
2.25	0.33	0.29	0.24	0.28	0.12	0.254	0.080
3.50	0.29	0.32	0.24	0.30	0.12	0.257	0.081
4.75	0.26	0.27	0.26	0.21	0.14	0.228	0.055
6.00	0.17	0.24	0.24	0.24	0.18	0.216	0.035
7.25	0.21	0.27	0.25	0.24	0.12	0.218	0.059
8.50	0.17	0.29	0.16	0.24	0.13	0.200	0.066
9.75	0.26	0.27	0.20	0.20	0.14	0.214	0.052

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.33	0.17	0.14	0.13	0.193	0.091
2.00	0.31	0.16	0.14	0.16	0.195	0.080
3.25	0.30	0.17	0.15	0.16	0.196	0.072
4.50	0.27	0.14	0.12	0.14	0.167	0.068
5.75	0.28	0.19	0.15	0.18	0.199	0.056
		POST CONDITIONING				
1.00 MIN	0.44	0.28	0.30	0.18	0.302	0.107
2.25	0.30	0.19	0.22	0.18	0.224	0.056
3.50	0.23	0.21	0.19	0.17	0.201	0.028
4.75	0.21	0.16	0.16	0.17	0.173	0.025
6.00	0.30	0.15	0.17	0.15	0.192	0.075
7.25	0.23	0.19	0.17	0.17	0.191	0.030
8.50	0.31	0.17	0.15	0.16	0.198	0.078
9.75	0.30	0.17	0.15	0.18	0.199	0.070

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	- 7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.28	0.12	0.16	0.20	0.191	0.070
2.00	0.39	0.10	0.21	0.21	0.227	0.120
3.25	0.26	0.09	0.21	0.20	0.189	0.070
4.50	0.30	0.12	0.21	0.20	0.204	0.073
5.75	0.33	0.08	0.00	0.18	0.200	0.125
			POST CONDITIONING			
1.00 MIN	0.55	0.17	0.33	0.17	0.304	0.178
2.25	0.39	0.10	0.32	0.14	0.239	0.138
3.50	0.38	0.14	0.28	0.16	0.239	0.111
4.75	0.23	0.08	0.23	0.13	0.167	0.071
6.00	0.25	0.08	0.23	0.14	0.176	0.076
7.25	0.19	0.10	0.18	0.14	0.155	0.041
8.50	0.23	0.11	0.21	0.14	0.171	0.053
9.75	0.33	0.09	0.16	0.00	0.197	0.123

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=D--10-20 MMHG

NDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.08	0.21	0.17	0.10	0.151	0.058
2.00	0.17	0.10	0.18	0.18	0.11	0.148	0.040
3.25	0.00	0.09	0.19	0.17	0.10	0.137	0.049
4.50	0.18	0.11	0.20	0.17	0.11	0.155	0.040
5.75	0.18	0.11	0.18	0.16	0.11	0.148	0.036
			POST CONDITIONING				
1.00 MIN	0.20	0.12	0.11	0.18	0.11	0.145	0.042
2.25	0.24	0.12	0.14	0.18	0.11	0.159	0.052
3.50	0.17	0.13	0.18	0.17	0.11	0.153	0.029
4.75	0.17	0.12	0.20	0.20	0.11	0.161	0.044
6.00	0.17	0.15	0.20	0.21	0.11	0.167	0.043
7.25	0.15	0.12	0.20	0.19	0.11	0.157	0.040
8.50	0.17	0.13	0.20	0.21	0.11	0.165	0.045
9.75	0.14	0.13	0.20	0.20	0.11	0.157	0.043

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=D--10-20 MMHG

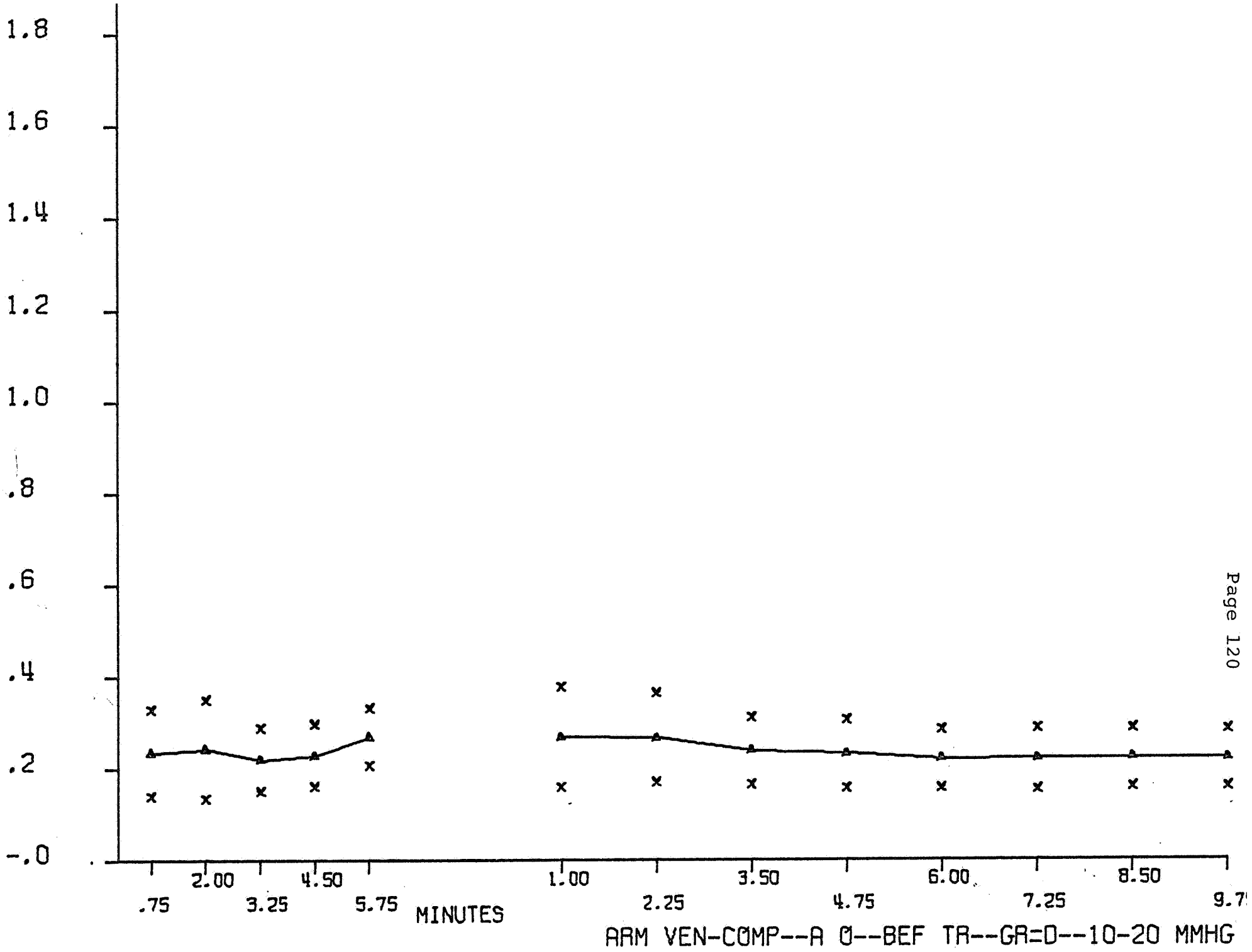
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.08	0.18	0.11	0.05	0.112	0.052
2.00	0.15	0.07	0.21	0.11	0.04	0.117	0.068
3.25	0.15	0.08	0.18	0.11	0.05	0.113	0.053
4.50	0.13	0.10	0.20	0.11	0.05	0.117	0.054
5.75	0.13	0.07	0.00	0.16	0.05	0.102	0.051
			POST CONDITIONING				
1.00 MIN	0.23	0.08	0.17	0.09	0.03	0.120	0.079
2.25	0.16	0.09	0.17	0.11	0.03	0.114	0.056
3.50	0.18	0.08	0.15	0.16	0.04	0.122	0.059
4.75	0.20	0.08	0.18	0.16	0.04	0.132	0.068
6.00	0.19	0.09	0.15	0.11	0.03	0.116	0.060
7.25	0.20	0.09	0.18	0.11	0.05	0.126	0.063
8.50	0.20	0.10	0.18	0.11	0.03	0.126	0.067
9.75	0.13	0.08	0.18	0.14	0.02	0.111	0.064

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.13	0.22	0.15	0.17	0.169	0.037
2.00	0.13	0.23	0.11	0.17	0.160	0.050
3.25	0.14	0.23	0.11	0.17	0.164	0.052
4.50	0.14	0.22	0.16	0.17	0.175	0.033
5.75	0.13	0.23	0.14	0.19	0.172	0.045
		POST CONDITIONING				
1.00 MIN	0.15	0.19	0.19	0.14	0.169	0.025
2.25	0.14	0.25	0.15	0.16	0.176	0.049
3.50	0.14	0.26	0.17	0.17	0.187	0.052
4.75	0.14	0.25	0.11	0.17	0.171	0.062
6.00	0.14	0.23	0.15	0.19	0.180	0.041
7.25	0.16	0.22	0.11	0.16	0.163	0.045
8.50	0.16	0.22	0.16	0.17	0.179	0.028
9.75	0.17	0.21	0.16	0.17	0.178	0.020

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.18	0.12	0.09	0.107	0.055
2.00	0.04	0.20	0.12	0.08	0.110	0.069
3.25	0.04	0.20	0.11	0.11	0.114	0.065
4.50	0.04	0.16	0.09	0.09	0.097	0.049
5.75	0.04	0.17	0.09	0.06	0.088	0.058
		POST CONDITIONING				
1.00 MIN	0.04	0.19	0.11	0.08	0.103	0.063
2.25	0.03	0.19	0.12	0.07	0.104	0.070
3.50	0.03	0.20	0.13	0.11	0.118	0.071
4.75	0.04	0.18	0.12	0.09	0.105	0.058
6.00	0.04	0.18	0.12	0.10	0.111	0.057
7.25	0.06	0.19	0.12	0.08	0.114	0.059
8.50	0.04	0.19	0.07	0.11	0.101	0.064
9.75	0.04	0.16	0.07	0.15	0.107	0.061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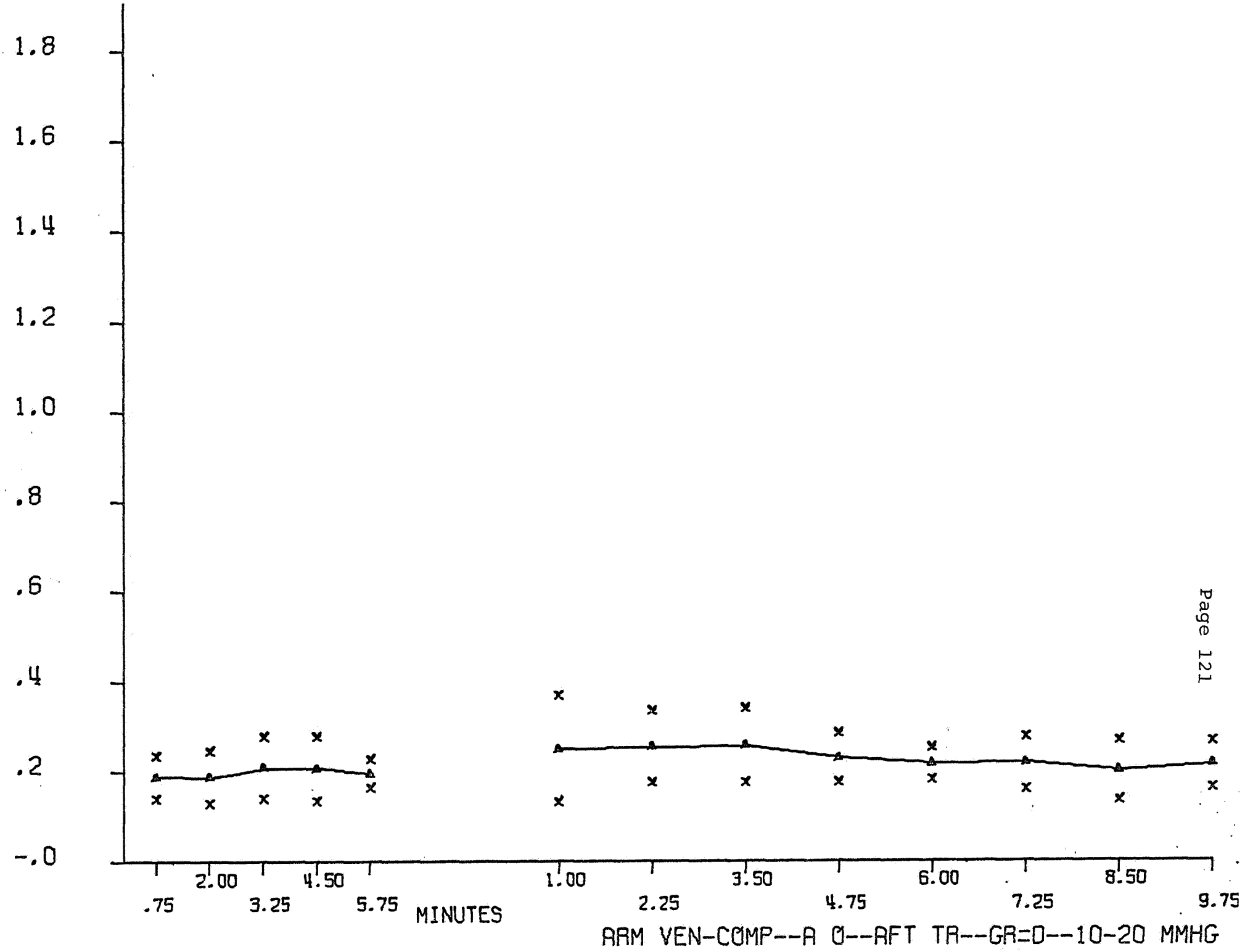
MINUTES
ARM VEN-COMP--A 0--BEF TR--GR=D--10-20 MMHG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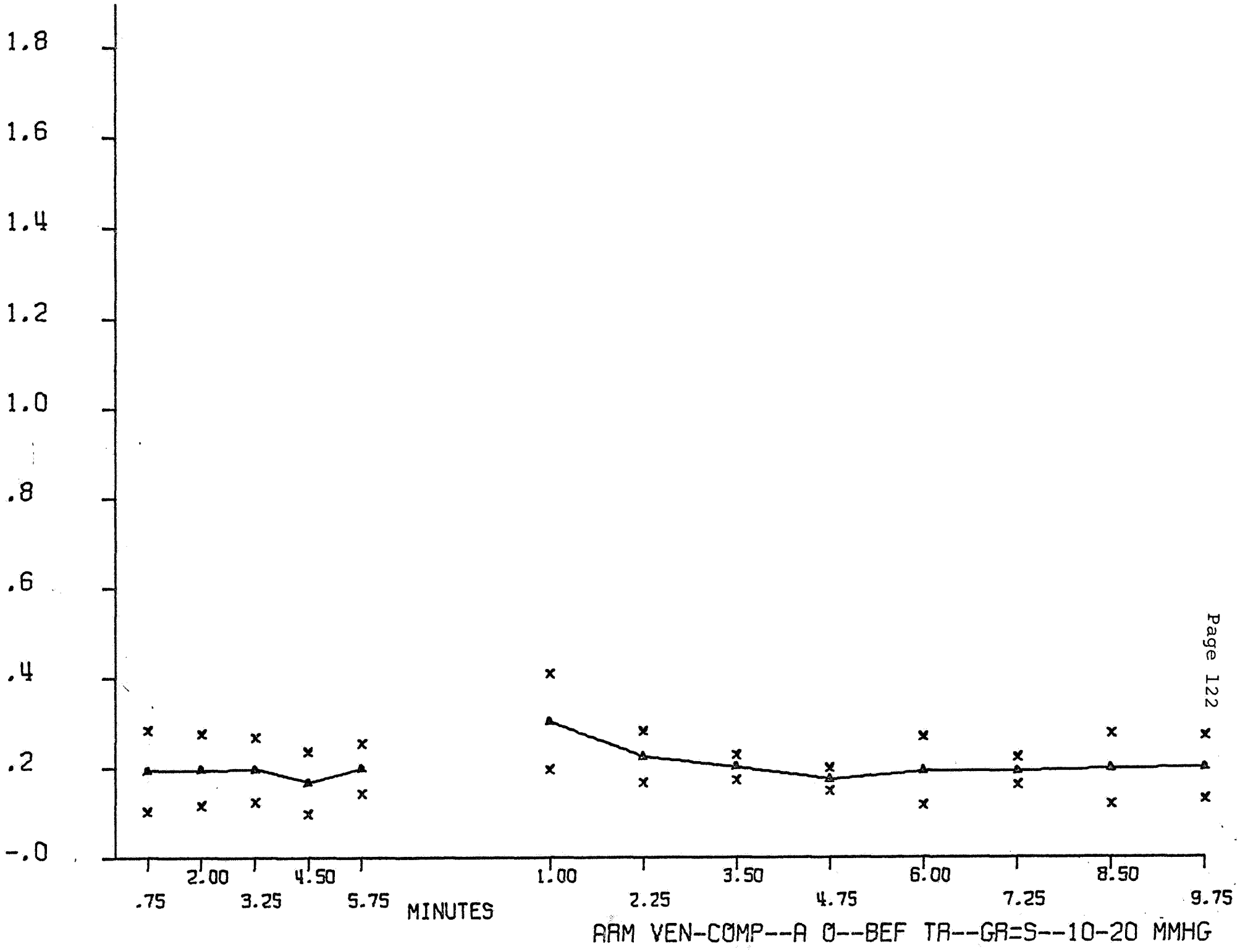
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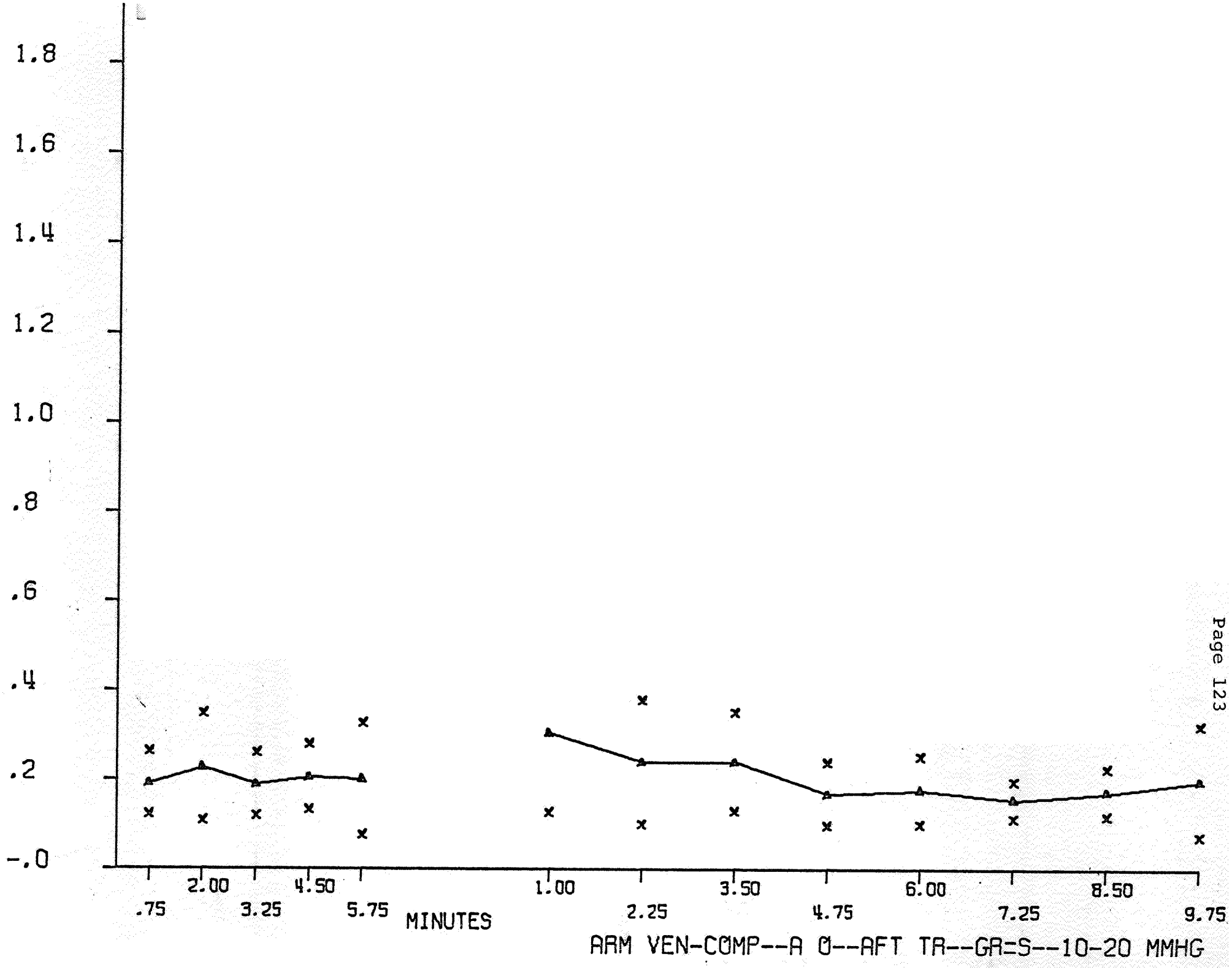
ARM VEN-COMP--A 0--BEF TR--GR=S--10-20 MMHG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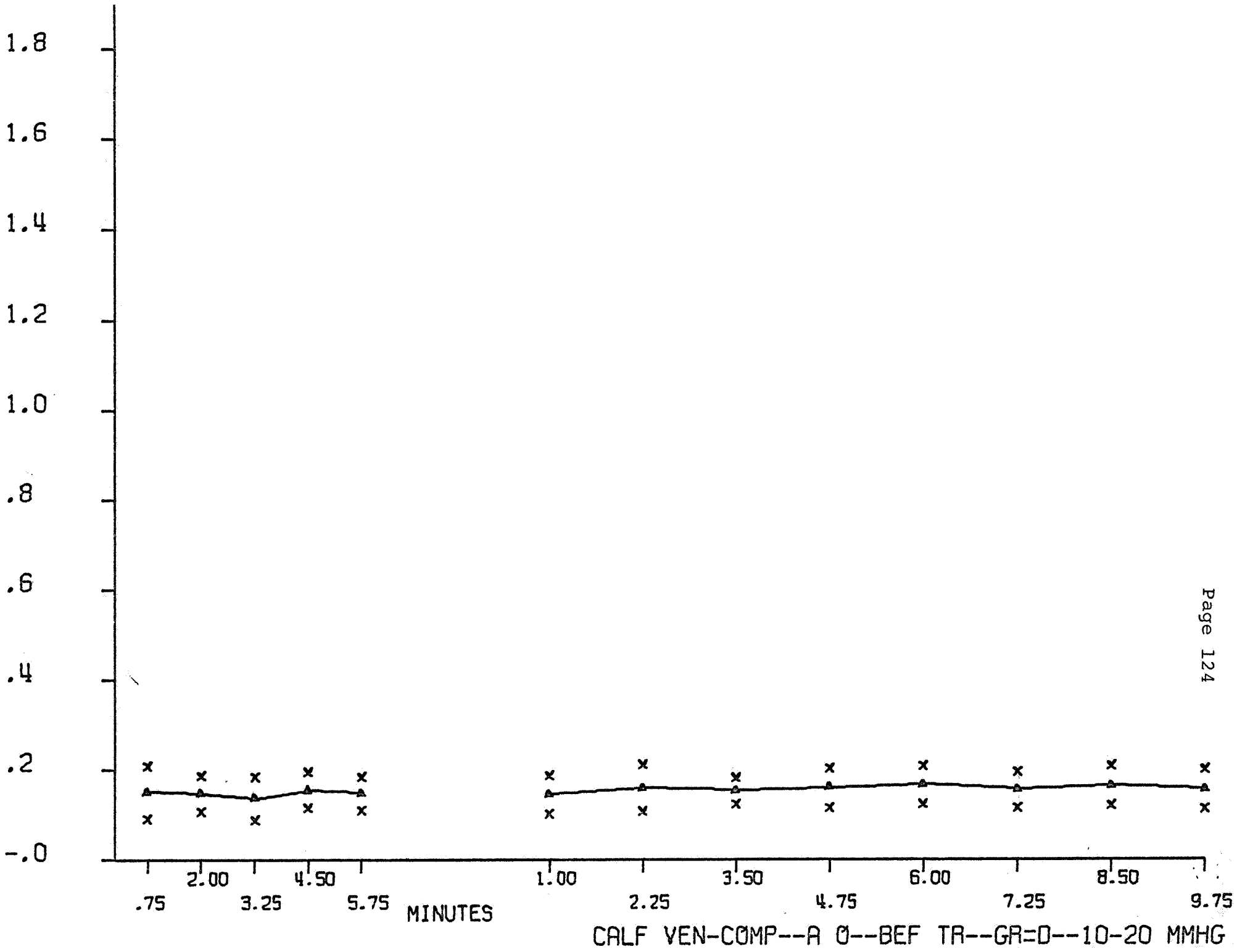
MINUTES
ARM VEN-COMP--A 0--AFT TR--GR=S--10-20 MMHG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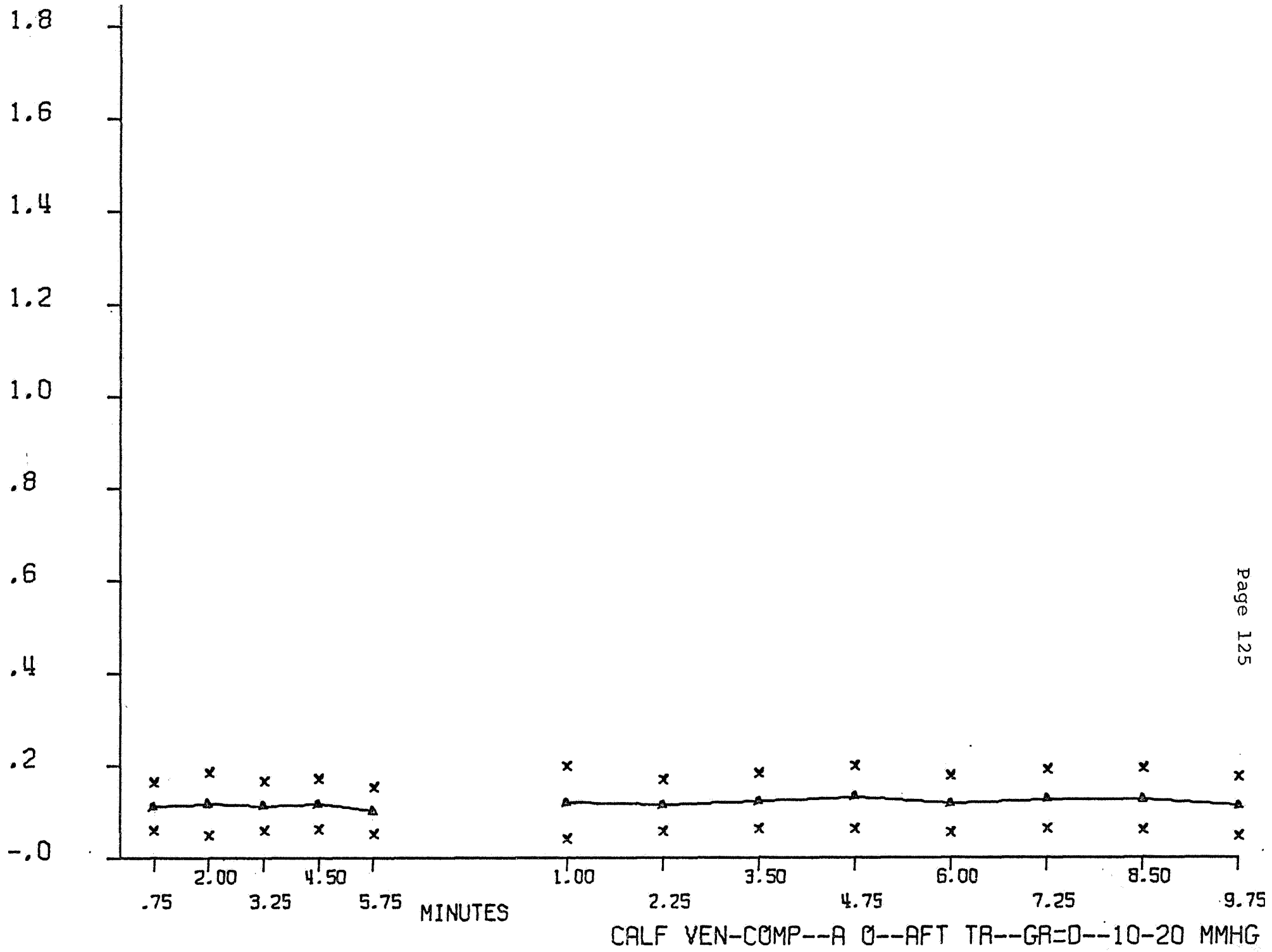
CALF VEN-COMP--A 0--BEF TR--GR=D--10-20 MMHG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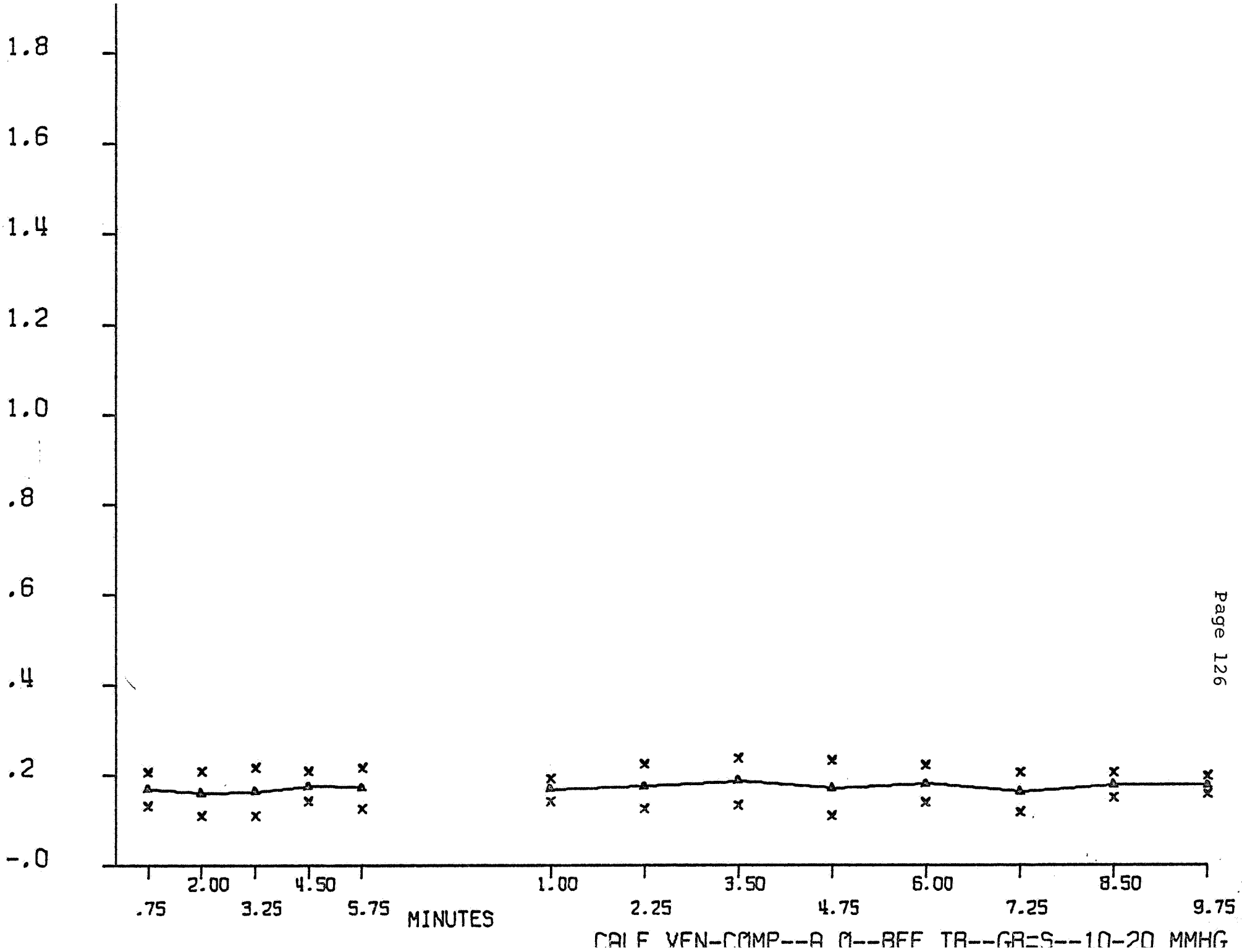
MINUTES
CALF VEN-COMP--A 0--AFT TR--GR=0--10-20 MMHG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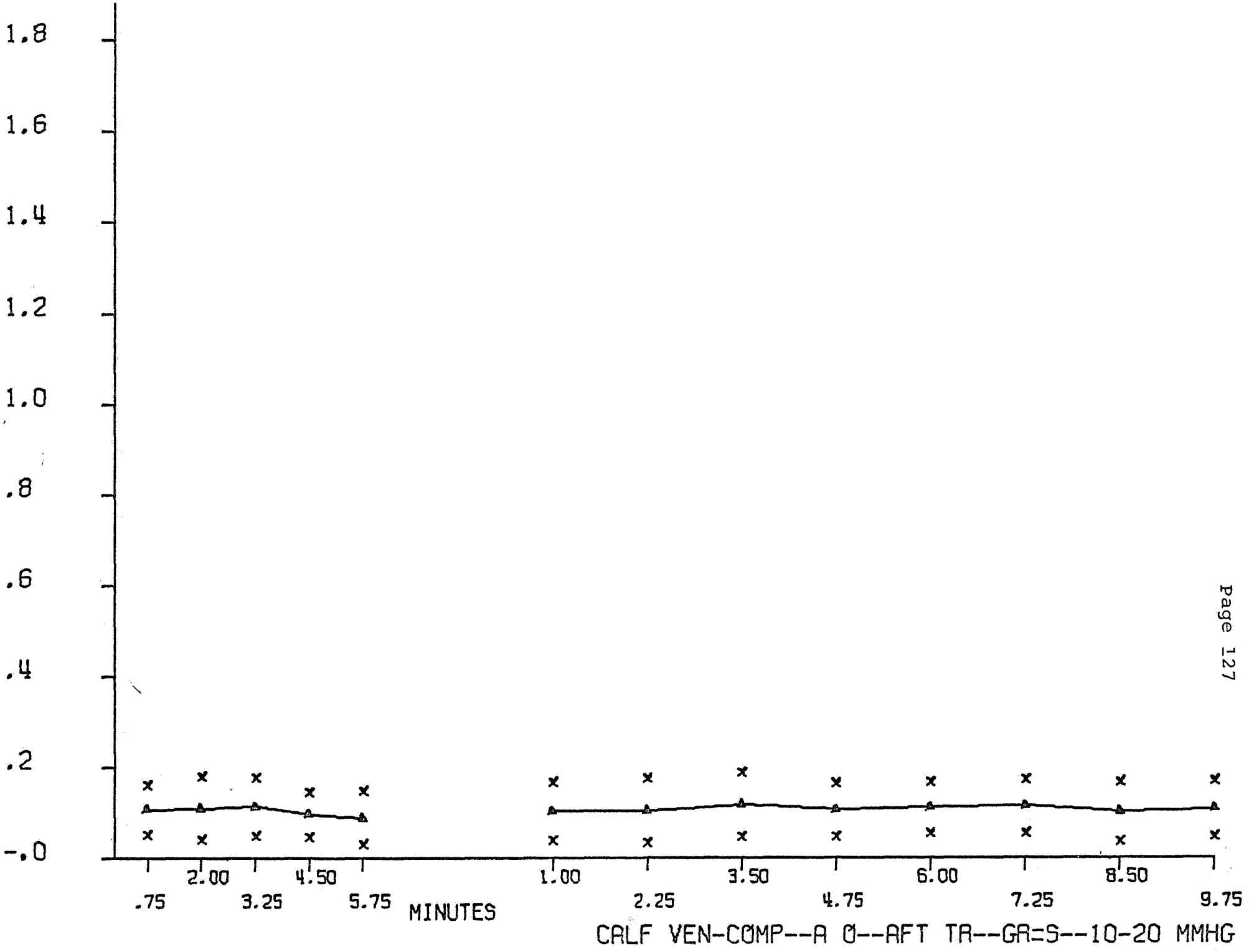
MINUTES
CALF VEN-COMP--A M--BEF TR--GRES--10-20 MMHG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9.75
MINUTES
CALF VEN-COMP--A 0--AFT TR--GR=S--10-20 MMHG

APPENDIX X

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after arterial occlusion, before and after conditioning, 20 to 30 mm Hg.

Units: Milliliters/100 milliliter arm or calf • mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 arm or calf • mm Hg.

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.33	0.16	0.19	0.229	0.068
2.00	0.22	0.27	0.26	0.19	0.21	0.229	0.034
3.25	0.25	0.28	0.34	0.20	0.17	0.247	0.067
4.50	0.20	0.37	0.31	0.16	0.21	0.250	0.089
5.75	0.22	0.30	0.30	0.17	0.00	0.249	0.066
			POST CONDITIONING				
1.00 MIN	0.20	0.41	0.43	0.18	0.23	0.291	0.120
2.25	0.18	0.27	0.28	0.18	0.18	0.218	0.051
3.50	0.16	0.23	0.34	0.18	0.19	0.221	0.071
4.75	0.16	0.24	0.34	0.19	0.19	0.226	0.071
6.00	0.18	0.27	0.25	0.18	0.21	0.217	0.040
7.25	0.18	0.24	0.30	0.17	0.19	0.217	0.055
8.50	0.19	0.26	0.23	0.19	0.20	0.213	0.029
9.75	0.20	0.23	0.32	0.19	0.20	0.229	0.054

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.19	0.15	0.18	0.198	0.043
2.00	0.20	0.24	0.22	0.20	0.16	0.204	0.031
3.25	0.26	0.24	0.22	0.17	0.16	0.212	0.043
4.50	0.23	0.32	0.22	0.22	0.14	0.226	0.064
5.75	0.17	0.24	0.20	0.20	0.18	0.199	0.027
			POST CONDITIONING				
1.00 MIN	0.33	0.32	0.26	0.20	0.20	0.262	0.063
2.25	0.26	0.24	0.20	0.17	0.14	0.204	0.049
3.50	0.24	0.29	0.20	0.17	0.20	0.223	0.047
4.75	0.28	0.24	0.20	0.21	0.12	0.211	0.060
6.00	0.30	0.27	0.30	0.20	0.14	0.243	0.072
7.25	0.20	0.24	0.20	0.20	0.18	0.203	0.023
8.50	0.22	0.27	0.15	0.17	0.18	0.198	0.046
9.75	0.15	0.21	0.20	0.16	0.16	0.179	0.028

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=S--20-30 MMHG

NDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.28	0.15	0.14	0.18	0.186	0.065
2.00	0.26	0.16	0.13	0.20	0.186	0.056
3.25	0.26	0.16	0.14	0.15	0.177	0.054
4.50	0.27	0.16	0.14	0.18	0.184	0.058
5.75	0.26	0.17	0.12	0.17	0.177	0.057
		POST CONDITIONING				
1.00 MIN	0.28	0.17	0.20	0.18	0.208	0.049
2.25	0.28	0.17	0.17	0.20	0.206	0.052
3.50	0.23	0.17	0.17	0.18	0.190	0.030
4.75	0.23	0.13	0.16	0.16	0.170	0.045
6.00	0.28	0.12	0.16	0.16	0.179	0.070
7.25	0.29	0.11	0.13	0.18	0.177	0.081
8.50	0.21	0.15	0.12	0.22	0.174	0.049
9.75	0.30	0.14	0.13	0.16	0.183	0.081

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.32	0.14	0.21	0.17	0.208	0.080
2.00	0.28	0.15	0.18	0.17	0.198	0.060
3.25	0.28	0.14	0.18	0.18	0.197	0.063
4.50	0.35	0.10	0.21	0.13	0.198	0.113
5.75	0.35	0.15	0.00	0.17	0.226	0.112
			POST CONDITIONING			
1.00 MIN	0.35	0.12	0.33	0.09	0.223	0.138
2.25	0.33	0.12	0.29	0.09	0.207	0.120
3.50	0.26	0.13	0.12	0.14	0.164	0.065
4.75	0.19	0.10	0.18	0.12	0.148	0.045
6.00	0.25	0.13	0.23	0.09	0.174	0.076
7.25	0.28	0.10	0.16	0.13	0.171	0.080
8.50	0.21	0.09	0.23	0.13	0.166	0.064
9.75	0.24	0.11	0.23	0.00	0.191	0.070

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.17	0.15	0.15	0.15	0.17	0.155	0.012
2.00	0.19	0.19	0.16	0.17	0.17	0.175	0.013
3.25	0.00	0.21	0.15	0.18	0.17	0.176	0.023
4.50	0.19	0.23	0.15	0.18	0.15	0.178	0.034
5.75	0.16	0.16	0.15	0.18	0.18	0.164	0.014
			POST CONDITIONING				
1.00 MIN	0.30	0.21	0.18	0.18	0.18	0.211	0.053
2.25	0.17	0.21	0.16	0.17	0.16	0.173	0.020
3.50	0.21	0.20	0.18	0.18	0.16	0.184	0.020
4.75	0.17	0.21	0.16	0.17	0.17	0.175	0.018
6.00	0.16	0.15	0.16	0.15	0.18	0.160	0.014
7.25	0.16	0.19	0.15	0.17	0.17	0.167	0.015
8.50	0.16	0.19	0.18	0.18	0.18	0.177	0.010
9.75	0.18	0.17	0.18	0.18	0.16	0.174	0.010

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=D--20-30 MMHG

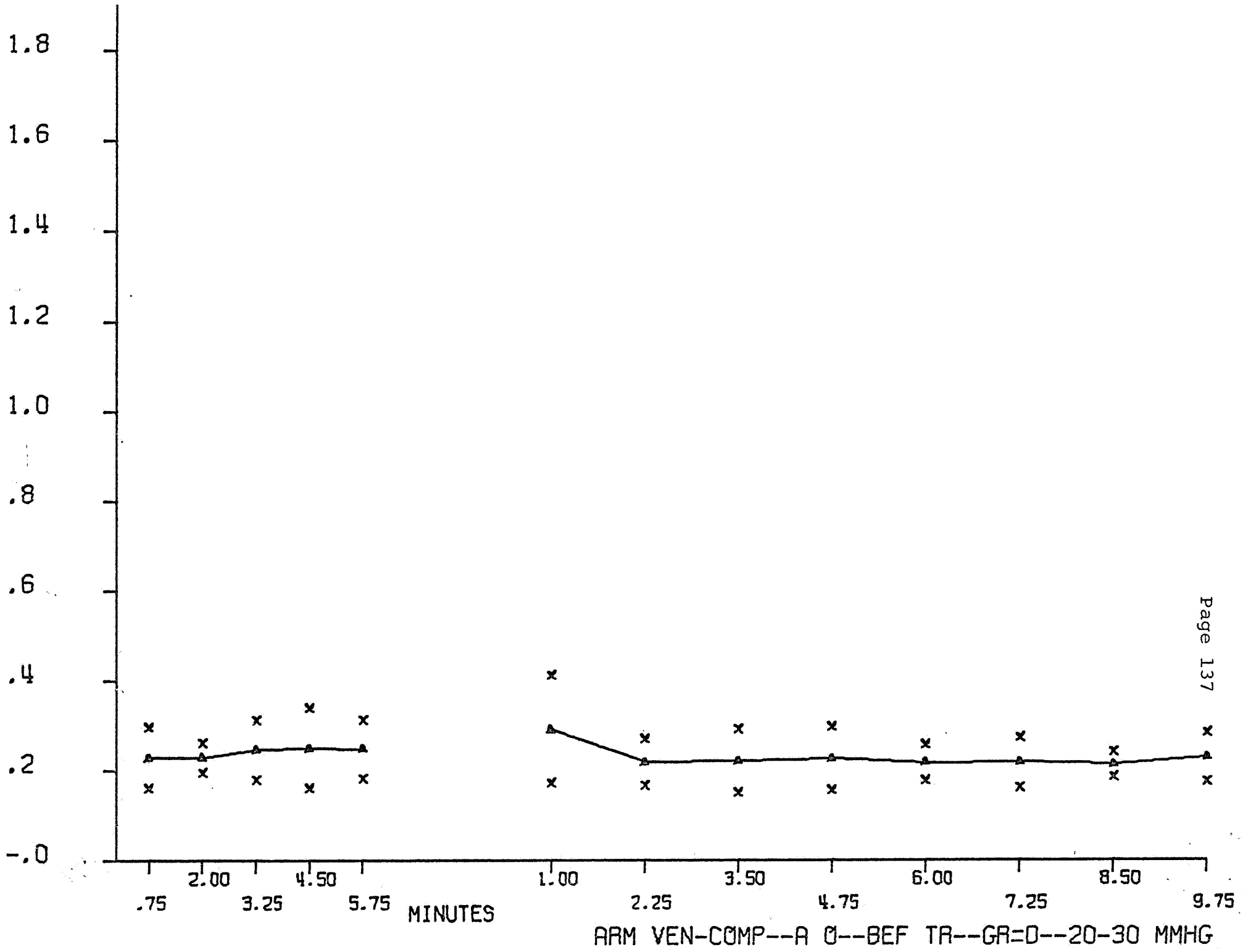
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.10	0.16	0.09	0.11	0.13	0.118	0.029
2.00	0.15	0.16	0.15	0.16	0.13	0.149	0.014
3.25	0.13	0.16	0.17	0.16	0.11	0.146	0.024
4.50	0.13	0.16	0.15	0.11	0.11	0.133	0.026
5.75	0.15	0.17	0.00	0.13	0.13	0.147	0.019
			POST CONDITIONING				
1.00 MIN	0.18	0.21	0.20	0.18	0.17	0.187	0.014
2.25	0.16	0.16	0.12	0.16	0.16	0.153	0.018
3.50	0.15	0.17	0.17	0.15	0.15	0.158	0.012
4.75	0.17	0.15	0.15	0.14	0.14	0.152	0.013
6.00	0.17	0.16	0.15	0.15	0.16	0.159	0.010
7.25	0.18	0.18	0.14	0.14	0.14	0.157	0.024
8.50	0.16	0.14	0.12	0.14	0.14	0.142	0.015
9.75	0.18	0.17	0.14	0.11	0.16	0.152	0.031

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.17	0.10	0.17	0.148	0.032
2.00	0.15	0.17	0.10	0.21	0.156	0.043
3.25	0.16	0.17	0.12	0.17	0.155	0.024
4.50	0.16	0.18	0.13	0.18	0.162	0.025
5.75	0.15	0.18	0.13	0.19	0.162	0.028
		POST CONDITIONING				
1.00 MIN	0.19	0.19	0.12	0.22	0.180	0.043
2.25	0.19	0.16	0.12	0.19	0.163	0.033
3.50	0.17	0.17	0.13	0.19	0.163	0.026
4.75	0.18	0.19	0.13	0.19	0.172	0.030
6.00	0.18	0.17	0.12	0.20	0.165	0.033
7.25	0.15	0.18	0.14	0.21	0.168	0.031
8.50	0.15	0.17	0.10	0.21	0.158	0.043
9.75	0.17	0.17	0.12	0.19	0.161	0.030

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.16	0.12	0.11	0.136	0.023
2.00	0.13	0.15	0.09	0.11	0.122	0.026
3.25	0.12	0.14	0.09	0.08	0.107	0.026
4.50	0.14	0.15	0.09	0.08	0.116	0.035
5.75	0.14	0.16	0.07	0.09	0.117	0.042
		POST CONDITIONING				
1.00 MIN	0.13	0.20	0.15	0.13	0.151	0.034
2.25	0.13	0.18	0.12	0.10	0.130	0.033
3.50	0.15	0.18	0.12	0.13	0.143	0.025
4.75	0.13	0.18	0.07	0.11	0.124	0.042
6.00	0.13	0.18	0.11	0.10	0.128	0.036
7.25	0.12	0.16	0.12	0.09	0.123	0.031
8.50	0.14	0.14	0.07	0.09	0.111	0.034
9.75	0.14	0.16	0.07	0.12	0.125	0.038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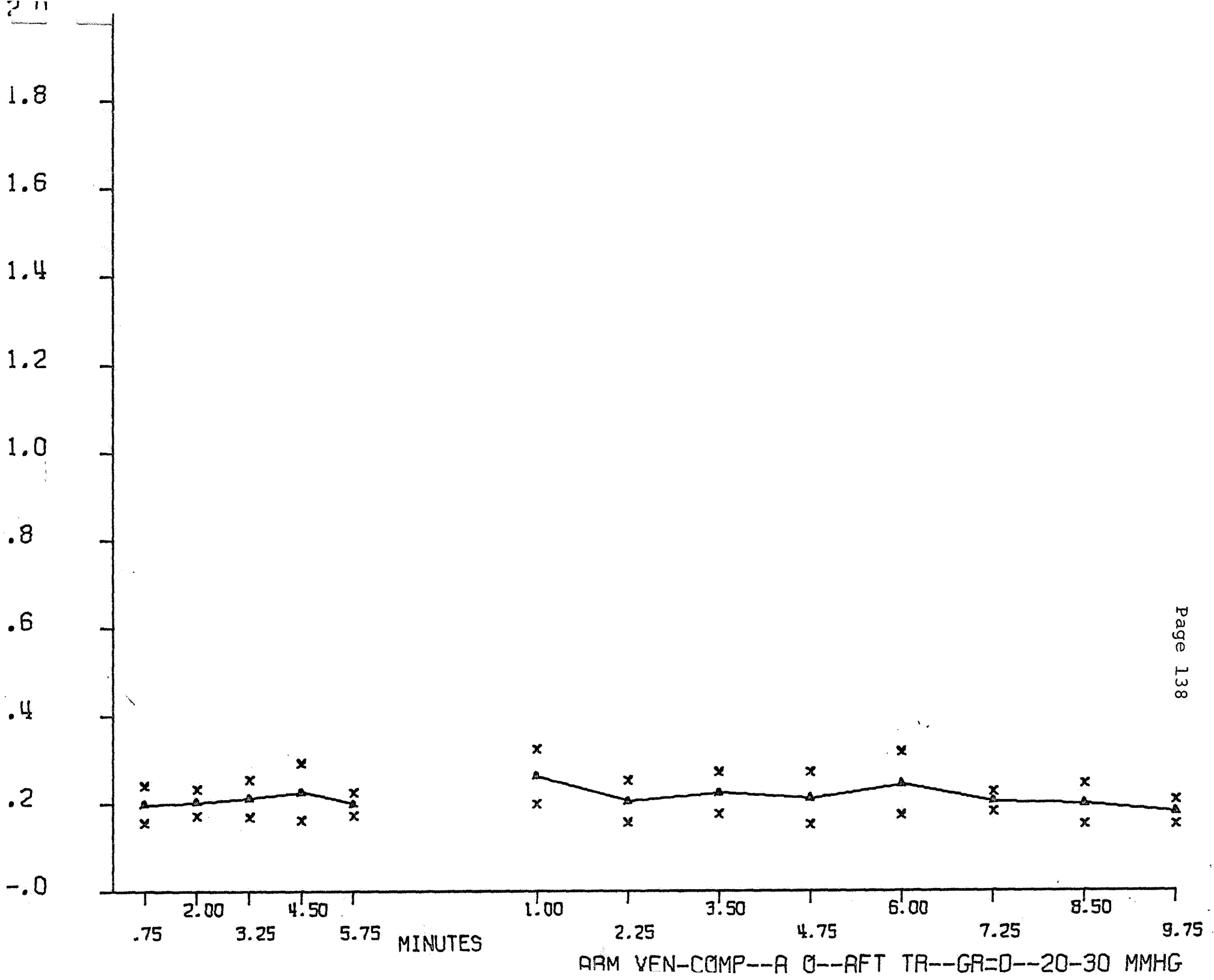
ARM VEN-COMP--A 0--BEF TR--GR=0--20-30 MMHG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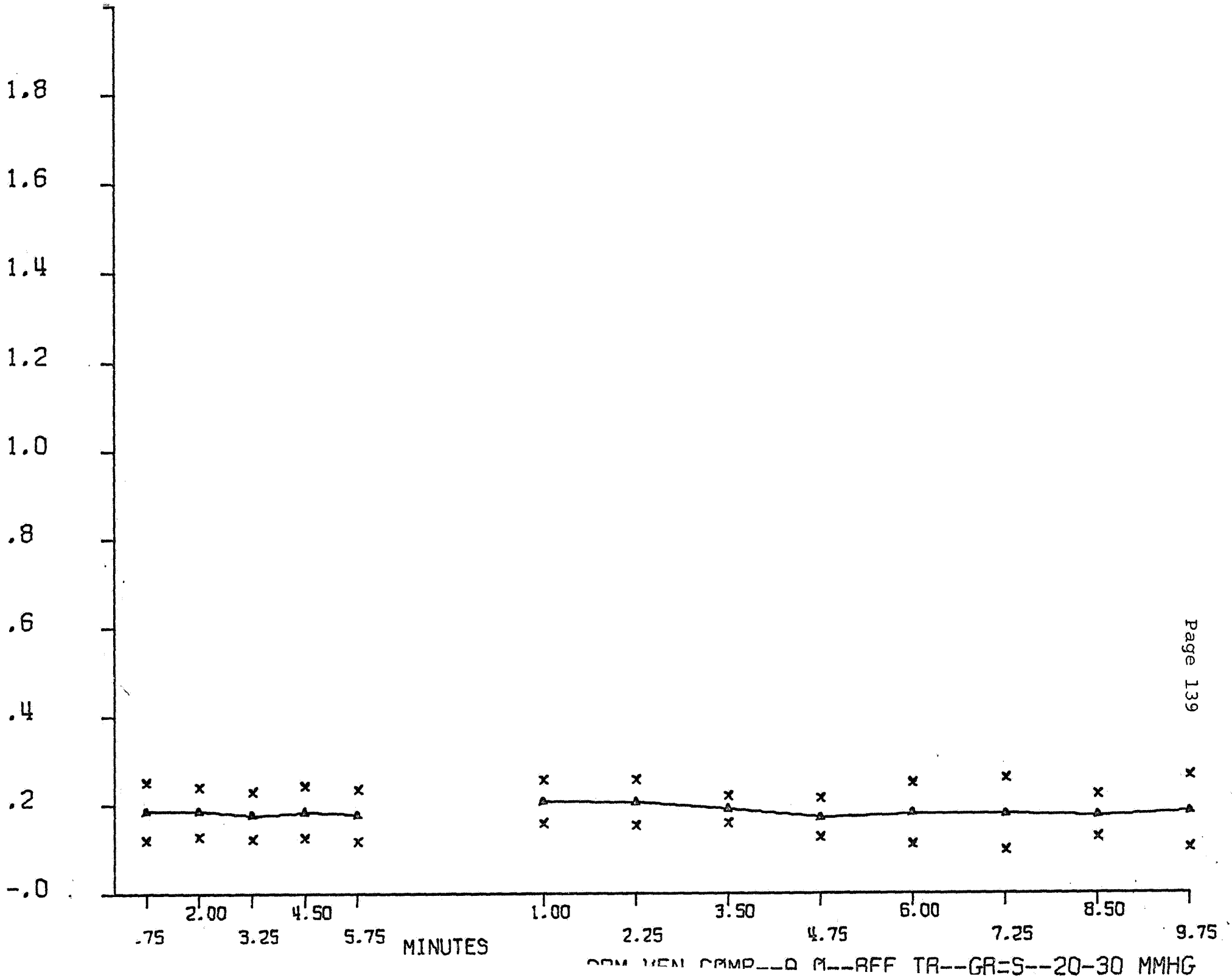
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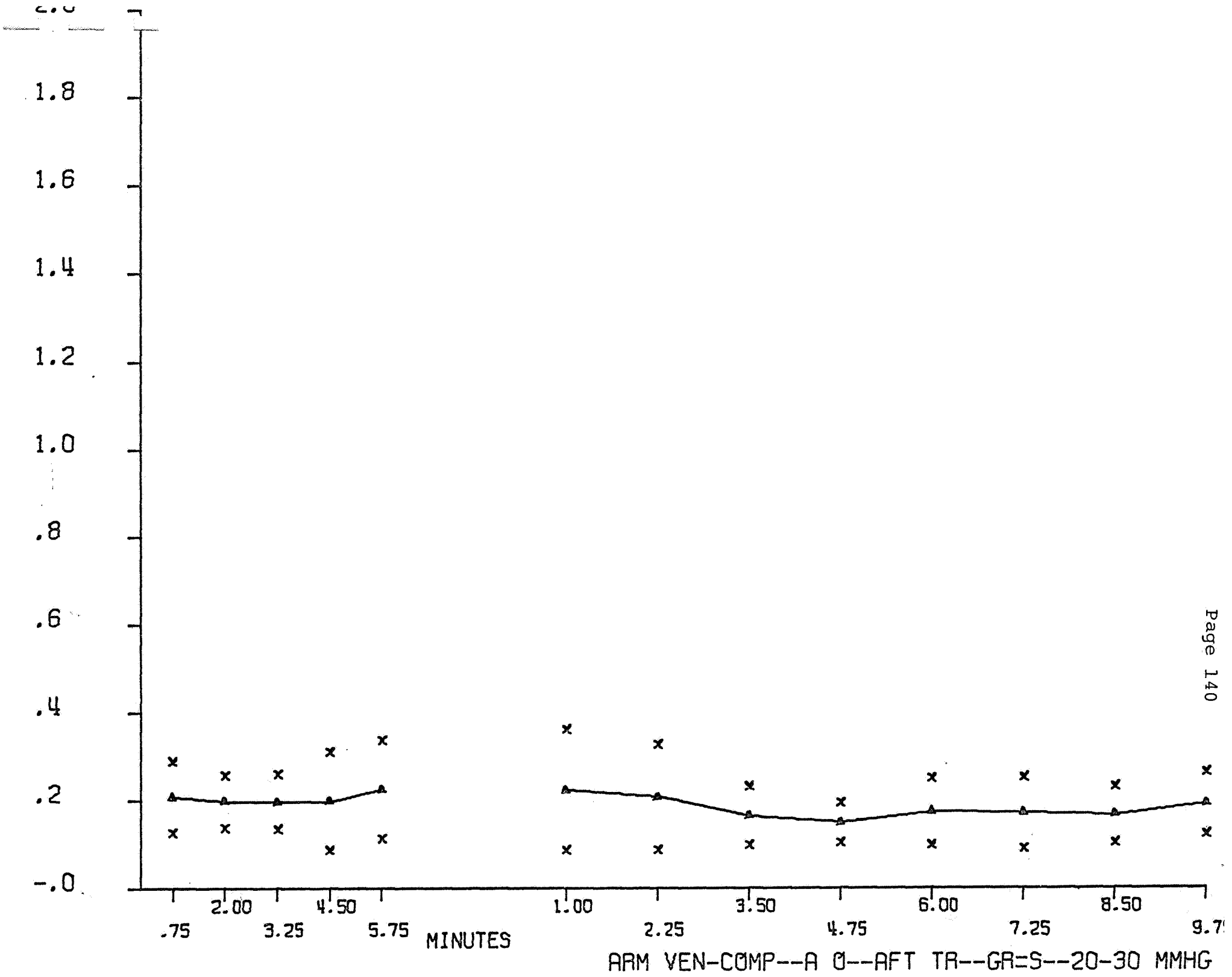
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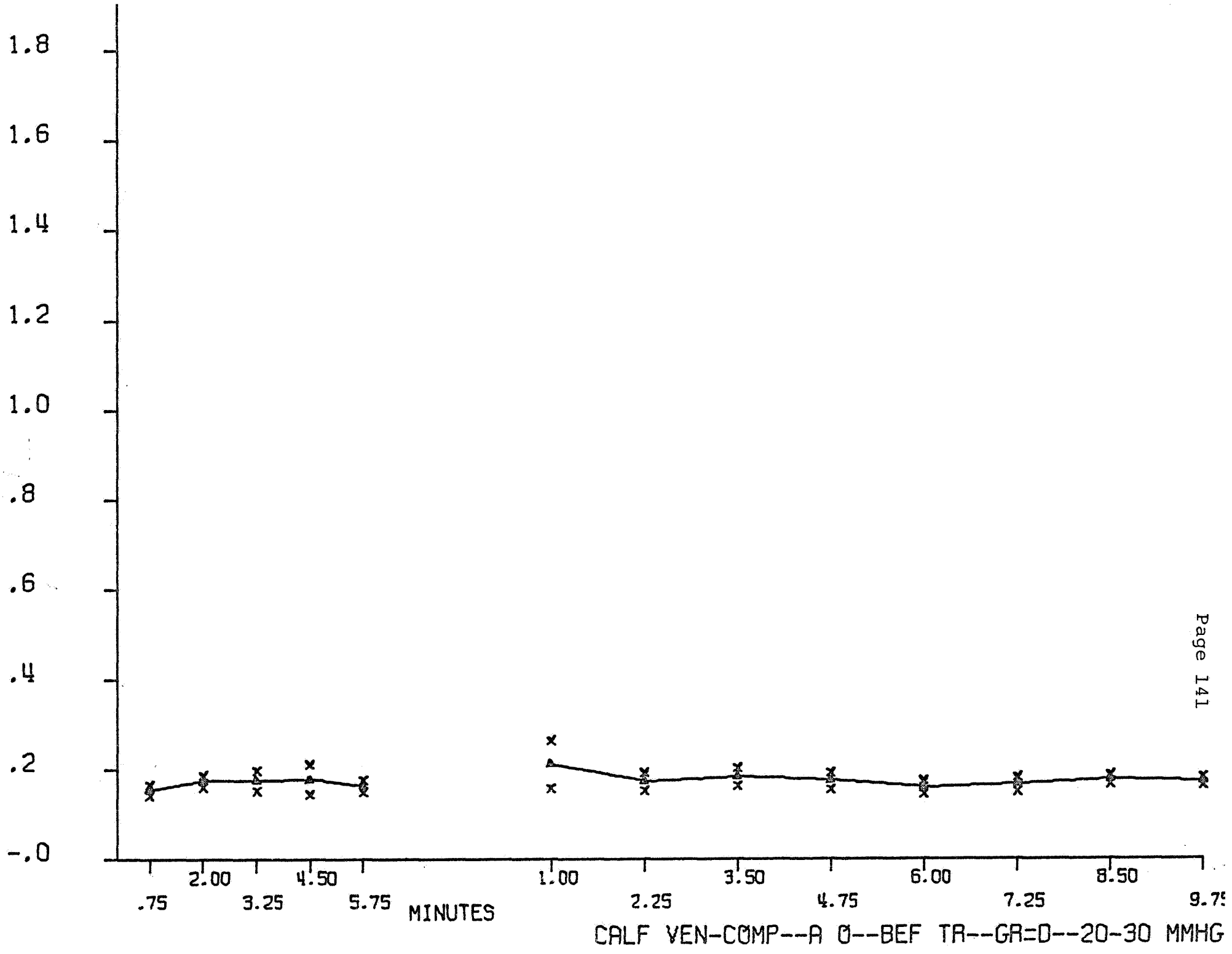
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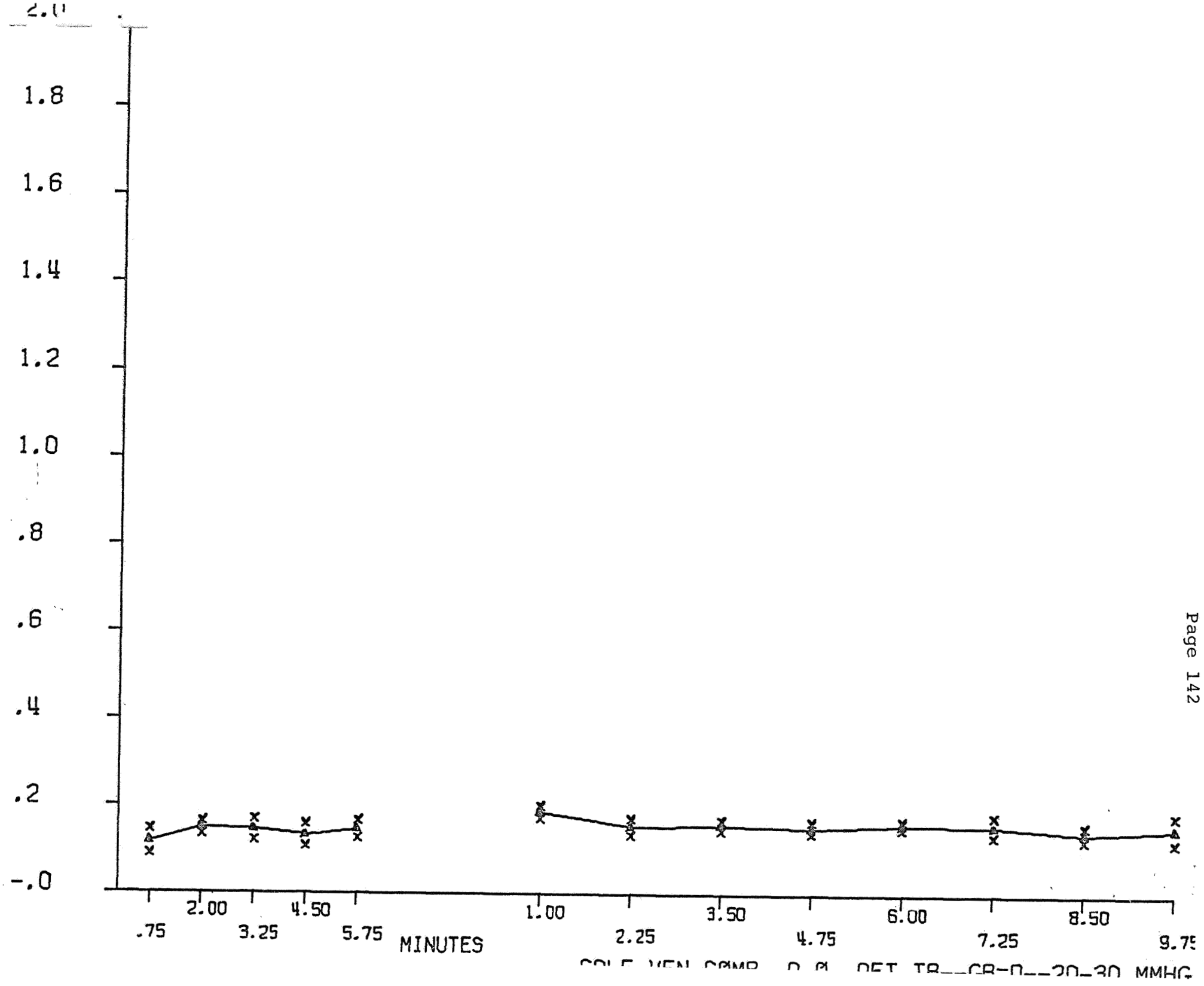
CALF VEN-COMP--A Ø--BEF TR--GR=D--20-30 MMHG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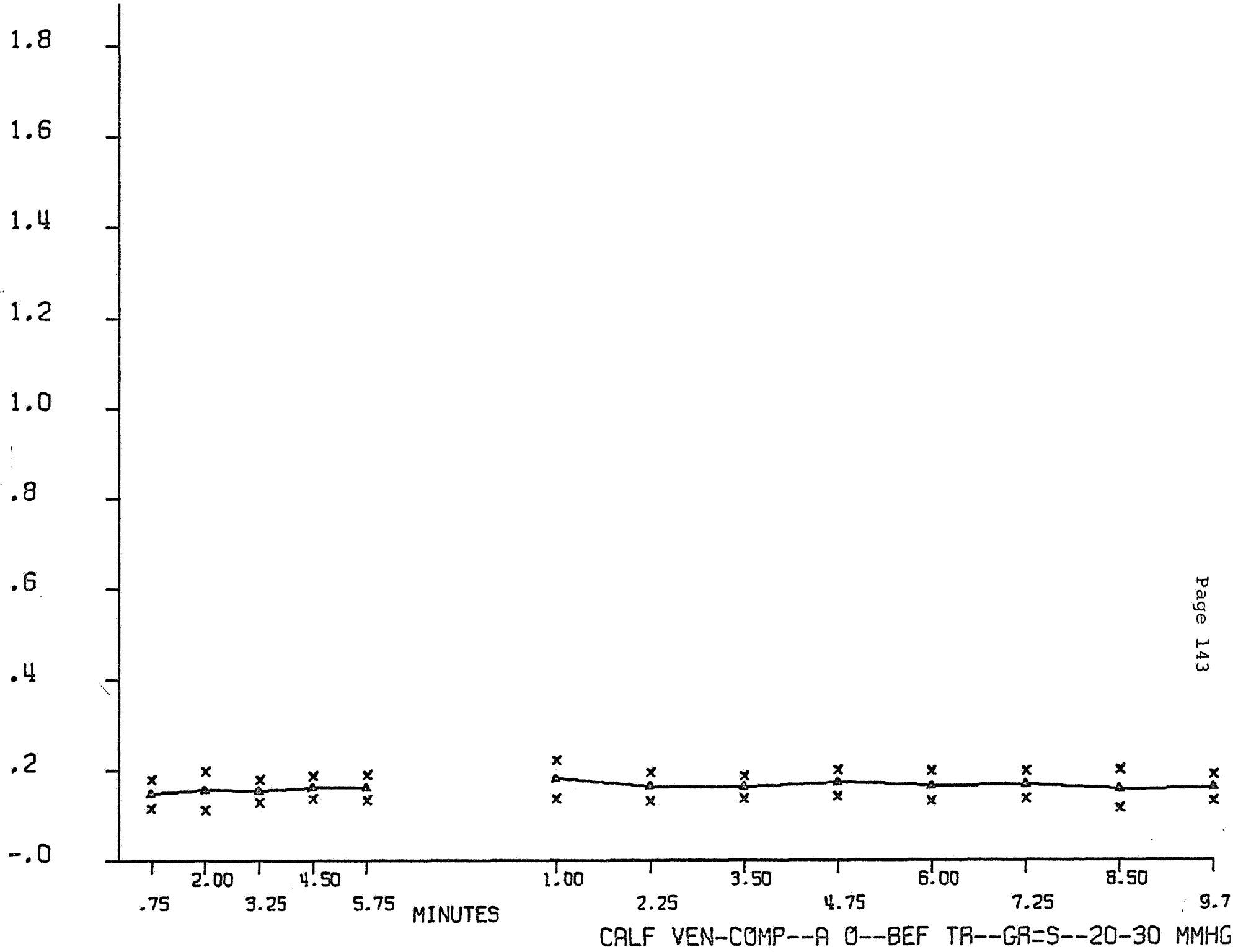
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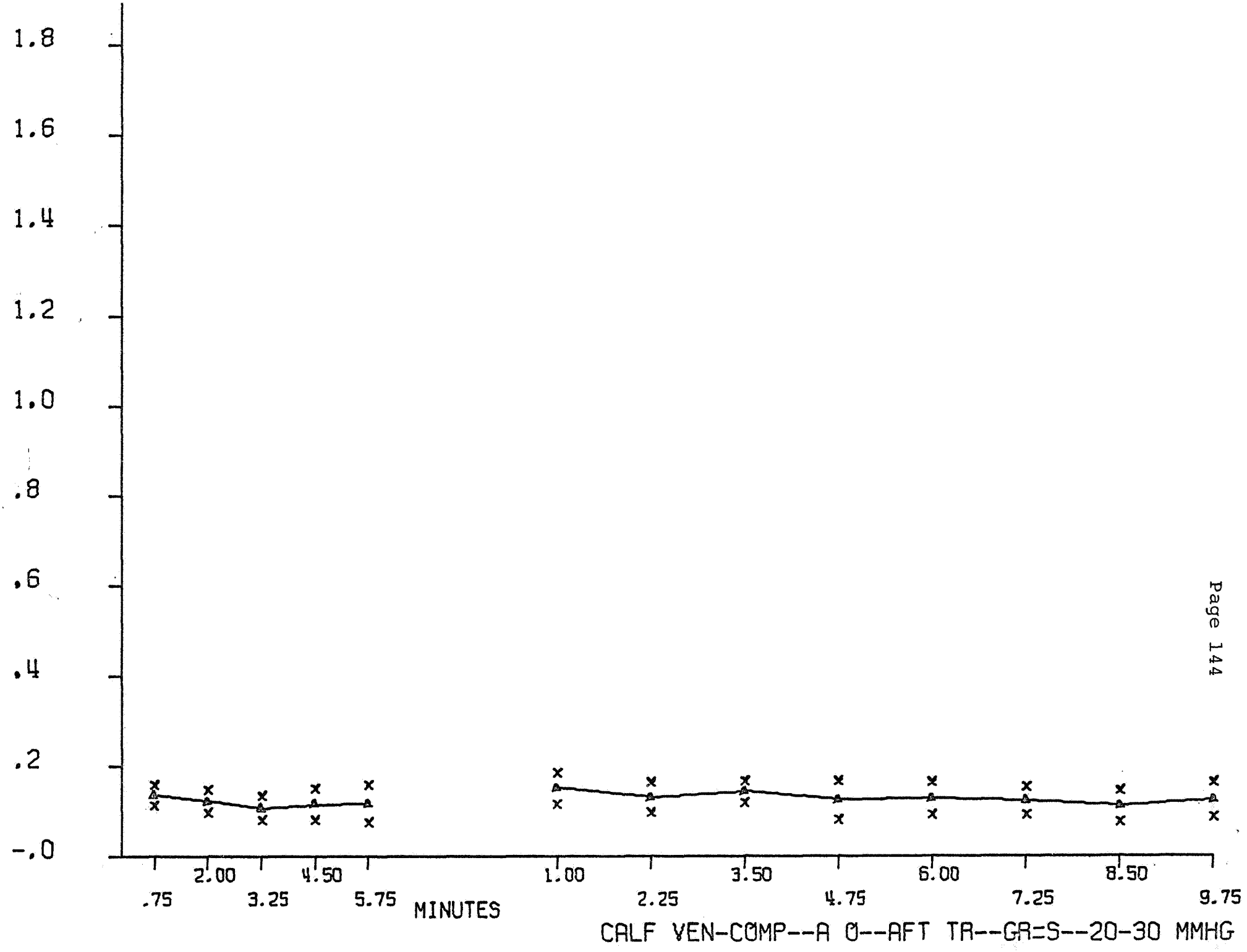
MINUTES
CALF VEN-COMP--A 0--BEF TR--GR=S--20-30 MMHG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6.00
7.25
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9.75
MINUTES
CALF VEN-COMP--A 0--AFT TR--GR=S--20-30 MMHG

APPENDIX XI

Tables and Graphs of venous compliance measurements (individual and grouped averages), before and after isometric exercise, before and after conditioning, 0 to 10 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.09	0.04	0.02	0.02	0.062	0.055
2.00	0.12	0.08	0.05	0.02	0.02	0.060	0.043
3.25	0.17	0.09	0.06	0.02	0.02	0.074	0.064
4.50	0.15	0.08	0.05	0.02	0.04	0.070	0.051
5.75	0.18	0.08	0.04	0.02	0.00	0.082	0.072
			POST CONDITIONING				
1.00 MIN	0.10	0.09	0.02	0.02	0.06	0.059	0.038
2.25	0.12	0.08	0.02	0.03	0.02	0.057	0.044
3.50	0.12	0.04	0.02	0.02	0.02	0.046	0.043
4.75	0.14	0.08	0.02	0.03	0.02	0.060	0.052
6.00	0.16	0.12	0.03	0.02	0.02	0.072	0.065
7.25	0.14	0.07	0.02	0.02	0.02	0.056	0.053
8.50	0.16	0.06	0.04	0.02	0.02	0.062	0.059
9.75	0.14	0.00	0.04	0.02	0.02	0.056	0.059

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.16	0.11	0.01	0.02	0.05	0.071	0.064
2.00	0.13	0.16	0.02	0.04	0.06	0.083	0.060
3.25	0.15	0.13	0.02	0.04	0.05	0.080	0.059
4.50	0.15	0.11	0.02	0.04	0.05	0.075	0.054
5.75	0.17	0.12	0.02	0.04	0.05	0.082	0.064
			POST CONDITIONING				
1.00 MIN	0.11	0.08	0.04	0.01	0.05	0.058	0.038
2.25	0.13	0.09	0.04	0.01	0.08	0.071	0.047
3.50	0.13	0.08	0.02	0.01	0.06	0.061	0.048
4.75	0.16	0.05	0.04	0.02	0.08	0.072	0.055
6.00	0.15	0.09	0.04	0.02	0.06	0.074	0.051
7.25	0.15	0.08	0.02	0.02	0.08	0.071	0.054
8.50	0.20	0.12	0.02	0.01	0.06	0.082	0.077
9.75	0.17	0.16	0.02	0.02	0.06	0.087	0.075

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.05	0.06	0.09	0.06	0.065	0.017
2.00	0.06	0.03	0.09	0.06	0.059	0.023
3.25	0.05	0.03	0.07	0.06	0.053	0.017
4.50	0.05	0.04	0.07	0.07	0.056	0.017
5.75	0.12	0.05	0.08	0.07	0.079	0.028
		POST CONDITIONING				
1.00 MIN	0.07	0.04	0.04	0.06	0.053	0.015
2.25	0.09	0.07	0.07	0.05	0.073	0.017
3.50	0.06	0.08	0.03	0.03	0.050	0.026
4.75	0.07	0.05	0.07	0.05	0.060	0.013
6.00	0.05	0.05	0.06	0.04	0.048	0.005
7.25	0.12	0.06	0.04	0.06	0.068	0.034
8.50	0.12	0.06	0.04	0.04	0.065	0.036
9.75	0.11	0.05	0.05	0.03	0.056	0.034

RROR CONDITION AT 012725

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.09	0.05	0.04	0.01	0.050	0.034
2.00	0.08	0.07	0.04	0.03	0.054	0.026
3.25	0.07	0.08	0.02	0.03	0.048	0.029
4.50	0.06	0.05	0.06	0.03	0.049	0.016
5.75	0.07	0.07	0.00	0.04	0.059	0.017
		POST CONDITIONING				
1.00 MIN	0.09	0.05	0.03	0.01	0.047	0.035
2.25	0.12	0.05	0.03	0.01	0.053	0.046
3.50	0.12	0.03	0.03	0.01	0.047	0.048
4.75	0.12	0.05	0.04	0.01	0.056	0.045
6.00	0.14	0.04	0.02	0.01	0.055	0.060
7.25	0.09	0.04	0.02	0.01	0.043	0.037
8.50	0.14	0.03	0.05	0.03	0.063	0.054
9.75	0.12	0.03	0.05	0.00	0.068	0.045

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.09	0.04	0.05	0.03	0.07	0.053	0.023
2.00	0.09	0.05	0.05	0.02	0.06	0.056	0.027
3.25	0.00	0.05	0.05	0.03	0.05	0.044	0.012
4.50	0.12	0.04	0.05	0.03	0.05	0.060	0.037
5.75	0.09	0.02	0.07	0.04	0.04	0.052	0.027
			POST CONDITIONING				
1.00 MIN	0.06	0.02	0.02	0.04	0.07	0.040	0.022
2.25	0.07	0.04	0.04	0.04	0.06	0.048	0.014
3.50	0.09	0.01	0.05	0.03	0.06	0.047	0.029
4.75	0.08	0.02	0.02	0.02	0.06	0.039	0.028
6.00	0.08	0.02	0.02	0.04	0.04	0.039	0.023
7.25	0.06	0.05	0.04	0.04	0.04	0.045	0.010
8.50	0.08	0.02	0.04	0.02	0.04	0.039	0.023
9.75	0.09	0.02	0.02	0.02	0.06	0.040	0.031

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=D--0-10 MMHG

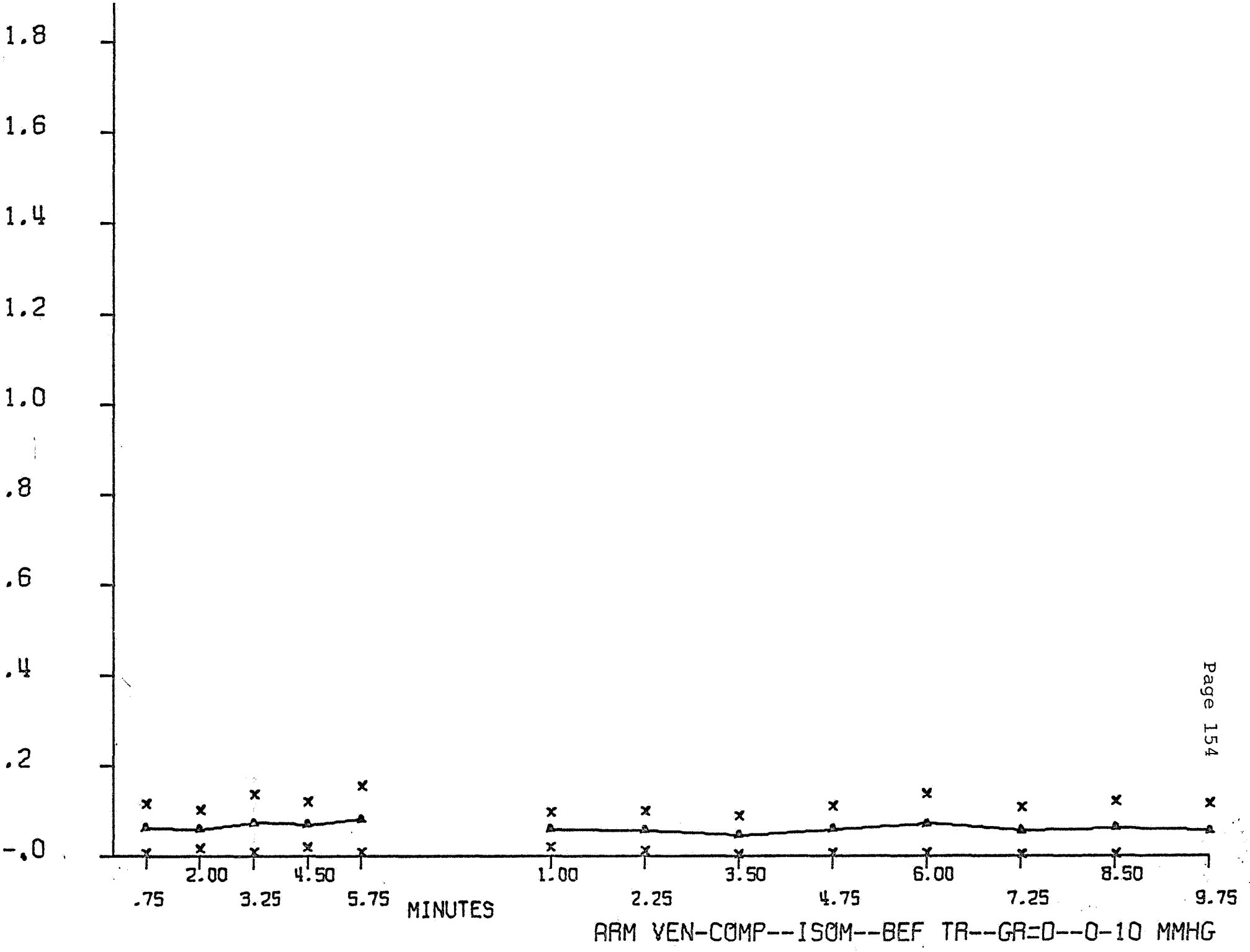
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.07	0.01	0.06	0.05	0.06	0.051	0.023
2.00	0.07	0.01	0.08	0.06	0.07	0.059	0.028
3.25	0.07	0.02	0.09	0.07	0.07	0.064	0.026
4.50	0.05	0.02	0.08	0.05	0.06	0.052	0.021
5.75	0.05	0.02	0.00	0.05	0.06	0.046	0.018
			POST CONDITIONING				
1.00 MIN	0.07	-0.00	0.02	0.05	0.05	0.036	0.028
2.25	0.06	-0.00	0.02	0.05	0.06	0.038	0.028
3.50	0.06	0.02	0.03	0.05	0.07	0.046	0.020
4.75	0.05	0.02	0.05	0.05	0.06	0.046	0.016
6.00	0.07	0.03	0.04	0.05	0.09	0.055	0.022
7.25	0.07	0.02	0.02	0.04	0.09	0.048	0.028
8.50	0.05	0.02	0.03	0.04	0.07	0.043	0.019
9.75	0.07	0.01	0.05	0.05	0.05	0.046	0.021

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.06	0.07	0.05	0.04	0.055	0.013
2.00	0.07	0.06	0.06	0.02	0.053	0.020
3.25	0.05	0.07	0.06	0.04	0.055	0.013
4.50	0.07	0.07	0.05	0.02	0.051	0.025
5.75	0.07	0.06	0.05	0.03	0.053	0.016
			POST CONDITIONING			
1.00 MIN	0.03	0.05	0.04	0.00	0.033	0.024
2.25	0.03	0.05	0.03	0.02	0.035	0.016
3.50	0.04	0.05	0.05	0.02	0.041	0.018
4.75	0.03	0.05	0.03	0.02	0.035	0.016
6.00	0.04	0.07	0.03	0.03	0.044	0.017
7.25	0.03	0.05	0.03	0.02	0.035	0.016
8.50	0.03	0.07	0.03	0.02	0.036	0.023
9.75	0.05	0.07	0.03	0.02	0.042	0.023

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=S--0-10MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.08	0.03	0.04	0.048	0.019
2.00	0.04	0.09	0.04	0.03	0.051	0.025
3.25	0.04	0.08	0.03	0.04	0.048	0.019
4.50	0.03	0.09	0.04	0.04	0.051	0.025
5.75	0.04	0.08	0.04	0.05	0.053	0.020
		POST CONDITIONING				
1.00 MIN	0.01	0.06	0.03	0.03	0.035	0.020
2.25	0.01	0.11	0.01	0.05	0.048	0.046
3.50	0.01	0.06	0.01	0.05	0.034	0.022
4.75	0.03	0.06	0.07	0.05	0.054	0.019
6.00	0.03	0.08	0.03	0.06	0.050	0.024
7.25	0.02	0.06	0.04	0.04	0.043	0.017
8.50	0.02	0.06	0.04	0.03	0.041	0.017
9.75	0.03	0.08	0.00	0.05	0.051	0.023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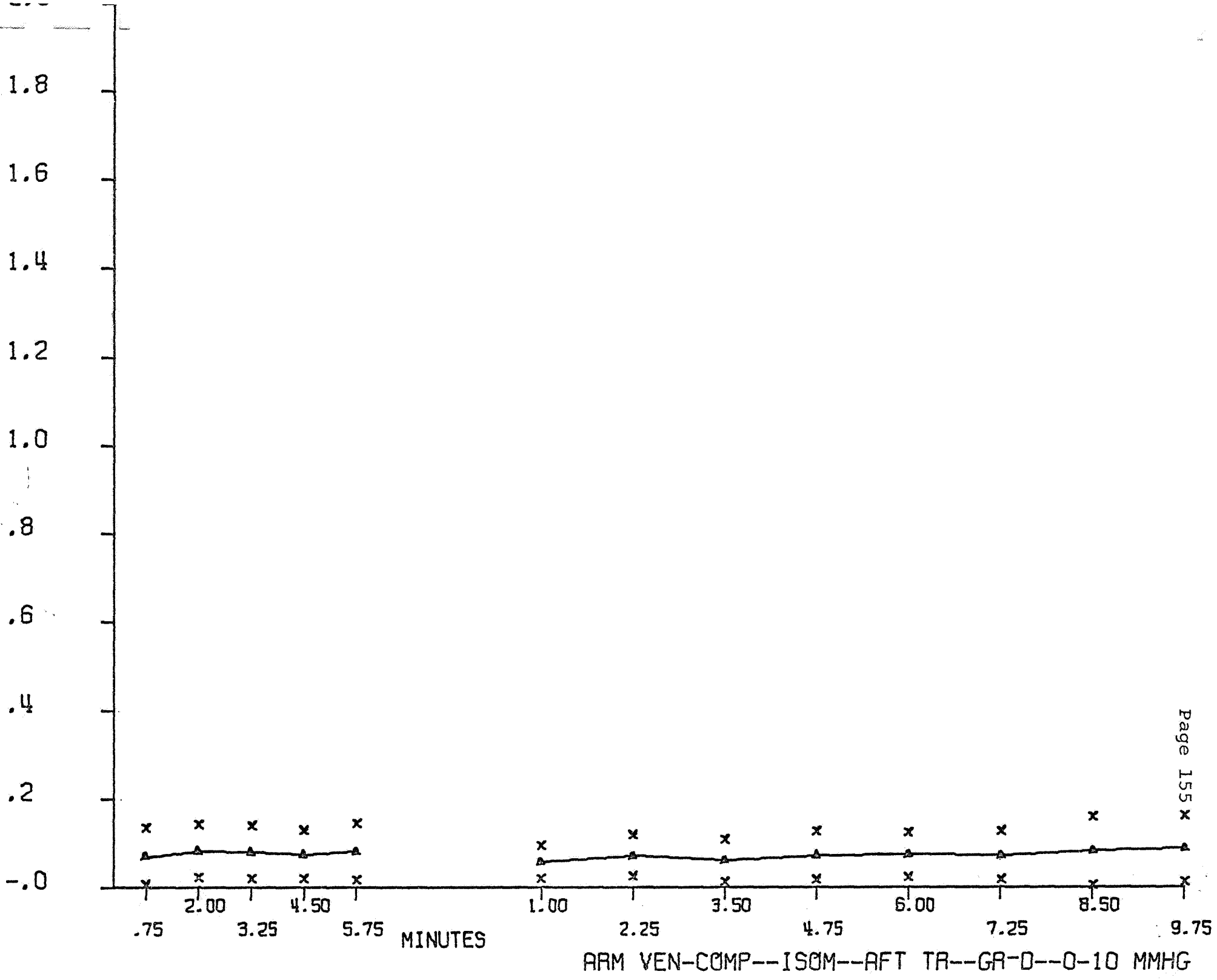
MINUTES
ARM VEN-COMP--ISOM--BEF TR--GR=D--0-10 MMHG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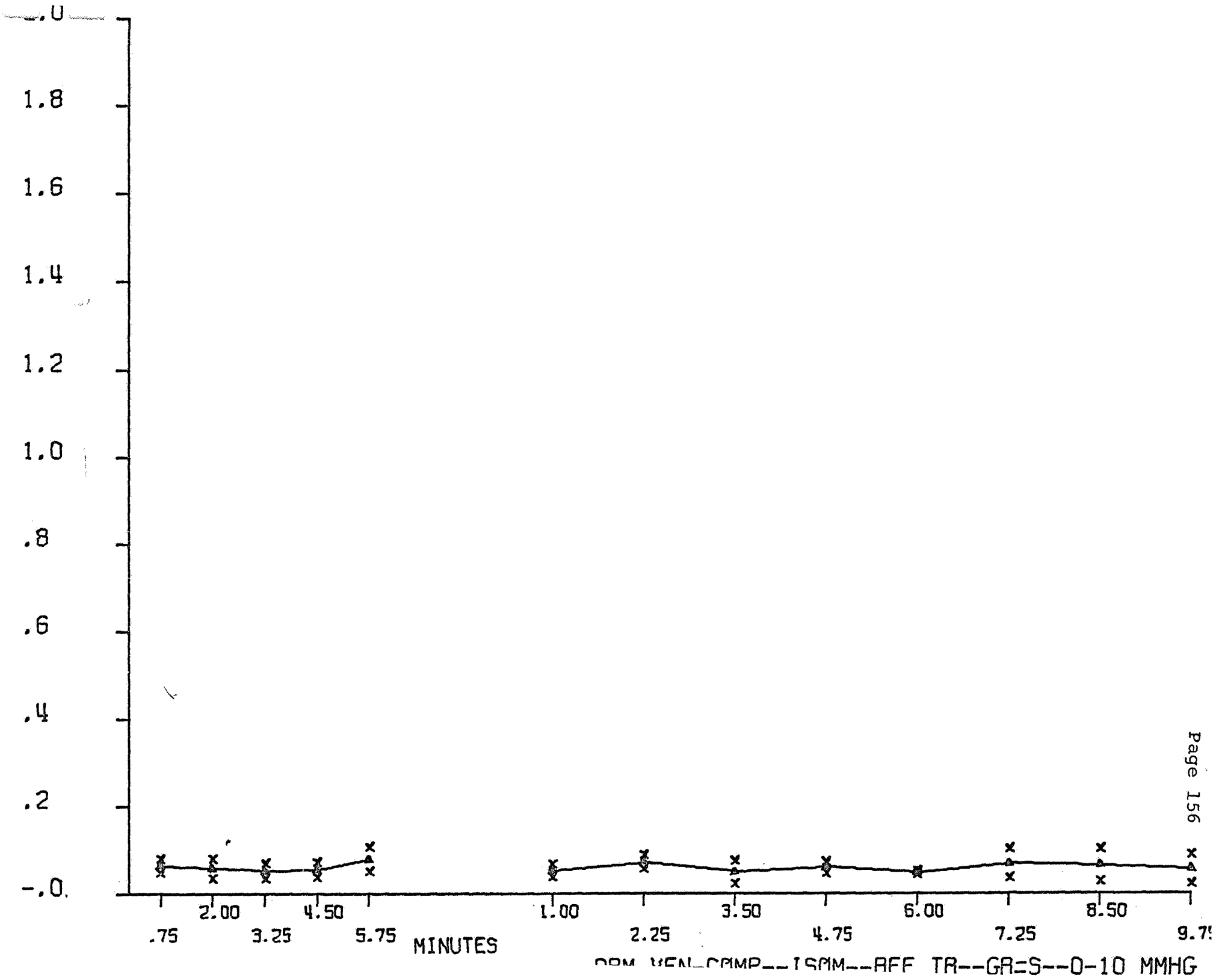
6.00
7.25
8.50
9.75
MINUTES
ARM VEN-COMP--ISOM--AFT TR--GR-D--0-10 MMHG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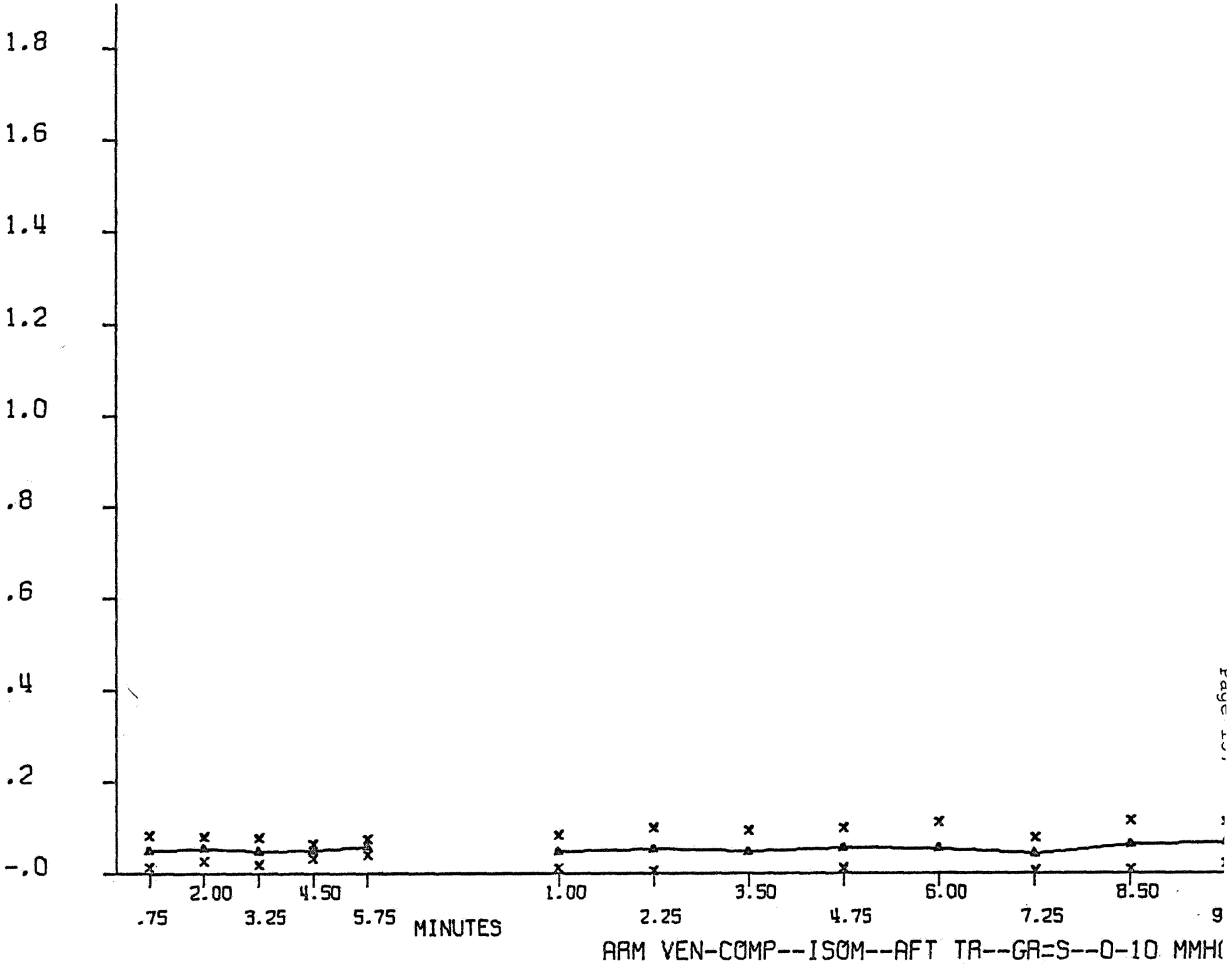
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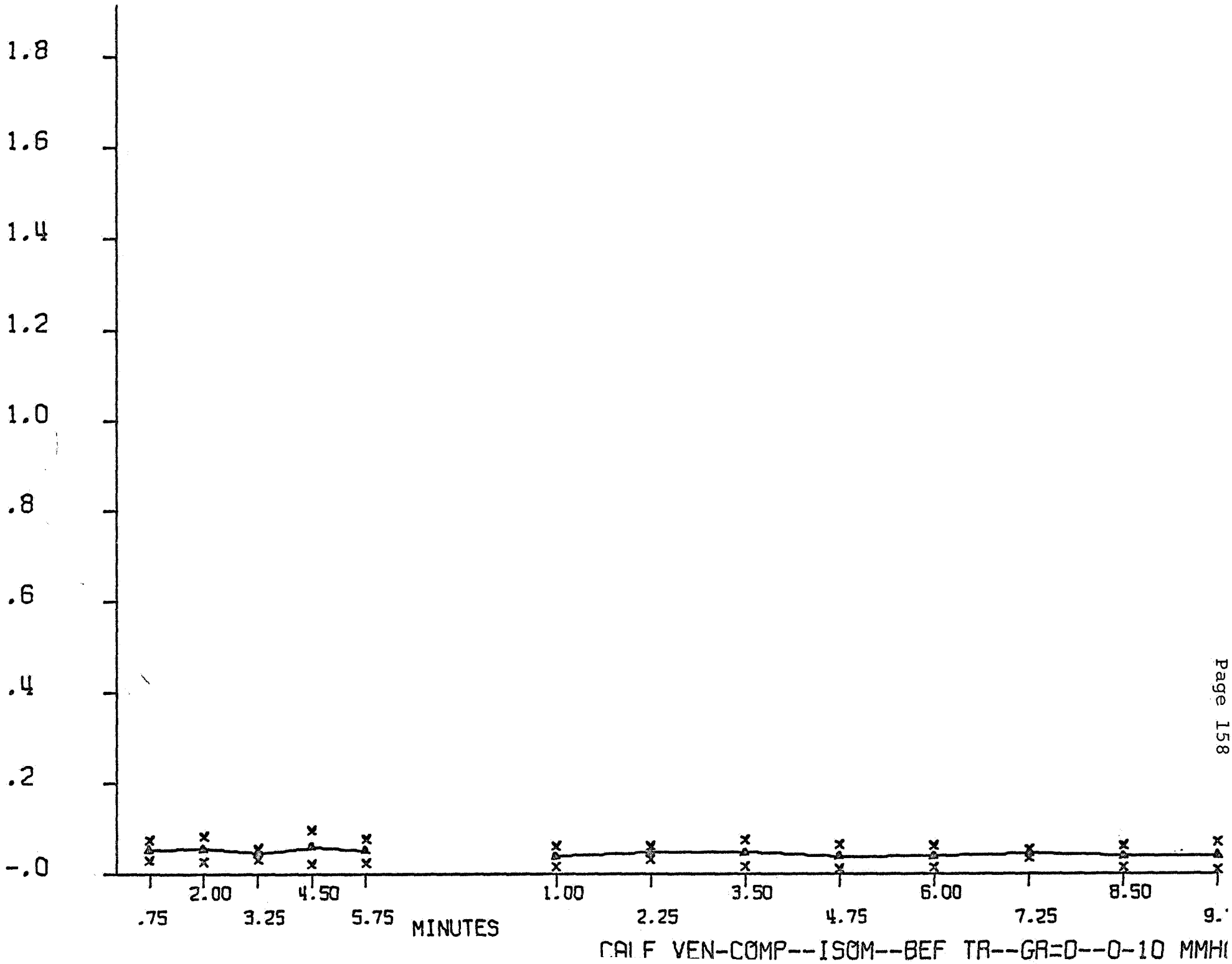
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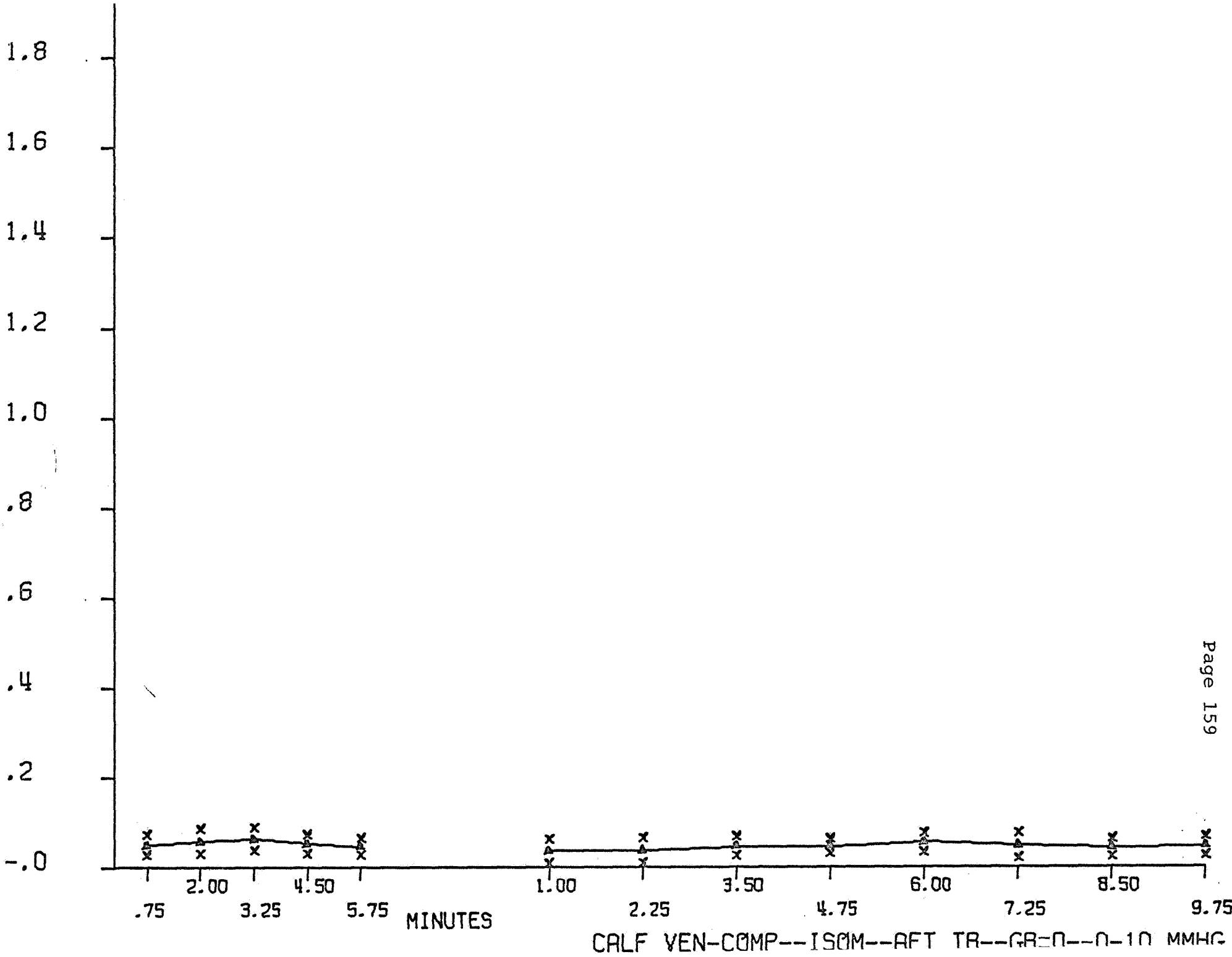
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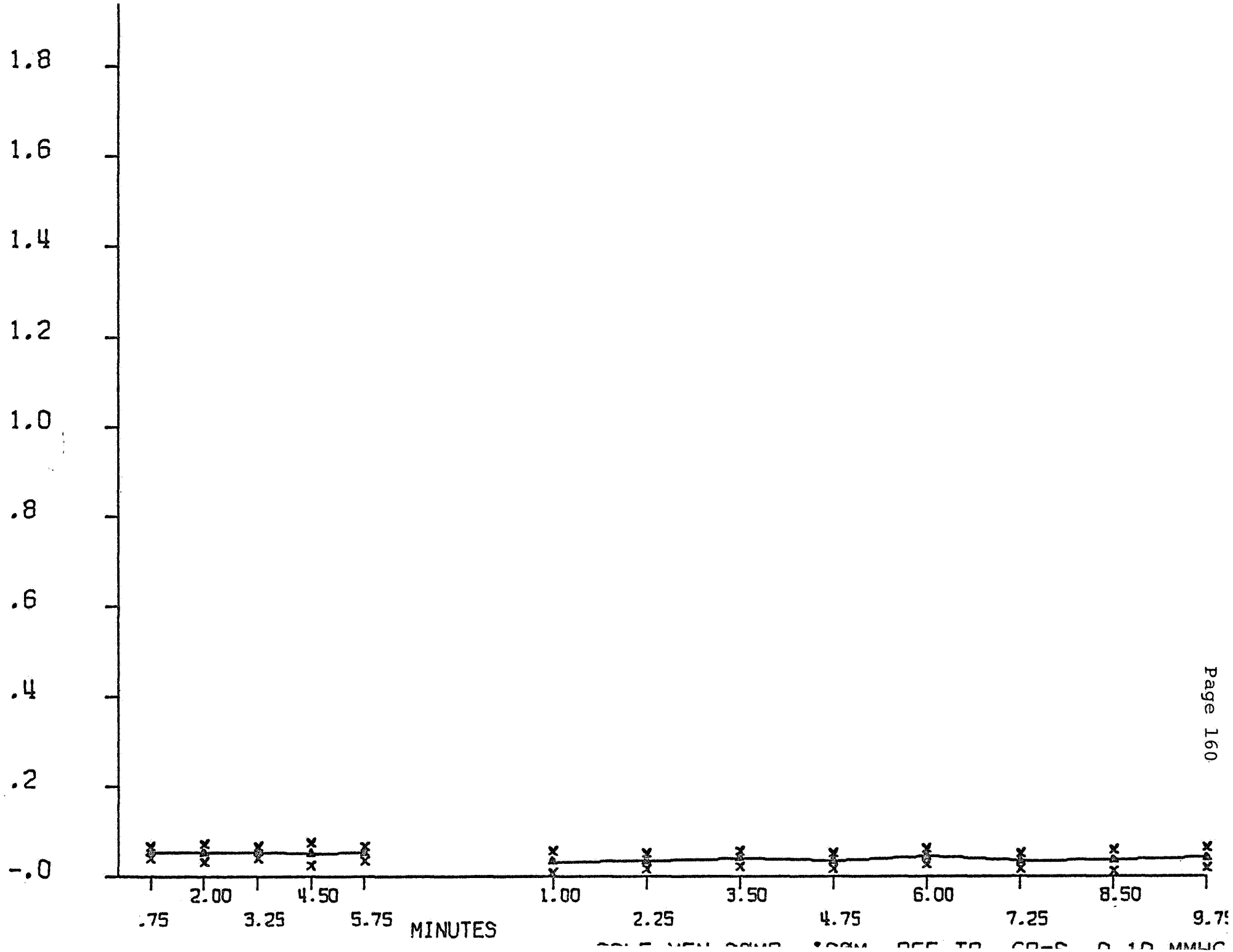
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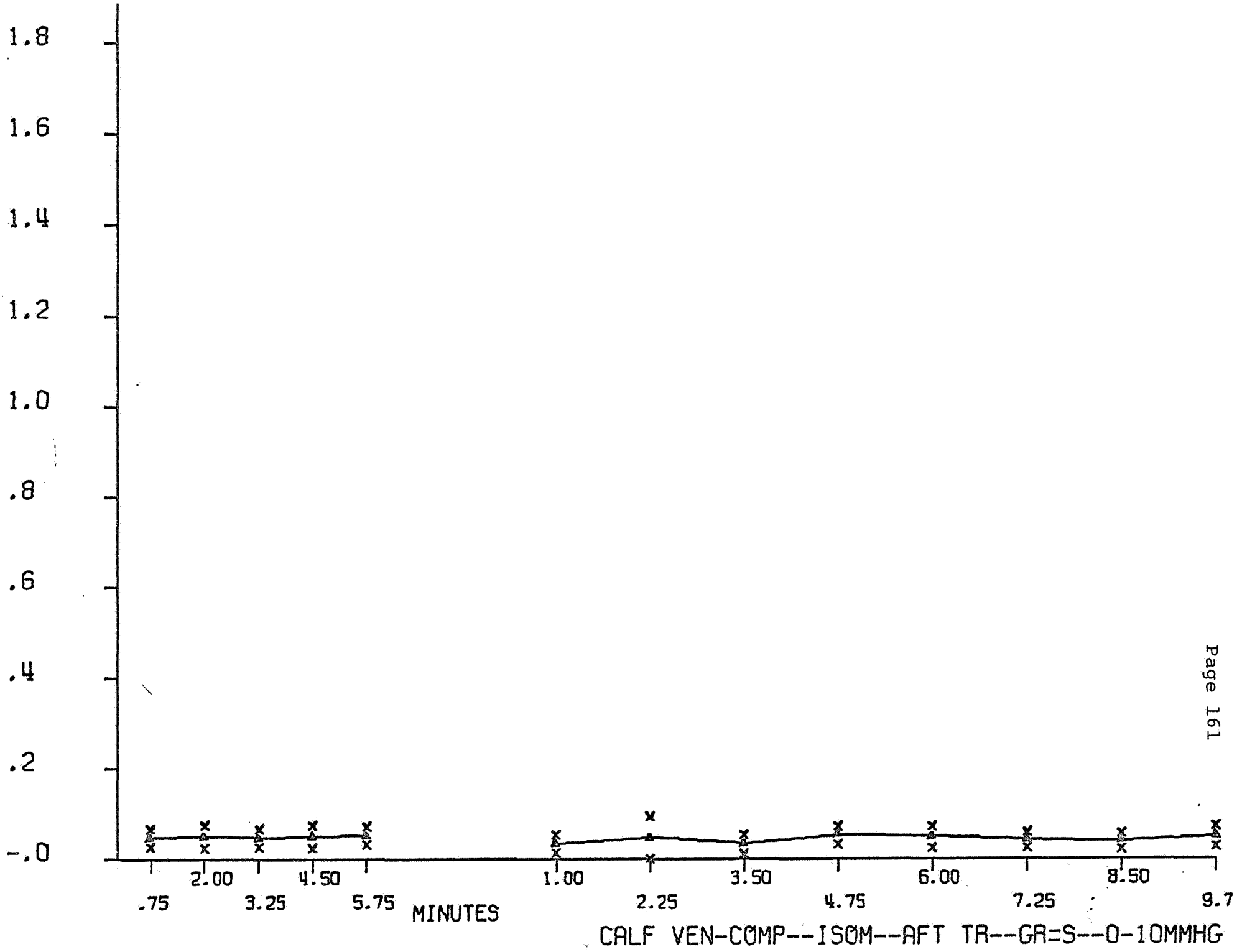
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CALF VEN-COMP--ISOM--AFT TR--GR=S--0-10MMHG

APPENDIX XII

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isometric exercise, before and after conditioning, 10 to 20 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.27	0.37	0.20	0.22	0.12	0.235	0.095
2.00	0.27	0.41	0.19	0.23	0.12	0.243	0.108
3.25	0.21	0.31	0.23	0.22	0.12	0.219	0.070
4.50	0.26	0.29	0.26	0.22	0.12	0.229	0.068
5.75	0.23	0.36	0.26	0.23	0.00	0.269	0.062
			POST CONDITIONING				
1.00 MIN	0.35	0.19	0.22	0.20	0.12	0.214	0.085
2.25	0.39	0.20	0.24	0.20	0.11	0.226	0.102
3.50	0.41	0.23	0.18	0.21	0.12	0.230	0.108
4.75	0.41	0.17	0.21	0.19	0.11	0.216	0.114
6.00	0.39	0.29	0.21	0.29	0.12	0.258	0.102
7.25	0.43	0.30	0.22	0.25	0.12	0.266	0.113
8.50	0.37	0.30	0.25	0.23	0.12	0.256	0.091
9.75	0.37	0.00	0.24	0.25	0.12	0.246	0.100

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.23	0.21	0.17	0.22	0.11	0.189	0.049
2.00	0.24	0.24	0.18	0.17	0.10	0.187	0.058
3.25	0.24	0.29	0.18	0.22	0.11	0.209	0.069
4.50	0.25	0.29	0.20	0.17	0.11	0.206	0.071
5.75	0.22	0.23	0.20	0.17	0.15	0.195	0.032
			POST CONDITIONING				
1.00 MIN	0.33	0.19	0.30	0.16	0.11	0.218	0.093
2.25	0.39	0.23	0.32	0.17	0.10	0.243	0.116
3.50	0.41	0.21	0.24	0.16	0.18	0.242	0.097
4.75	0.41	0.21	0.26	0.20	0.10	0.236	0.112
6.00	0.44	0.23	0.24	0.22	0.10	0.245	0.120
7.25	0.41	0.19	0.30	0.21	0.14	0.250	0.109
8.50	0.35	0.25	0.22	0.21	0.14	0.235	0.076
9.75	0.35	0.21	0.28	0.20	0.14	0.237	0.081

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.33	0.17	0.14	0.13	0.193	0.091
2.00	0.31	0.16	0.14	0.16	0.195	0.080
3.25	0.30	0.17	0.15	0.16	0.196	0.072
4.50	0.27	0.14	0.12	0.14	0.167	0.068
5.75	0.28	0.19	0.15	0.18	0.199	0.056
			POST CONDITIONING			
1.00 MIN	0.44	0.28	0.31	0.14	0.294	0.124
2.25	0.42	0.19	0.14	0.20	0.239	0.124
3.50	0.43	0.20	0.17	0.20	0.250	0.121
4.75	0.40	0.17	0.15	0.23	0.238	0.111
6.00	0.33	0.20	0.17	0.18	0.222	0.070
7.25	0.30	0.19	0.14	0.18	0.204	0.071
8.50	0.35	0.18	0.14	0.17	0.210	0.095
9.75	0.38	0.16	0.17	0.17	0.222	0.108

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.28	0.12	0.16	0.20	0.191	0.070
2.00	0.39	0.10	0.21	0.21	0.227	0.120
3.25	0.26	0.09	0.21	0.20	0.189	0.070
4.50	0.30	0.12	0.21	0.20	0.204	0.073
5.75	0.33	0.08	0.00	0.18	0.200	0.125
			POST CONDITIONING			
1.00 MIN	0.47	0.10	0.28	0.17	0.256	0.162
2.25	0.35	0.14	0.24	0.17	0.224	0.097
3.50	0.35	0.18	0.28	0.18	0.248	0.085
4.75	0.43	0.17	0.18	0.20	0.244	0.122
6.00	0.35	0.14	0.18	0.18	0.217	0.094
7.25	0.28	0.13	0.18	0.18	0.195	0.066
8.50	0.35	0.14	0.28	0.16	0.231	0.103
9.75	0.33	0.17	0.21	0.00	0.236	0.086

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.08	0.21	0.17	0.10	0.151	0.058
2.00	0.17	0.10	0.18	0.18	0.11	0.148	0.040
3.25	0.00	0.09	0.19	0.17	0.10	0.137	0.049
4.50	0.18	0.11	0.20	0.17	0.11	0.155	0.040
5.75	0.18	0.11	0.18	0.16	0.11	0.148	0.036
			POST CONDITIONING				
1.00 MIN	0.19	0.08	0.13	0.18	0.11	0.138	0.045
2.25	0.19	0.08	0.15	0.18	0.11	0.145	0.046
3.50	0.22	0.07	0.17	0.21	0.09	0.153	0.068
4.75	0.14	0.08	0.18	0.21	0.11	0.145	0.053
6.00	0.14	0.10	0.18	0.20	0.07	0.141	0.053
7.25	0.17	0.09	0.18	0.19	0.09	0.146	0.050
8.50	0.21	0.10	0.17	0.19	0.09	0.154	0.054
9.75	0.24	0.10	0.20	0.20	0.07	0.164	0.070

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=D--10-20 MMHG

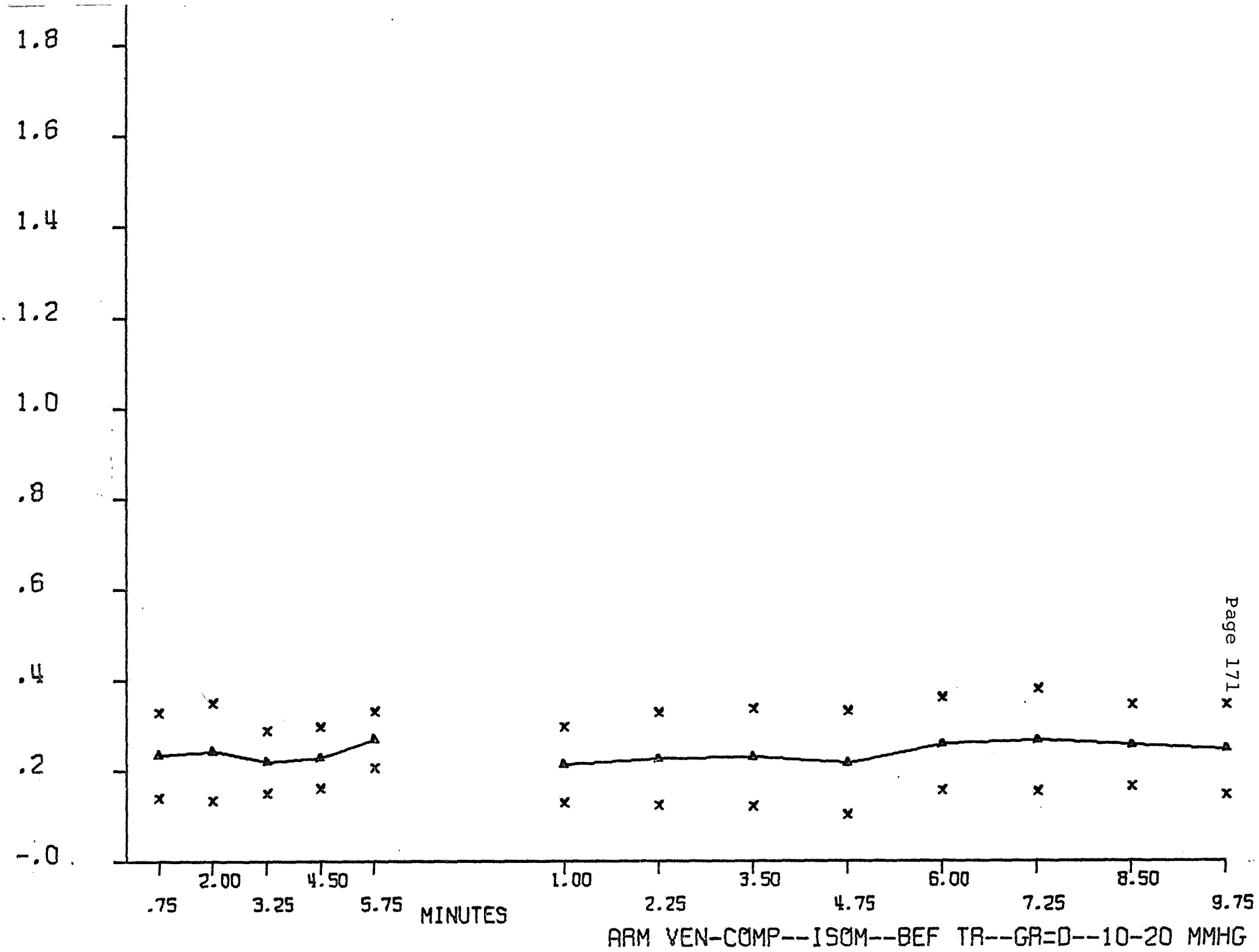
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.08	0.18	0.11	0.05	0.112	0.052
2.00	0.15	0.07	0.21	0.11	0.04	0.117	0.068
3.25	0.15	0.08	0.18	0.11	0.05	0.113	0.053
4.50	0.13	0.10	0.20	0.11	0.05	0.117	0.054
5.75	0.13	0.07	0.00	0.16	0.05	0.102	0.051
			POST CONDITIONING				
1.00 MIN	0.21	0.02	0.11	0.11	0.05	0.100	0.075
2.25	0.21	0.03	0.14	0.11	0.05	0.107	0.072
3.50	0.19	0.08	0.14	0.11	0.02	0.109	0.063
4.75	0.18	0.05	0.17	0.16	0.03	0.119	0.072
6.00	0.18	0.04	0.14	0.11	0.02	0.099	0.067
7.25	0.15	0.06	0.16	0.11	0.02	0.102	0.059
8.50	0.13	0.09	0.16	0.11	0.05	0.110	0.043
9.75	0.18	0.13	0.17	0.12	0.05	0.132	0.054

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.13	0.22	0.15	0.17	0.169	0.037
2.00	0.13	0.23	0.11	0.17	0.160	0.050
3.25	0.14	0.23	0.11	0.17	0.164	0.052
4.50	0.14	0.22	0.16	0.17	0.175	0.033
5.75	0.13	0.23	0.14	0.19	0.172	0.045
		POST CONDITIONING				
1.00 MIN	0.05	0.23	0.10	0.09	0.120	0.079
2.25	0.07	0.23	0.14	0.13	0.141	0.069
3.50	0.10	0.23	0.14	0.11	0.145	0.061
4.75	0.09	0.22	0.12	0.14	0.144	0.055
6.00	0.09	0.22	0.14	0.13	0.144	0.054
7.25	0.12	0.22	0.14	0.11	0.146	0.051
8.50	0.11	0.23	0.14	0.13	0.151	0.056
9.75	0.12	0.19	0.14	0.14	0.147	0.032

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.18	0.12	0.09	0.107	0.055
2.00	0.04	0.20	0.12	0.08	0.110	0.069
3.25	0.04	0.20	0.11	0.11	0.114	0.065
4.50	0.04	0.16	0.09	0.09	0.097	0.049
5.75	0.04	0.17	0.09	0.06	0.088	0.058
		POST CONDITIONING				
1.00 MIN	0.04	0.18	0.09	0.10	0.101	0.060
2.25	0.03	0.15	0.12	0.14	0.109	0.055
3.50	0.04	0.17	0.07	0.11	0.097	0.056
4.75	0.04	0.18	0.11	0.10	0.105	0.054
6.00	0.04	0.14	0.09	0.09	0.090	0.038
7.25	0.04	0.14	0.11	0.11	0.098	0.039
8.50	0.05	0.16	0.11	0.10	0.104	0.046
9.75	0.05	0.16	0.00	0.11	0.109	0.056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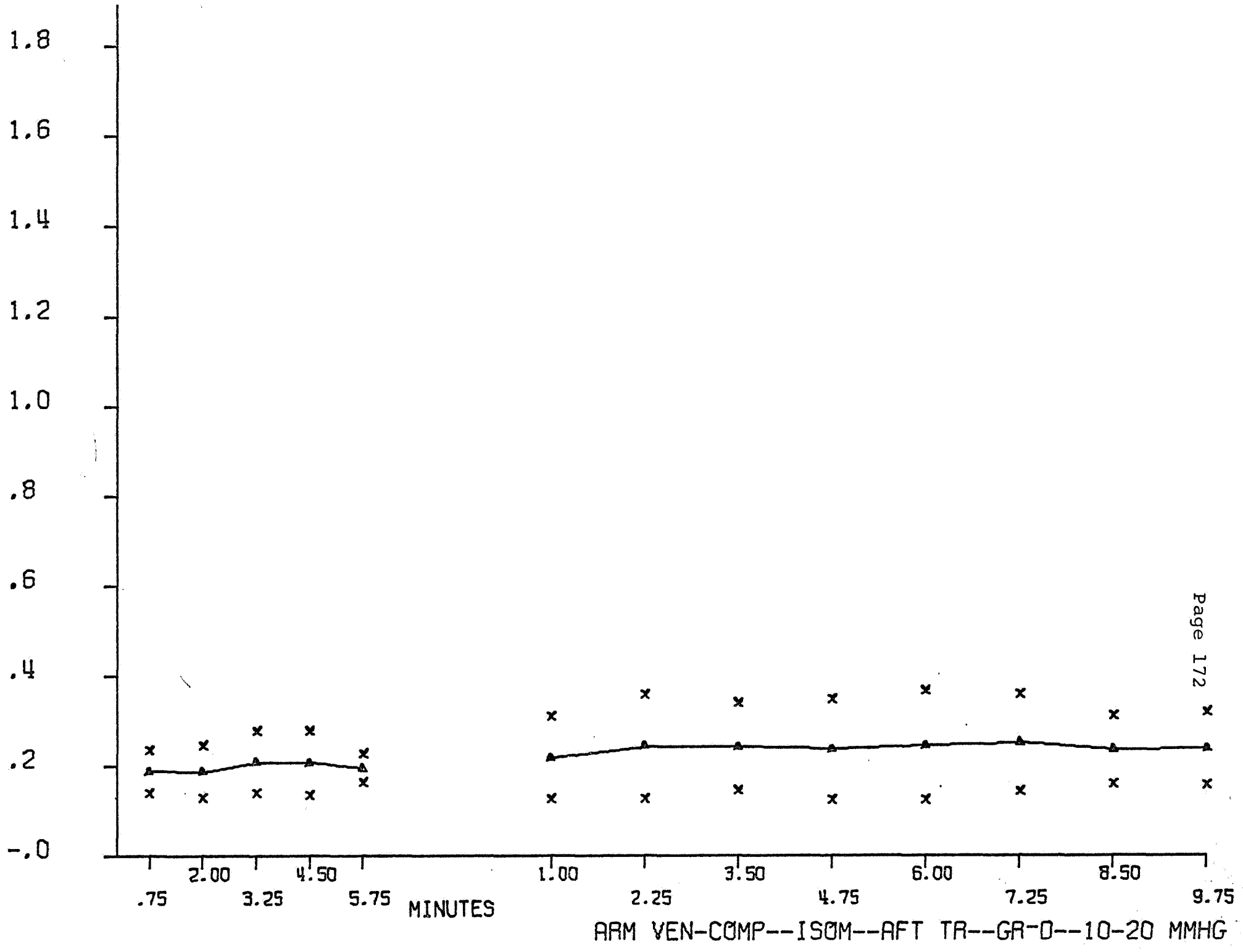
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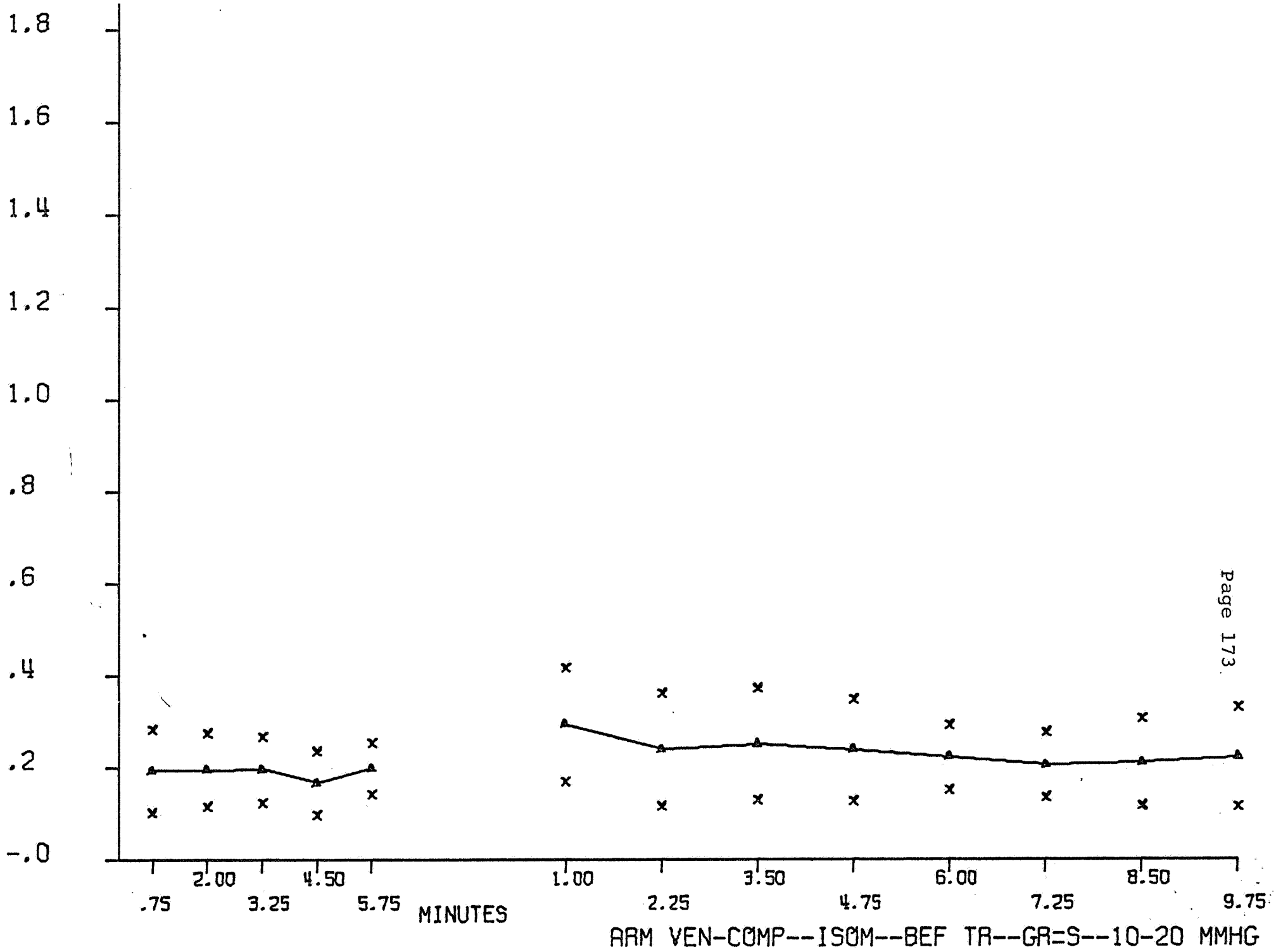
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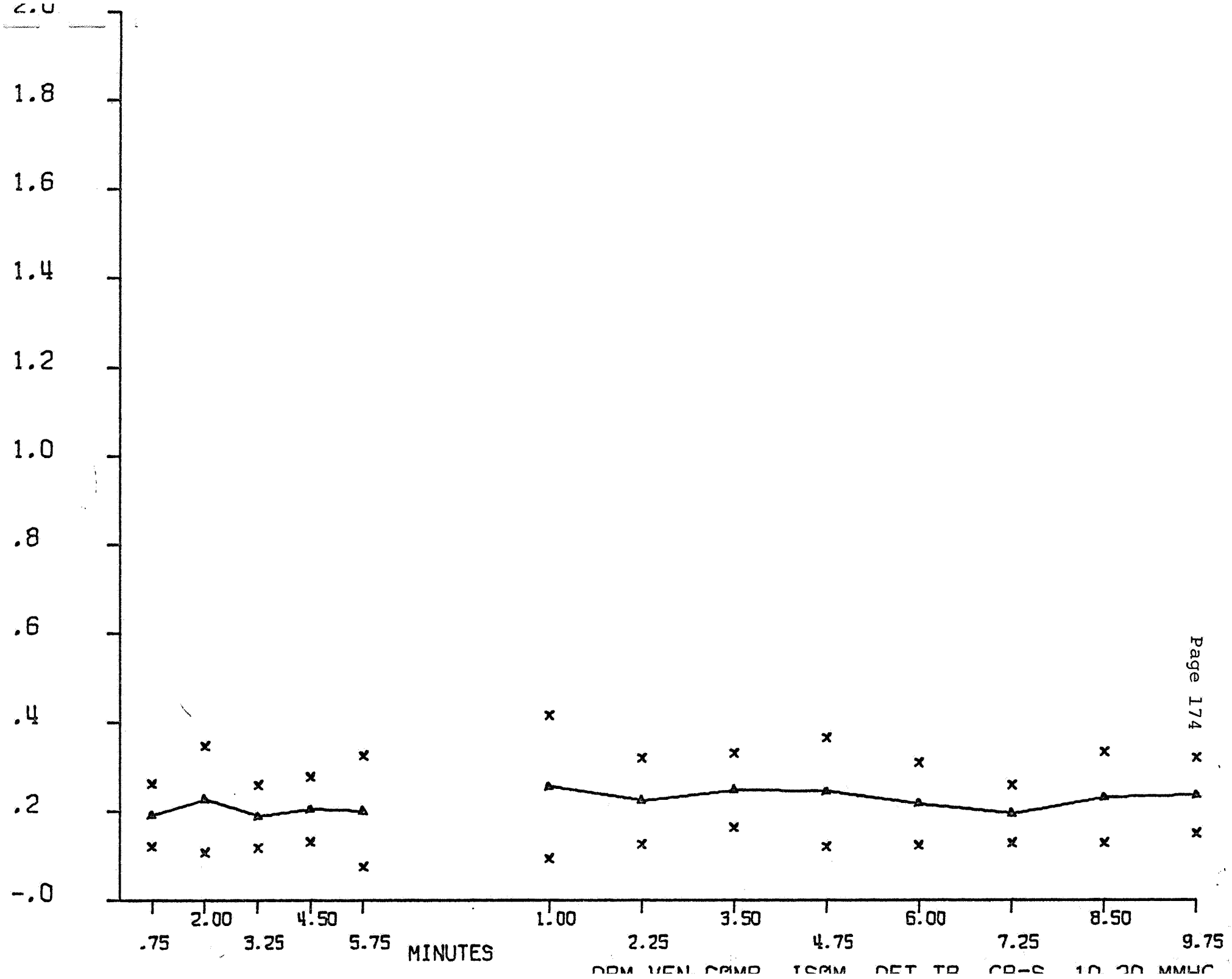
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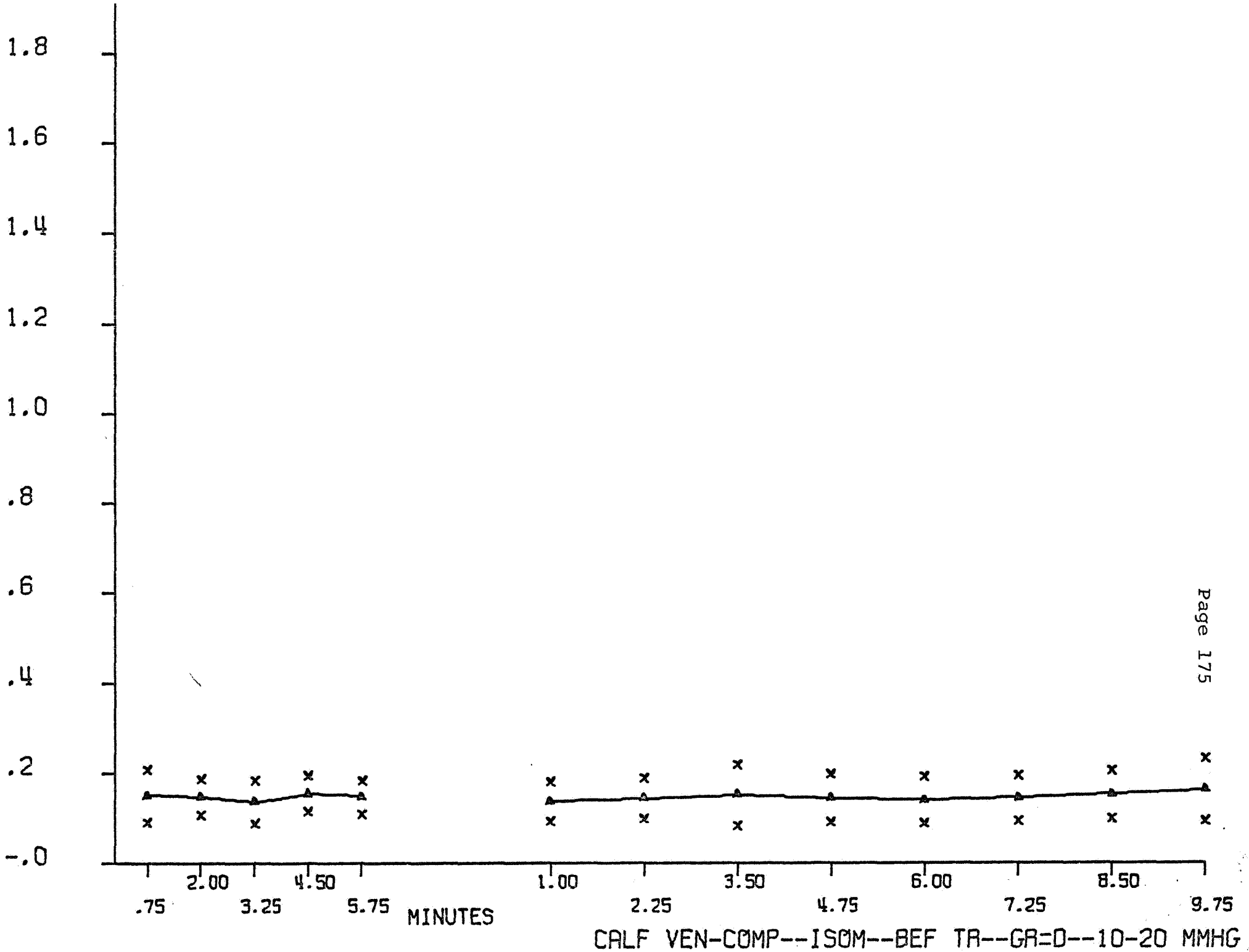
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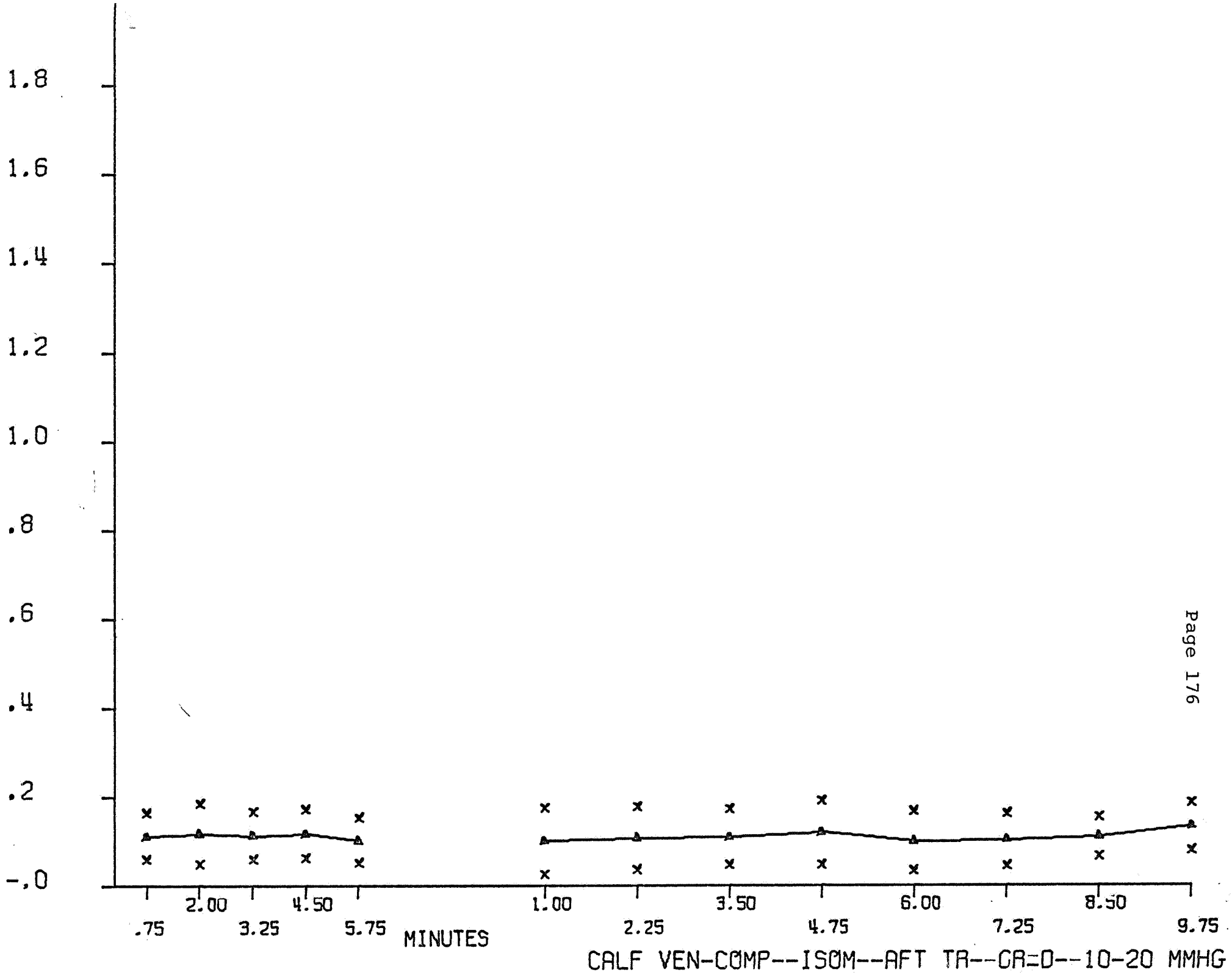
CALF VEN-COMP--ISOM--BEF TR--GR=0--10-20 MMHG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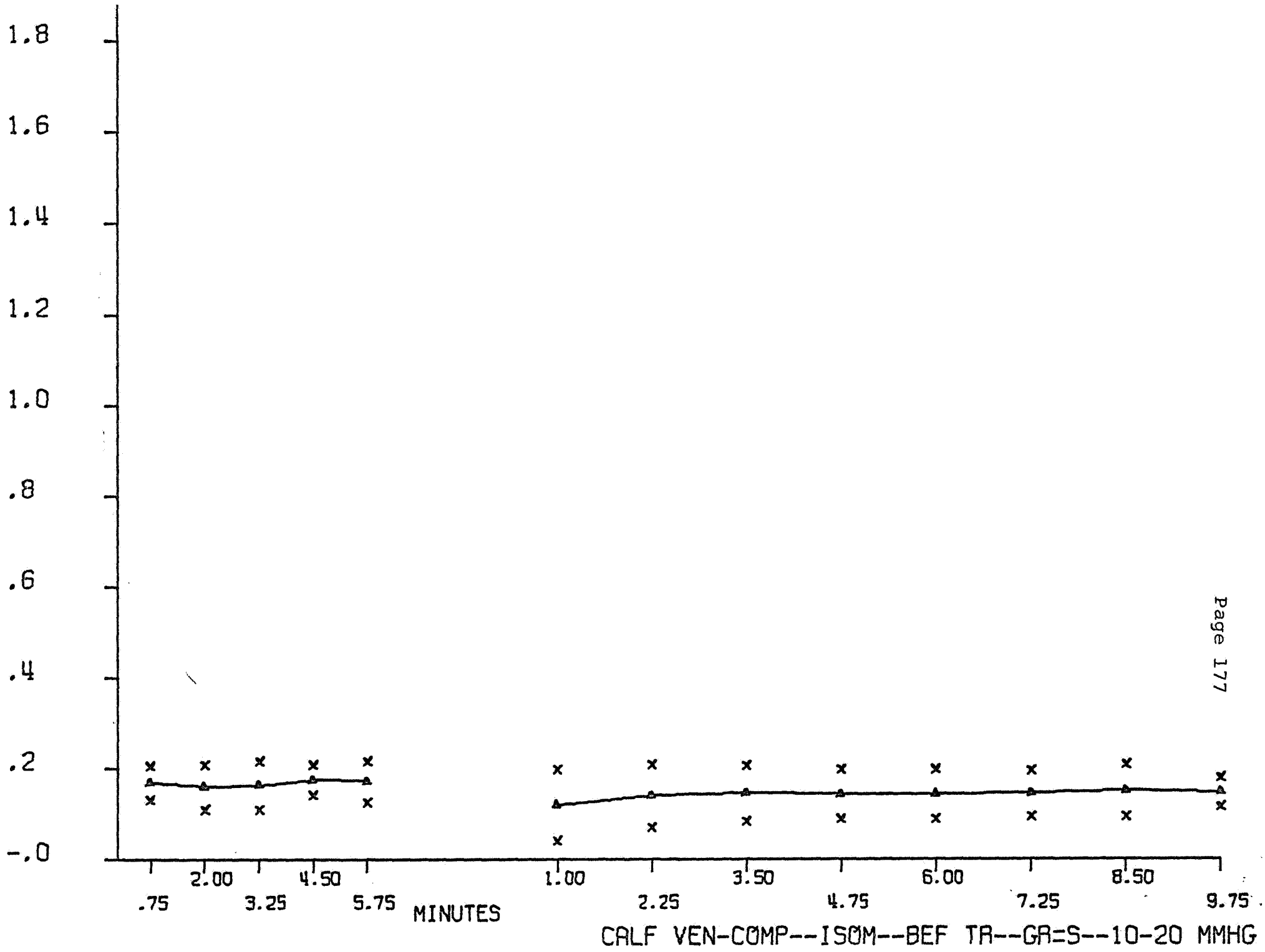
MINUTES
CALF VEN-COMP--ISOM--AFT TR--CR=0--10-20 MMHG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MINUTES
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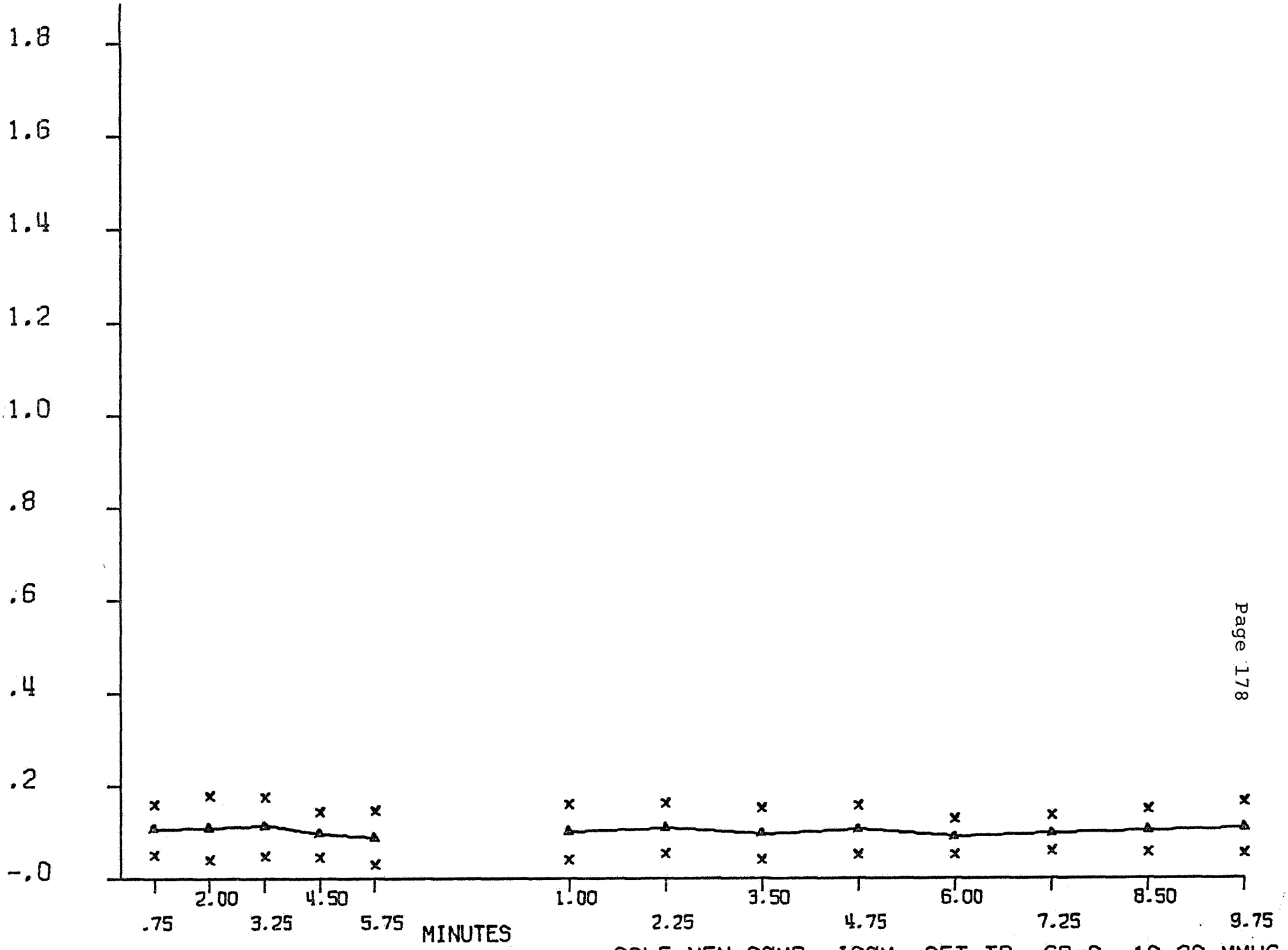
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MINUTES
CALF VEN-COMP--ISOM--AFT TR--GR=S--10-20 MMHG

APPENDIX XIII

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isometric exercise, before and after conditioning, 20 to 30 mm Hg.

Units: Milliliters/100 milliliter arm or calf • mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf • mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.33	0.16	0.19	0.229	0.068
2.00	0.22	0.27	0.26	0.19	0.21	0.229	0.034
3.25	0.25	0.28	0.34	0.20	0.17	0.247	0.067
4.50	0.20	0.37	0.31	0.16	0.21	0.250	0.089
5.75	0.22	0.30	0.30	0.17	0.00	0.249	0.066
			POST CONDITIONING				
1.00 MIN	0.22	0.11	0.32	0.18	0.16	0.197	0.081
2.25	0.22	0.14	0.31	0.17	0.21	0.210	0.065
3.50	0.25	0.20	0.31	0.20	0.17	0.226	0.054
4.75	0.25	0.17	0.27	0.20	0.18	0.214	0.041
6.00	0.22	0.24	0.30	0.21	0.19	0.234	0.042
7.25	0.16	0.22	0.29	0.22	0.18	0.216	0.048
8.50	0.20	0.22	0.27	0.17	0.17	0.207	0.041
9.75	0.29	0.00	0.32	0.18	0.17	0.237	0.078

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.19	0.15	0.18	0.198	0.043
2.00	0.20	0.24	0.22	0.20	0.16	0.204	0.031
3.25	0.26	0.24	0.22	0.17	0.16	0.212	0.043
4.50	0.23	0.32	0.22	0.22	0.14	0.226	0.064
5.75	0.17	0.24	0.20	0.20	0.18	0.199	0.027
			POST CONDITIONING				
1.00 MIN	0.24	0.21	0.22	0.16	0.04	0.176	0.081
2.25	0.24	0.19	0.26	0.17	0.08	0.189	0.071
3.50	0.25	0.25	0.28	0.17	0.16	0.225	0.054
4.75	0.26	0.21	0.24	0.20	0.20	0.223	0.028
6.00	0.24	0.21	0.22	0.22	0.18	0.215	0.022
7.25	0.28	0.16	0.24	0.21	0.16	0.211	0.053
8.50	0.26	0.24	0.20	0.20	0.12	0.204	0.054
9.75	0.35	0.16	0.20	0.20	0.18	0.218	0.075

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.28	0.15	0.14	0.18	0.186	0.065
2.00	0.26	0.16	0.13	0.20	0.186	0.056
3.25	0.26	0.16	0.14	0.15	0.177	0.054
4.50	0.27	0.16	0.14	0.18	0.184	0.058
5.75	0.26	0.17	0.12	0.17	0.177	0.057
			POST CONDITIONING			
1.00 MIN	0.28	0.17	0.10	0.18	0.184	0.073
2.25	0.26	0.19	0.17	0.18	0.199	0.039
3.50	0.30	0.28	0.14	0.18	0.227	0.080
4.75	0.35	0.15	0.15	0.17	0.204	0.098
6.00	0.26	0.18	0.10	0.18	0.178	0.066
7.25	0.35	0.17	0.14	0.17	0.207	0.097
8.50	0.33	0.16	0.13	0.17	0.194	0.090
9.75	0.26	0.16	0.14	0.18	0.185	0.052

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.32	0.14	0.21	0.17	0.208	0.080
2.00	0.28	0.15	0.18	0.17	0.198	0.060
3.25	0.28	0.14	0.18	0.18	0.197	0.063
4.50	0.35	0.10	0.21	0.13	0.198	0.113
5.75	0.35	0.15	0.00	0.17	0.226	0.112
		POST CONDITIONING				
1.00 MIN	0.45	0.17	0.31	0.18	0.278	0.131
2.25	0.35	0.19	0.25	0.14	0.233	0.092
3.50	0.38	0.17	0.12	0.14	0.204	0.119
4.75	0.34	0.14	0.21	0.14	0.207	0.096
6.00	0.41	0.17	0.26	0.14	0.246	0.122
7.25	0.40	0.17	0.25	0.12	0.234	0.124
8.50	0.33	0.17	0.29	0.16	0.237	0.087
9.75	0.35	0.14	0.26	0.00	0.249	0.110

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.17	0.15	0.15	0.15	0.17	0.155	0.012
2.00	0.19	0.19	0.16	0.17	0.17	0.175	0.013
3.25	0.00	0.21	0.15	0.18	0.17	0.176	0.023
4.50	0.19	0.23	0.15	0.18	0.15	0.178	0.034
5.75	0.16	0.16	0.15	0.18	0.18	0.164	0.014
			POST CONDITIONING				
1.00 MIN	0.15	0.17	0.18	0.16	0.13	0.159	0.017
2.25	0.20	0.16	0.18	0.18	0.14	0.171	0.022
3.50	0.15	0.19	0.19	0.15	0.17	0.169	0.019
4.75	0.22	0.15	0.19	0.17	0.15	0.174	0.030
6.00	0.14	0.12	0.18	0.17	0.15	0.153	0.022
7.25	0.20	0.17	0.16	0.16	0.15	0.168	0.019
8.50	0.19	0.17	0.15	0.18	0.15	0.169	0.016
9.75	0.18	0.19	0.16	0.18	0.13	0.170	0.021

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=D--20-30 MMHG

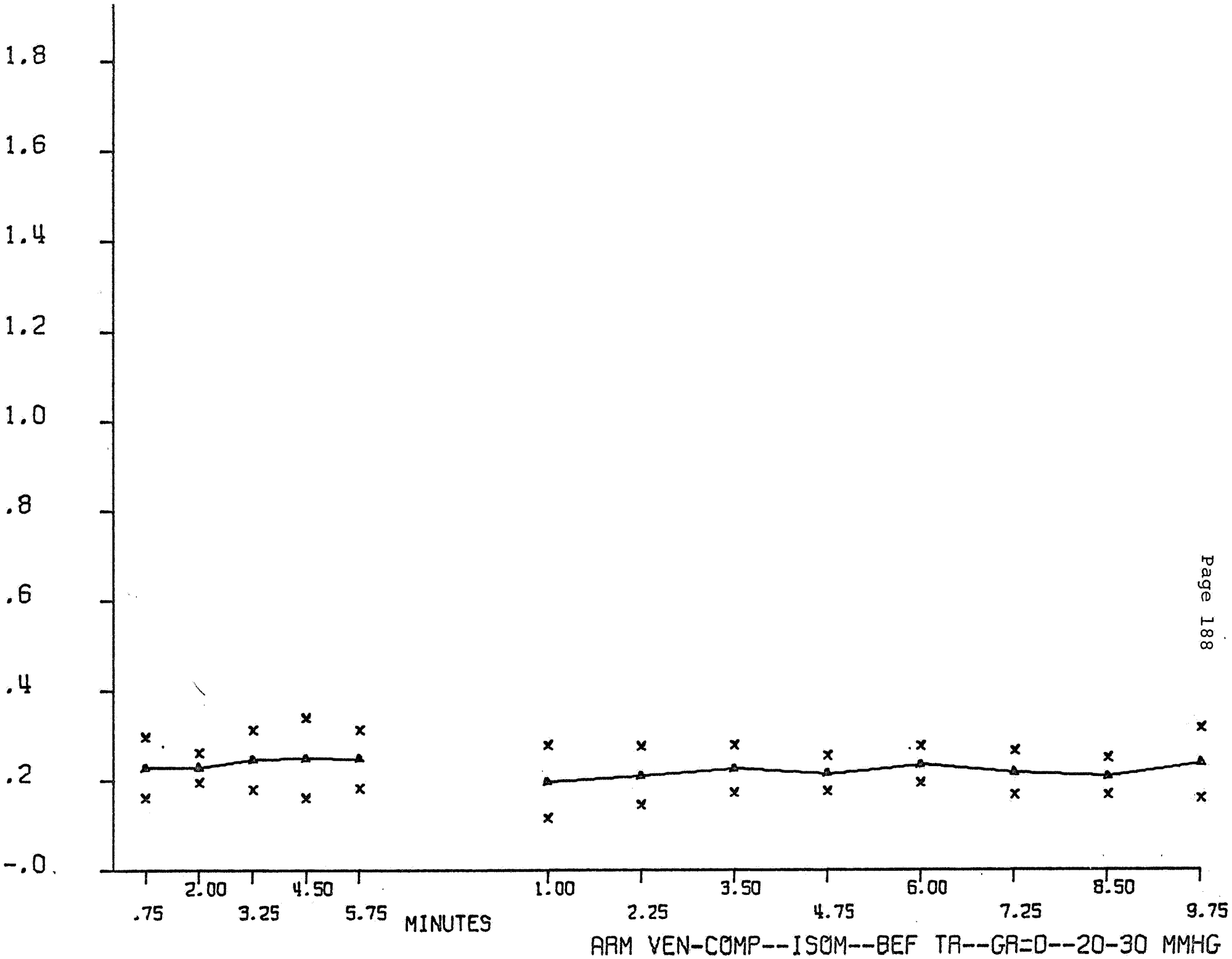
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.10	0.16	0.09	0.11	0.13	0.118	0.029
2.00	0.15	0.16	0.15	0.16	0.13	0.149	0.014
3.25	0.13	0.16	0.17	0.16	0.11	0.146	0.024
4.50	0.13	0.16	0.15	0.11	0.11	0.133	0.026
5.75	0.15	0.17	0.00	0.13	0.13	0.147	0.019
			POST CONDITIONING				
1.00 MIN	0.21	0.12	0.15	0.14	0.14	0.154	0.035
2.25	0.15	0.19	0.17	0.14	0.13	0.157	0.027
3.50	0.16	0.14	0.14	0.16	0.17	0.156	0.013
4.75	0.16	0.17	0.14	0.14	0.13	0.150	0.018
6.00	0.18	0.15	0.14	0.16	0.13	0.154	0.018
7.25	0.20	0.12	0.17	0.16	0.13	0.156	0.032
8.50	0.16	0.13	0.16	0.16	0.15	0.153	0.013
9.75	0.20	0.21	0.15	0.14	0.16	0.171	0.029

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.17	0.10	0.17	0.148	0.032
2.00	0.15	0.17	0.10	0.21	0.156	0.043
3.25	0.16	0.17	0.12	0.17	0.155	0.024
4.50	0.16	0.18	0.13	0.18	0.162	0.025
5.75	0.15	0.18	0.13	0.19	0.162	0.028
		POST CONDITIONING				
1.00 MIN	0.15	0.18	0.11	0.17	0.154	0.031
2.25	0.17	0.18	0.12	0.19	0.164	0.031
3.50	0.15	0.18	0.12	0.19	0.160	0.032
4.75	0.16	0.19	0.12	0.17	0.160	0.031
6.00	0.17	0.19	0.10	0.16	0.155	0.039
7.25	0.15	0.18	0.10	0.17	0.152	0.035
8.50	0.17	0.19	0.10	0.17	0.159	0.040
9.75	0.17	0.19	0.10	0.16	0.155	0.039

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.16	0.12	0.11	0.136	0.023
2.00	0.13	0.15	0.09	0.11	0.122	0.026
3.25	0.12	0.14	0.09	0.08	0.107	0.026
4.50	0.14	0.15	0.09	0.08	0.116	0.035
5.75	0.14	0.16	0.07	0.09	0.117	0.042
		POST CONDITIONING				
1.00 MIN	0.08	0.16	0.09	0.16	0.123	0.043
2.25	0.10	0.15	0.09	0.15	0.123	0.034
3.50	0.12	0.15	0.12	0.12	0.128	0.015
4.75	0.13	0.14	0.06	0.15	0.117	0.039
6.00	0.13	0.16	0.12	0.12	0.135	0.020
7.25	0.13	0.16	0.09	0.13	0.129	0.030
8.50	0.12	0.15	0.06	0.09	0.104	0.039
9.75	0.13	0.16	0.00	0.13	0.142	0.019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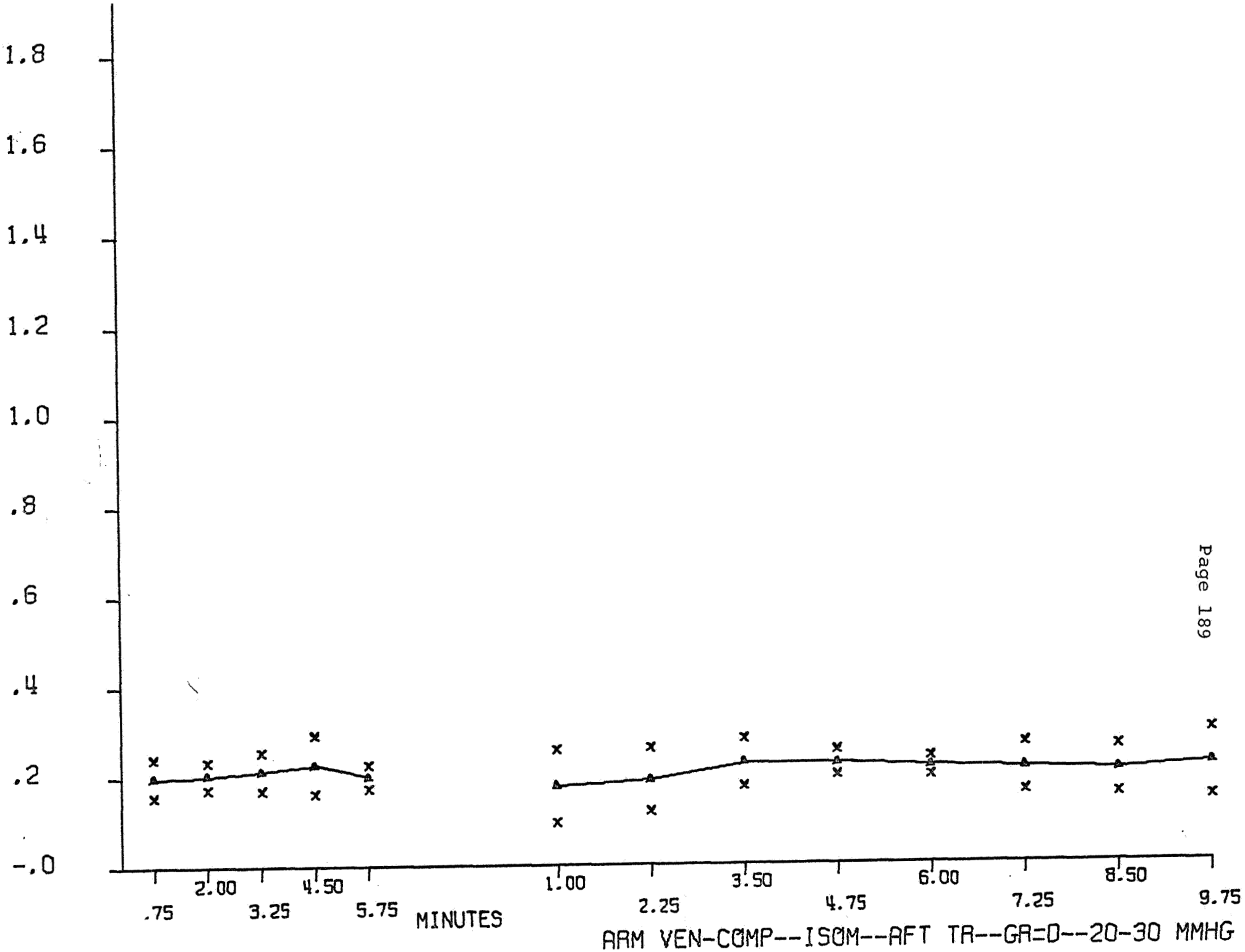
MINUTES
ARM VEN-COMP--ISOM--BEF TR--GR=0--20-30 MMHG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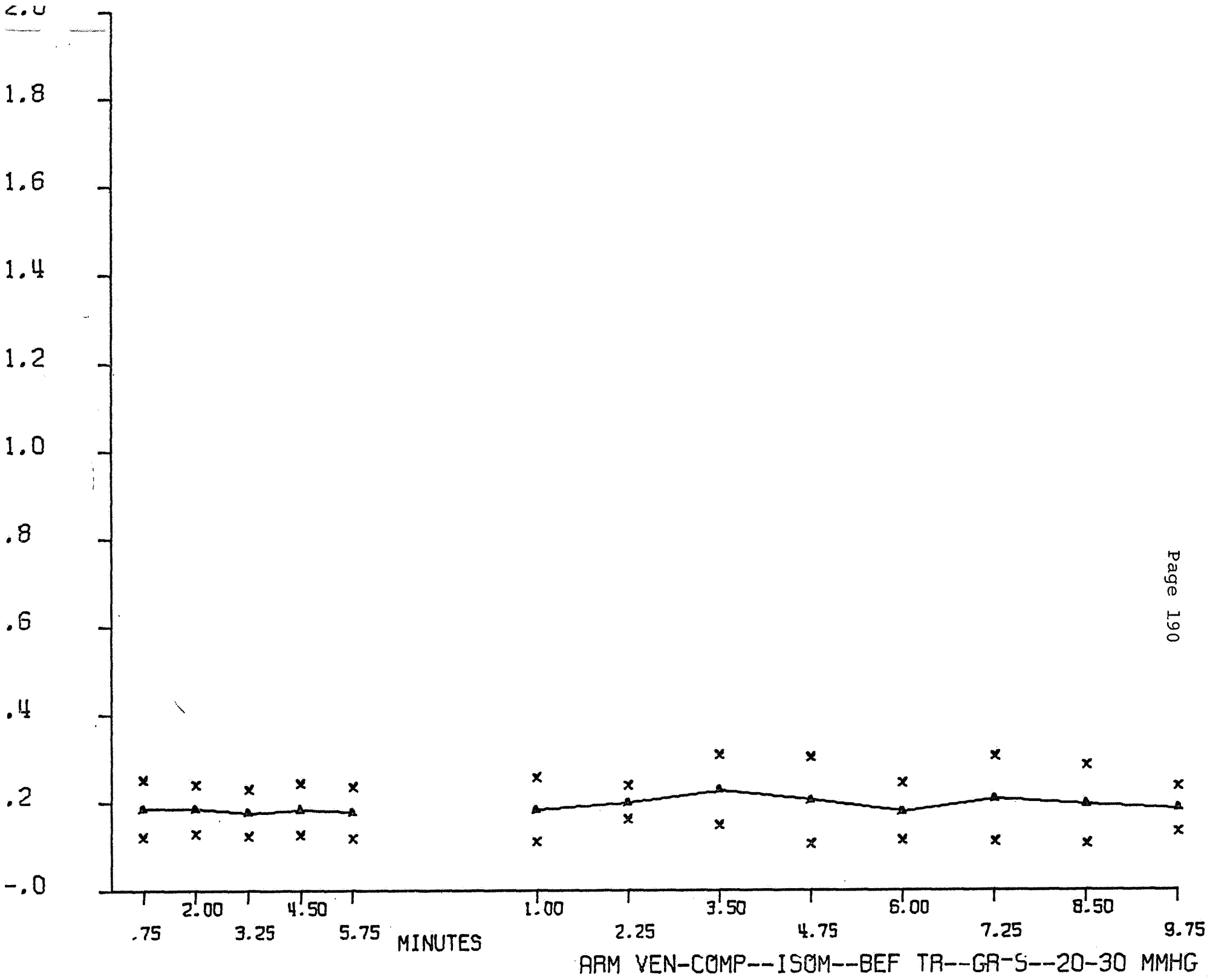
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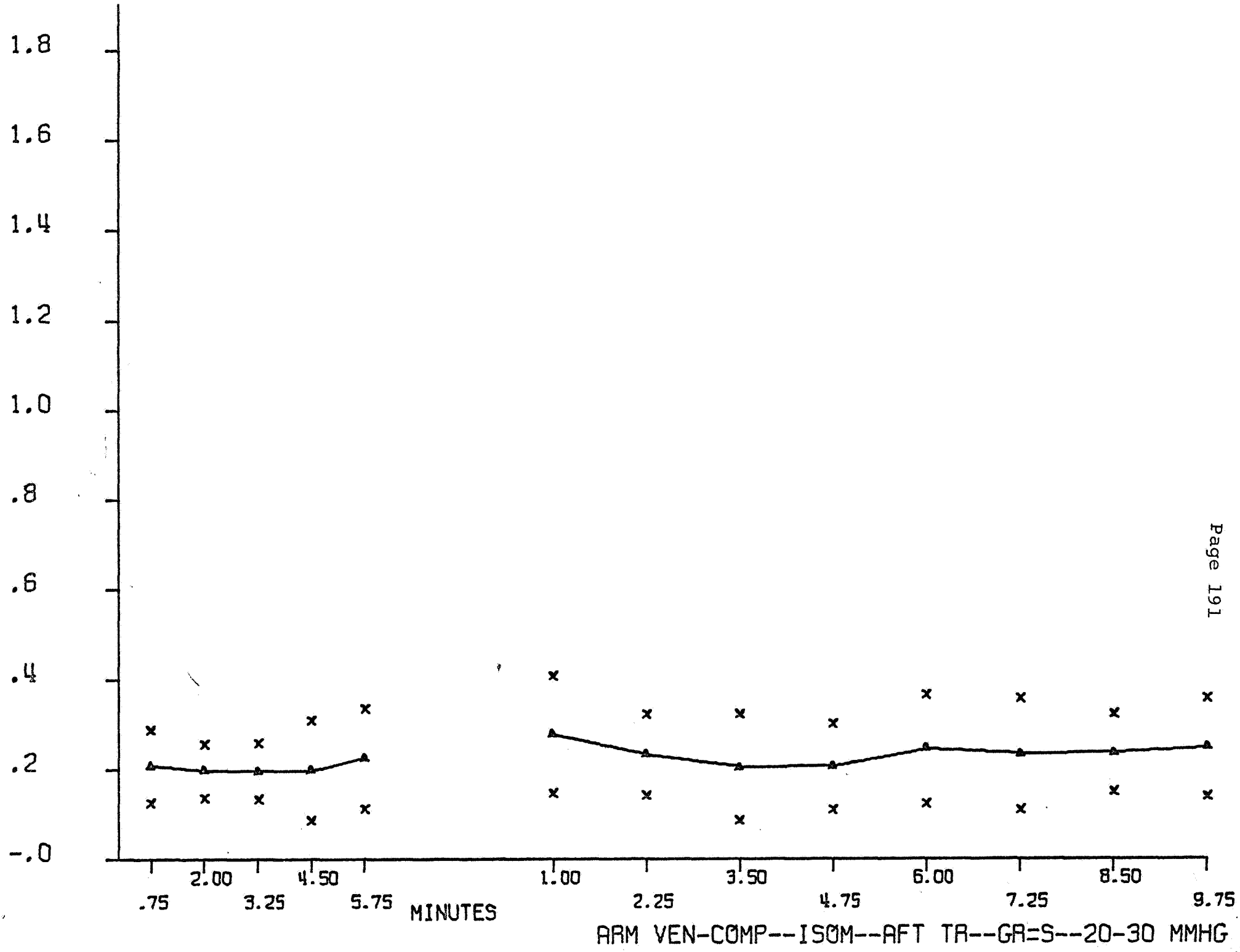
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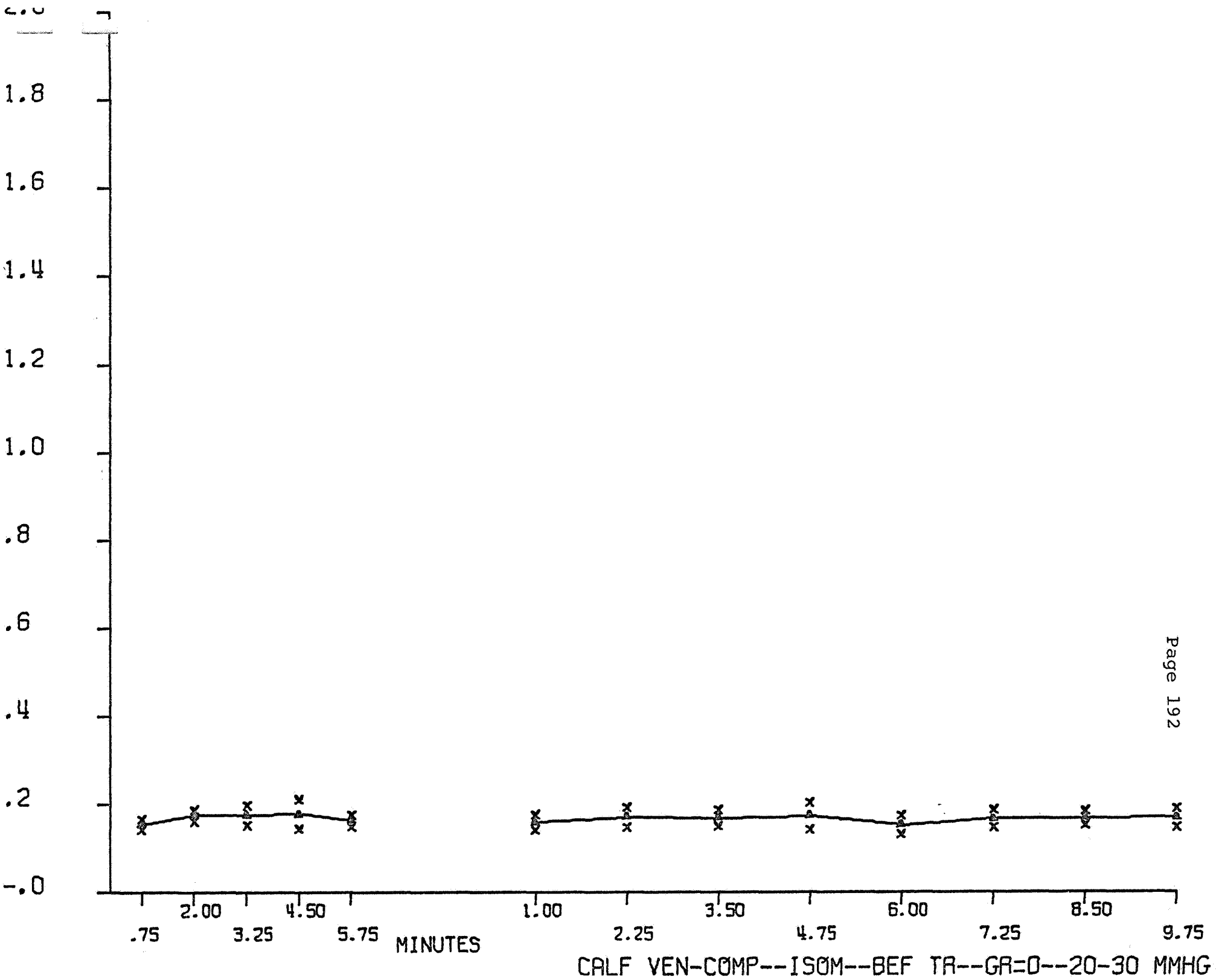
MINUTES
ARM VEN-COMP--ISOM--AFT TR--GRES--20-30 MMHG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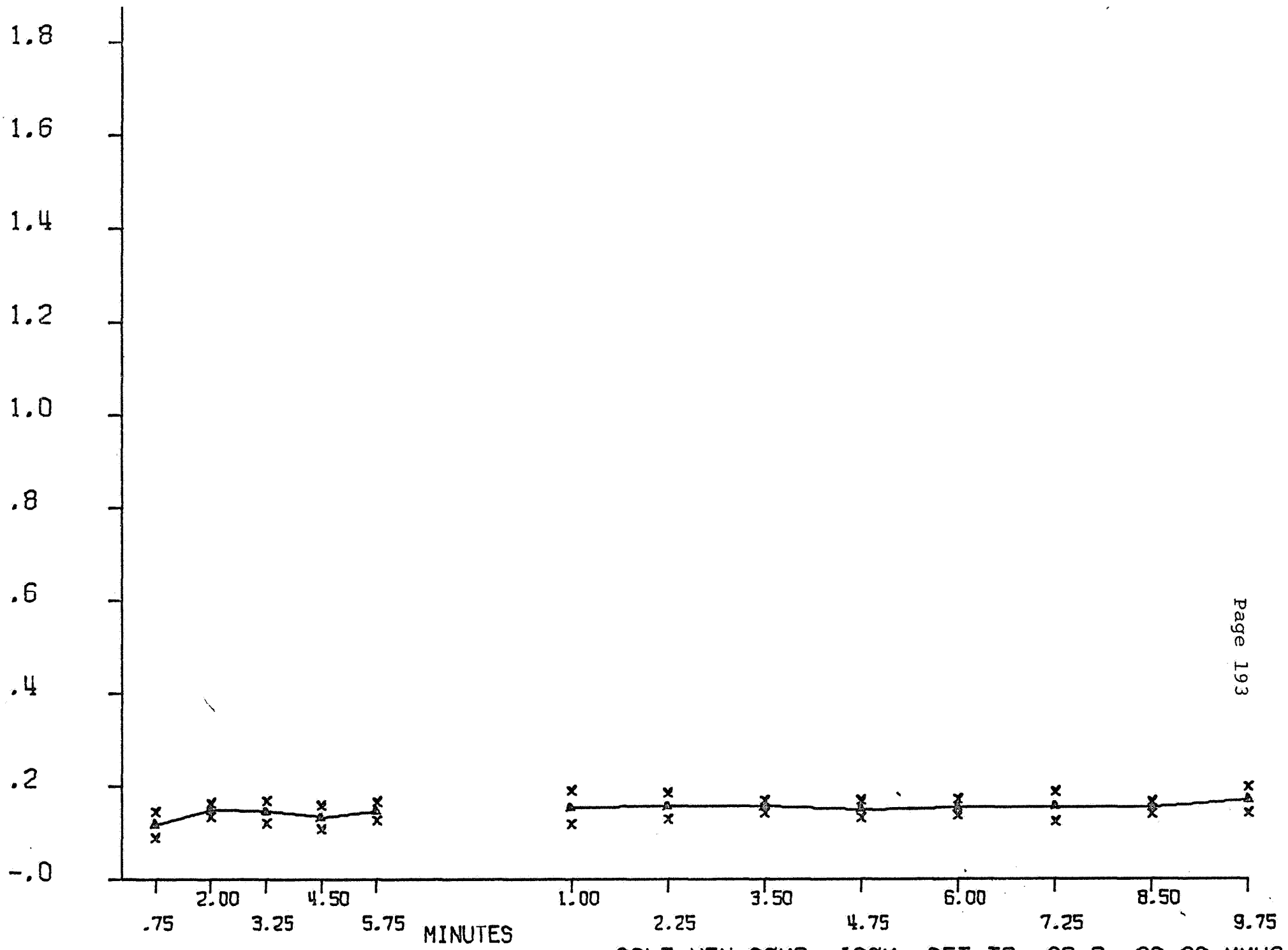
CALF VEN-COMP--ISOM--BEF TR--GR=0--20-30 MMHG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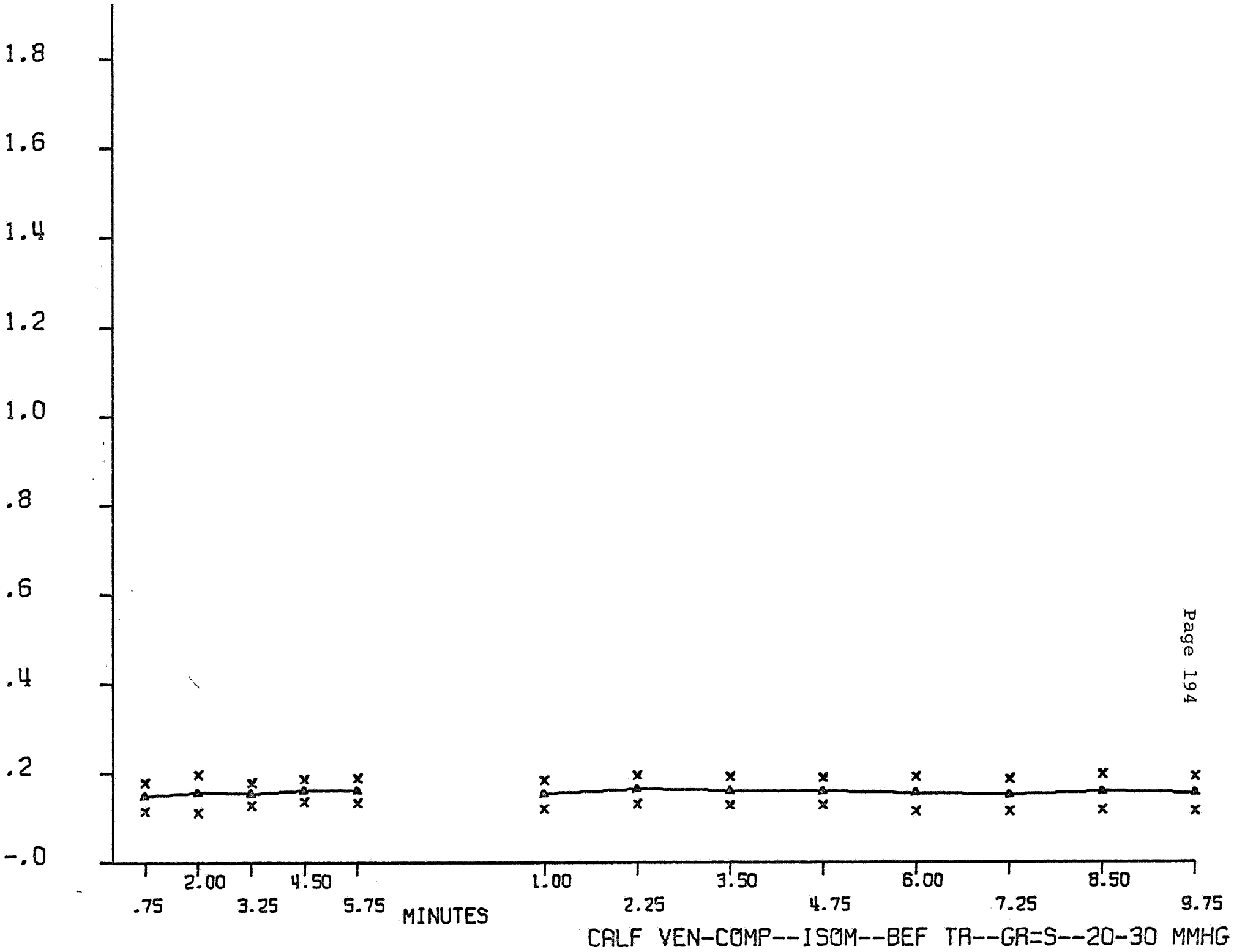
CALF VEN-COMP--ISOM--AFT TR--GR=0--20-30 MMHG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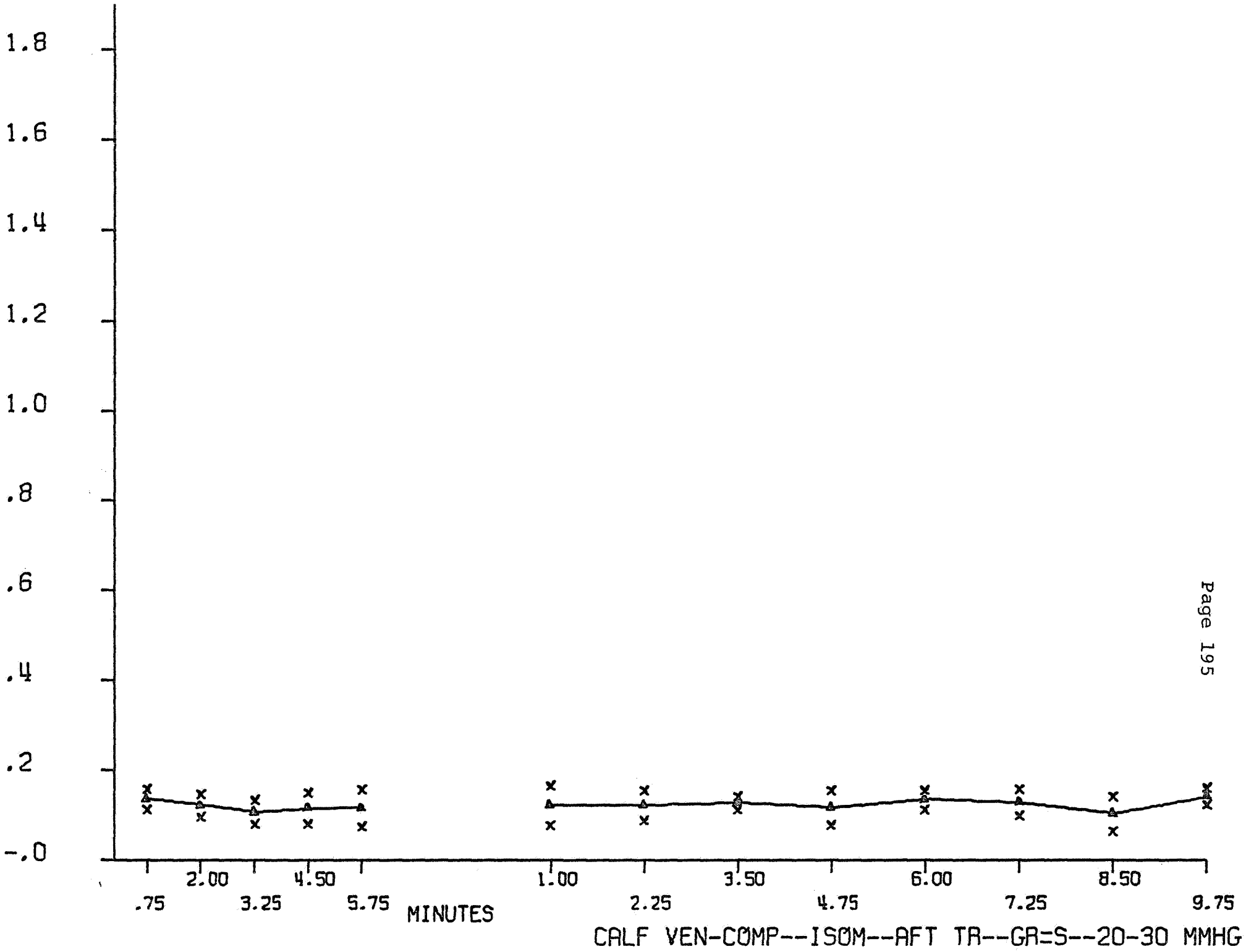
MINUTES
CALF VEN-COMP--ISOM--BEF TR--GR=S--20-30 MMHG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2.25
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4.75
6.00
7.25
8.50
9.75
MINUTES
CALF VEN-COMP--ISOM--AFT TR--GRES--20-30 MMHG

APPENDIX XIV

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isotonic exercise, before and after conditioning, 0 to 10 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.05	0.06	0.09	0.06	0.065	0.017
2.00	0.06	0.03	0.09	0.06	0.059	0.023
3.25	0.05	0.03	0.07	0.06	0.053	0.017
4.50	0.05	0.04	0.07	0.07	0.056	0.017
5.75	0.12	0.05	0.08	0.07	0.079	0.028
		POST CONDITIONING				
1.00 MIN	0.11	0.07	0.06	0.08	0.078	0.020
2.25	0.12	0.07	0.02	0.06	0.069	0.038
3.50	0.12	0.04	0.04	0.04	0.057	0.040
4.75	0.11	0.03	0.04	0.07	0.061	0.035
6.00	0.13	0.08	0.03	0.06	0.076	0.041
7.25	0.16	0.02	0.04	0.06	0.071	0.064
8.50	0.09	0.02	0.06	0.03	0.050	0.035
9.75	0.16	0.03	0.03	0.07	0.073	0.063

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.09	0.04	0.02	0.02	0.062	0.055
2.00	0.12	0.08	0.05	0.02	0.02	0.060	0.043
3.25	0.17	0.09	0.06	0.02	0.02	0.074	0.064
4.50	0.15	0.08	0.05	0.02	0.04	0.070	0.051
5.75	0.18	0.08	0.04	0.02	0.00	0.082	0.072
			POST CONDITIONING				
1.00 MIN	0.10	0.05	0.03	0.02	0.07	0.055	0.033
2.25	0.10	0.02	0.02	0.07	0.06	0.054	0.034
3.50	0.10	0.04	0.03	0.04	0.09	0.061	0.033
4.75	0.16	0.00	0.03	0.04	0.09	0.083	0.060
6.00	0.12	0.06	0.02	0.04	0.07	0.062	0.038
7.25	0.14	0.05	0.02	0.03	0.06	0.060	0.048
8.50	0.14	0.06	0.02	0.04	0.05	0.063	0.047
9.75	0.16	0.00	0.00	0.06	0.07	0.095	0.060

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.09	0.05	0.04	0.01	0.050	0.034
2.00	0.08	0.07	0.04	0.03	0.054	0.026
3.25	0.07	0.08	0.02	0.03	0.048	0.029
4.50	0.06	0.05	0.06	0.03	0.049	0.016
5.75	0.07	0.07	0.00	0.04	0.059	0.017
		POST CONDITIONING				
1.00 MIN	0.07	-0.00	0.06	-0.00	0.033	0.038
2.25	0.05	0.01	0.06	-0.00	0.029	0.030
3.50	0.05	0.01	0.08	0.01	0.038	0.034
4.75	0.06	0.01	0.04	0.01	0.030	0.024
6.00	0.07	0.02	0.06	0.01	0.041	0.030
7.25	0.07	0.02	0.06	0.01	0.041	0.030
8.50	0.09	0.03	0.06	0.01	0.049	0.037
9.75	0.09	0.03	0.06	0.01	0.049	0.037

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD					
0.75 MIN	0.16	0.11	0.01	0.02	0.05	0.071	0.064
2.00	0.13	0.16	0.02	0.04	0.06	0.083	0.060
3.25	0.15	0.13	0.02	0.04	0.05	0.080	0.059
4.50	0.15	0.11	0.02	0.04	0.05	0.075	0.054
5.75	0.17	0.12	0.02	0.04	0.05	0.082	0.064
		POST CONDITIONING					
1.00 MIN	0.09	-0.00	0.02	0.01	0.06	0.036	0.037
2.25	0.11	-0.00	0.02	0.01	0.06	0.040	0.045
3.50	0.11	0.03	0.02	0.01	0.08	0.049	0.043
4.75	0.09	0.03	0.02	0.02	0.04	0.039	0.028
6.00	0.11	-0.00	0.02	0.01	0.06	0.040	0.045
7.25	0.08	0.03	0.02	0.01	0.08	0.043	0.033
8.50	0.09	0.03	0.02	0.02	0.04	0.039	0.028
9.75	0.09	0.03	0.02	0.02	0.06	0.043	0.029

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.08	0.03	0.04	0.048	0.019
2.00	0.04	0.09	0.04	0.03	0.051	0.025
3.25	0.04	0.08	0.03	0.04	0.048	0.019
4.50	0.03	0.09	0.04	0.04	0.051	0.025
5.75	0.04	0.08	0.04	0.05	0.053	0.020
		POST CONDITIONING				
1.00 MIN	0.00	0.06	-0.00 o/c	-0.00	0.021	0.036
2.25	0.00	0.05	-0.00 o/c	-0.00 o/c	0.017	0.029
3.50	0.00	0.06	0.03	-0.00	0.031	0.031
4.75	0.00	0.08	0.03	-0.00	0.035	0.038
6.00	0.00	0.07	0.03	-0.00	0.033	0.035
7.25	0.00	0.06	0.03	0.02	0.036	0.024
8.50	0.00	0.06	0.01	0.01	0.029	0.030
9.75	0.00	0.06	0.01	0.03	0.037	0.024

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.09	0.04	0.05	0.03	0.07	0.053	0.023
2.00	0.09	0.05	0.05	0.02	0.06	0.056	0.027
3.25	0.00	0.05	0.05	0.03	0.05	0.044	0.012
4.50	0.12	0.04	0.05	0.03	0.05	0.060	0.037
5.75	0.09	0.02	0.07	0.04	0.04	0.052	0.027
			POST CONDITIONING				
1.00 MIN	0.06	-0.00	-0.00	-0.00	-0.00	0.011	0.025
2.25	0.06	-0.00	-0.00	0.02	-0.00	0.015	0.025
3.50	0.04	0.01	-0.00	0.02	0.02	0.018	0.014
4.75	0.07	0.01	-0.00	0.02	0.03	0.025	0.026
6.00	0.09	0.01	-0.00	-0.00	0.04	0.030	0.041
7.25	0.08	0.01	-0.00	-0.00	0.04	0.026	0.033
8.50	0.08	0.02	-0.00	-0.00	0.04	0.028	0.032
9.75	0.08	0.02	-0.00	0.02	0.04	0.032	0.029

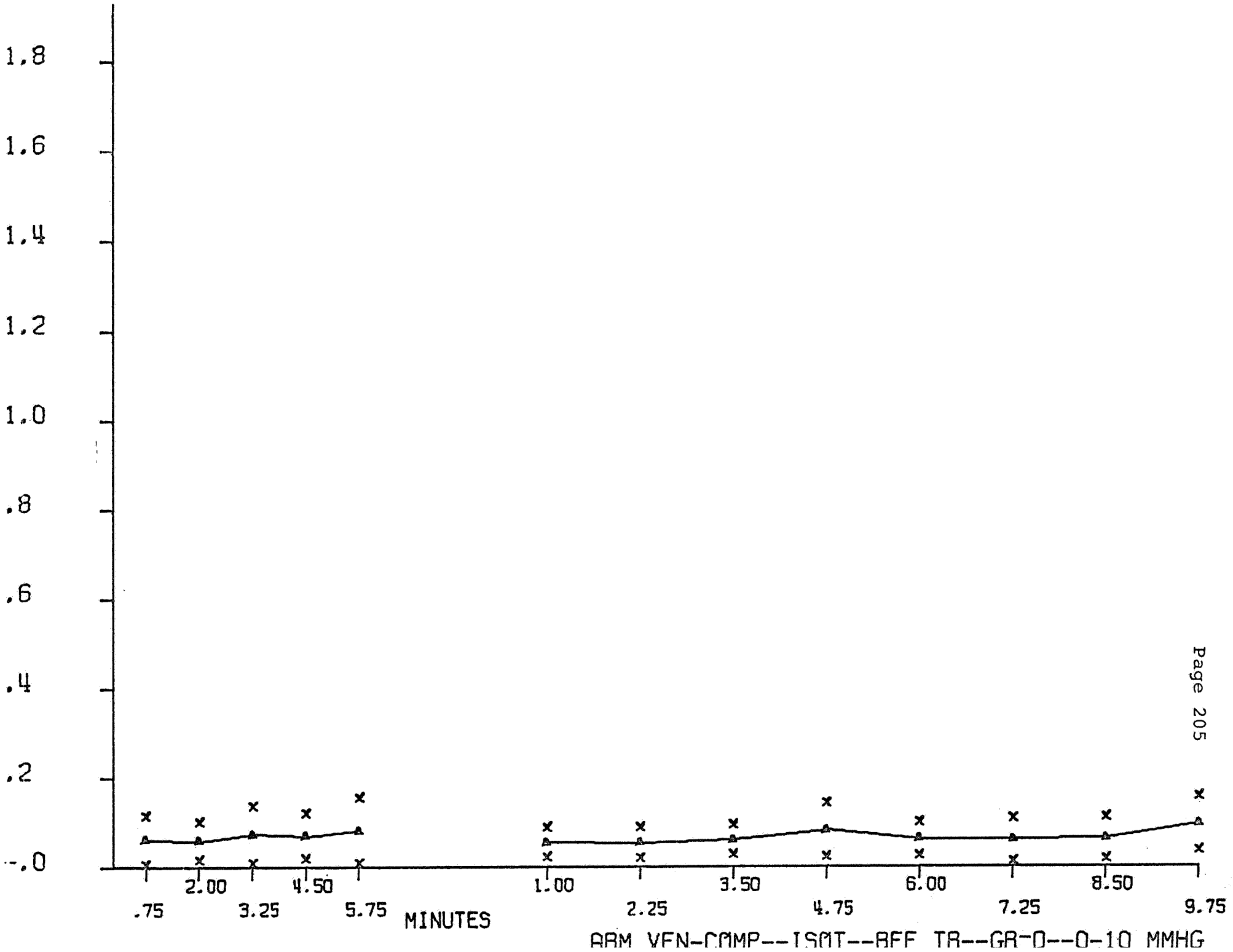
AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=S--0-10 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.06	0.07	0.05	0.04	0.055	0.013
2.00	0.07	0.06	0.06	0.02	0.053	0.020
3.25	0.05	0.07	0.06	0.04	0.055	0.013
4.50	0.07	0.07	0.05	0.02	0.051	0.025
5.75	0.07	0.06	0.05	0.03	0.053	0.016
		POST CONDITIONING				
1.00 MIN	0.05	0.07	0.03	-0.00	0.038	0.029
2.25	0.03	0.07	0.03	-0.00	0.032	0.028
3.50	0.05	0.07	0.03	-0.00	0.038	0.029
4.75	0.03	0.06	0.03	-0.00	0.032	0.025
6.00	0.02	0.06	0.04	0.02	0.034	0.022
7.25	0.02	0.05	0.04	-0.00	0.029	0.025
8.50	0.03	0.05	0.03	0.02	0.035	0.016
9.75	0.02	0.06	0.03	0.02	0.032	0.022

OK

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=D--0-10 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.07	0.01	0.06	0.05	0.06	0.051	0.023
2.00	0.07	0.01	0.08	0.06	0.07	0.059	0.028
3.25	0.07	0.02	0.09	0.07	0.07	0.064	0.026
4.50	0.05	0.02	0.08	0.05	0.06	0.052	0.021
5.75	0.05	0.02	0.00	0.05	0.06	0.046	0.018
			POST CONDITIONING				
1.00 MIN	0.01	-0.00	-0.00	-0.00	0.02	0.005	0.007
2.25	0.01	-0.00	-0.00	-0.00	0.04	0.010	0.017
3.50	0.01	0.01	-0.00	-0.00	0.06	0.016	0.027
4.75	0.02	-0.00	-0.00	0.01	0.05	0.015	0.020
6.00	0.02	-0.00	-0.00	0.01	0.04	0.013	0.016
7.25	0.02	-0.00	-0.00	0.01	0.06	0.019	0.026
8.50	0.03	-0.00	0.01	0.01	0.06	0.022	0.026
9.75	0.03	-0.00	0.01	0.01	0.06	0.022	0.026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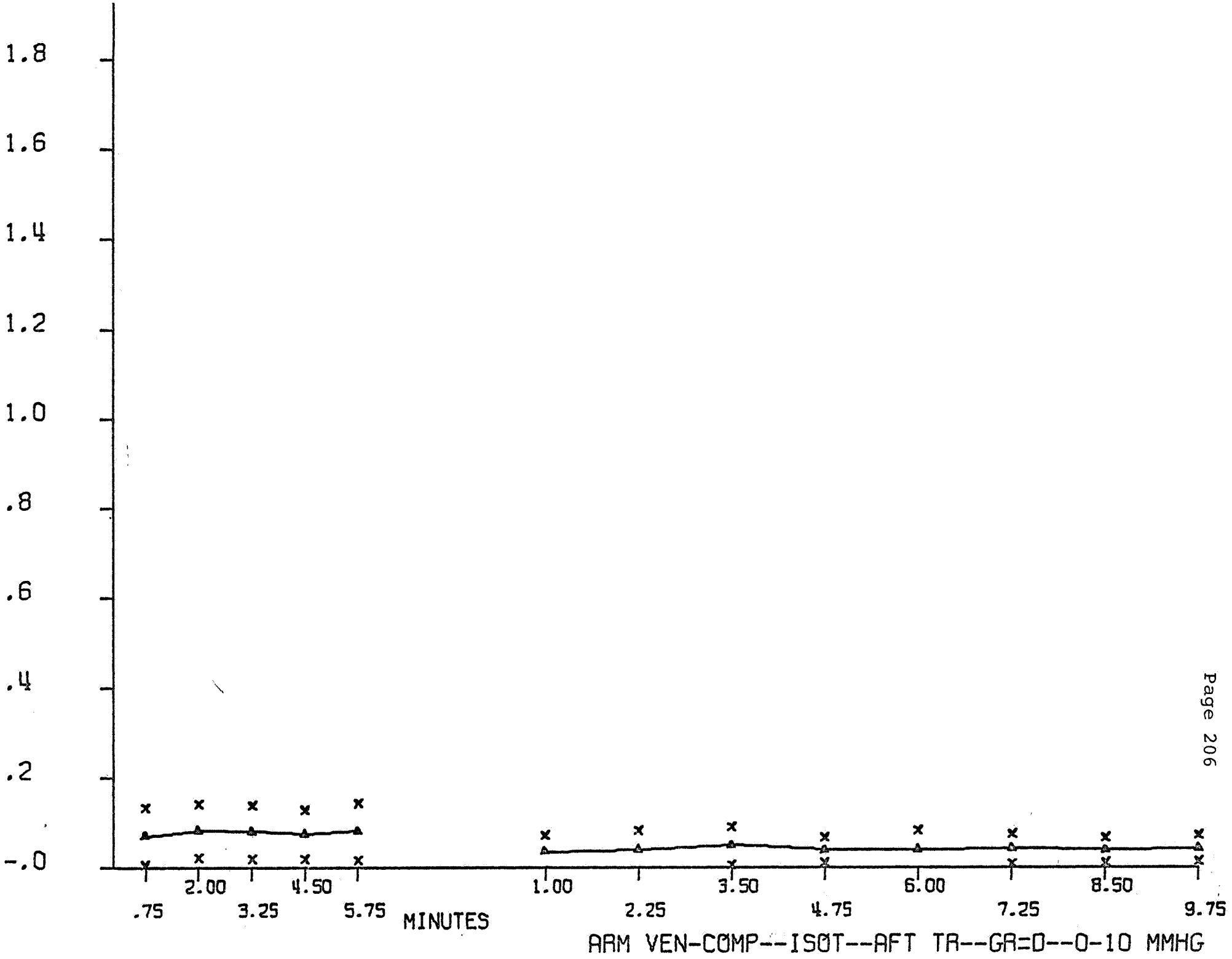
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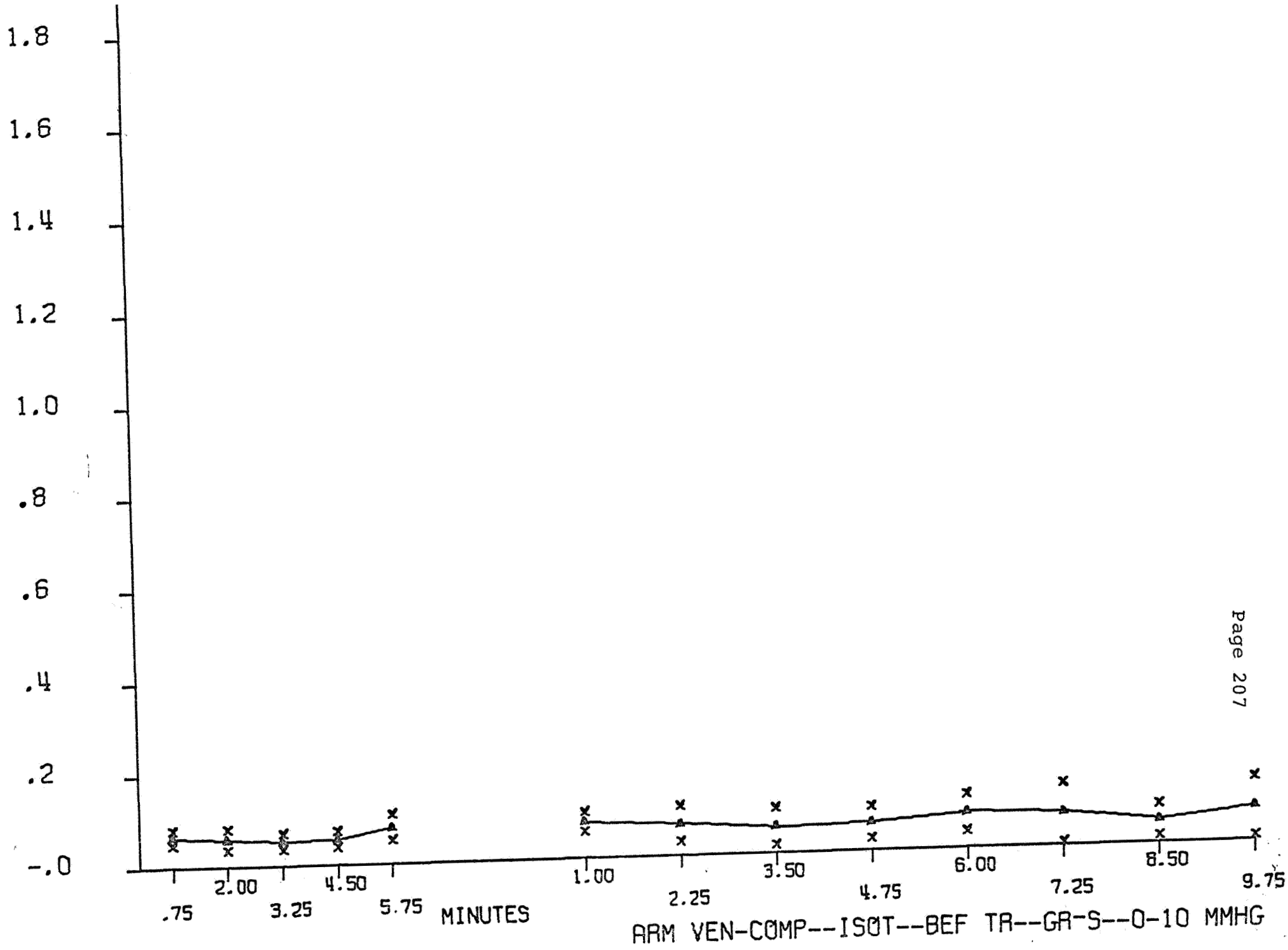
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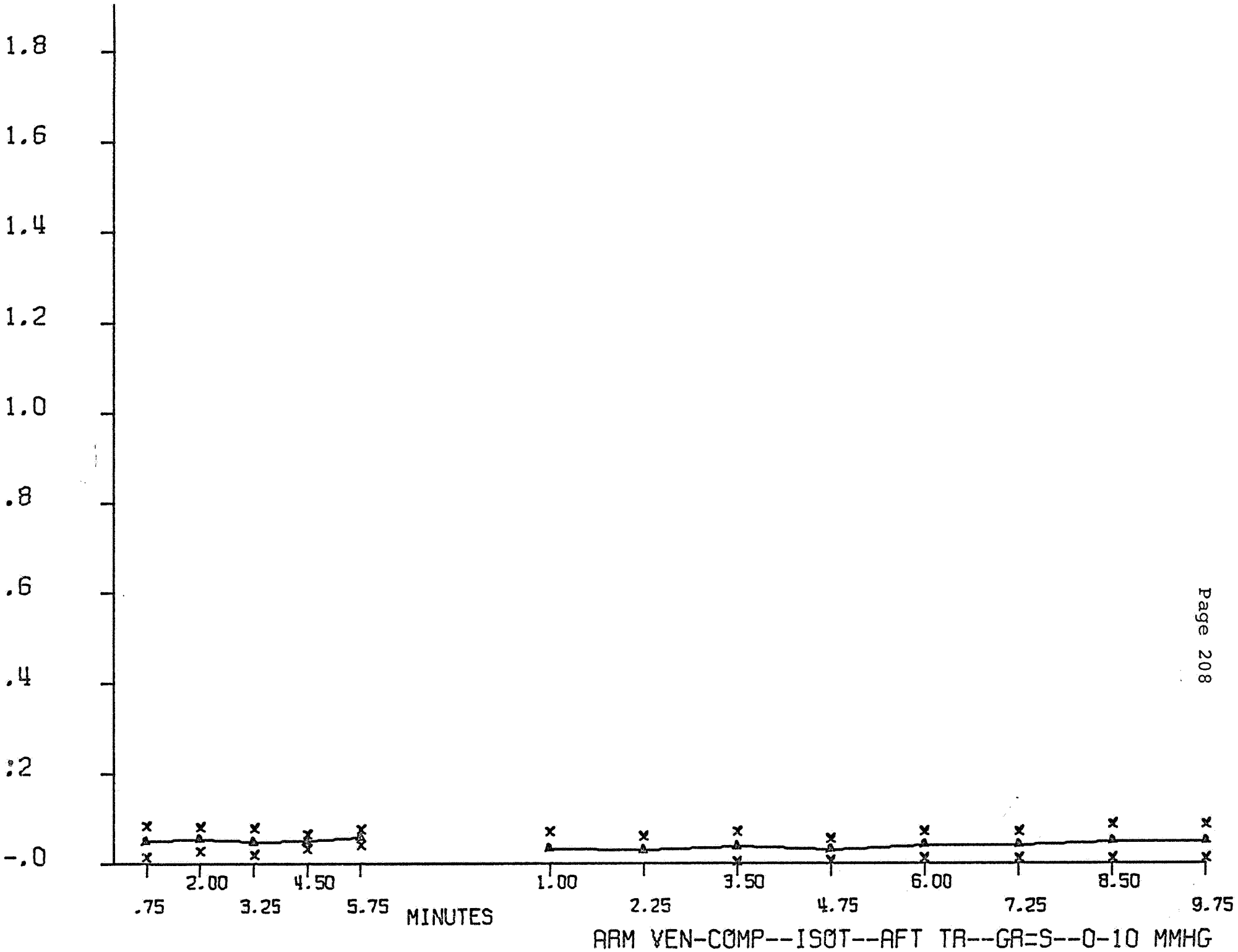
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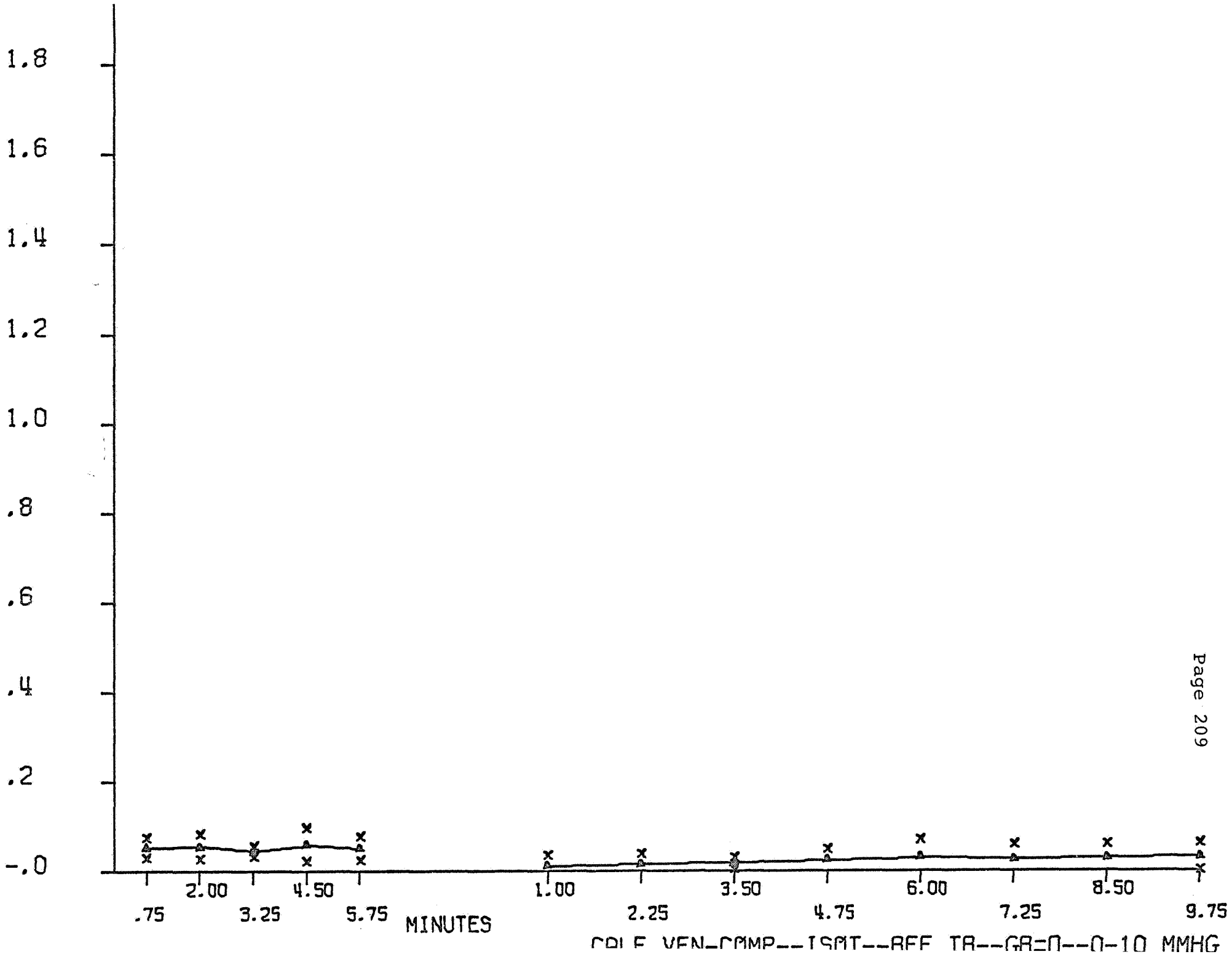
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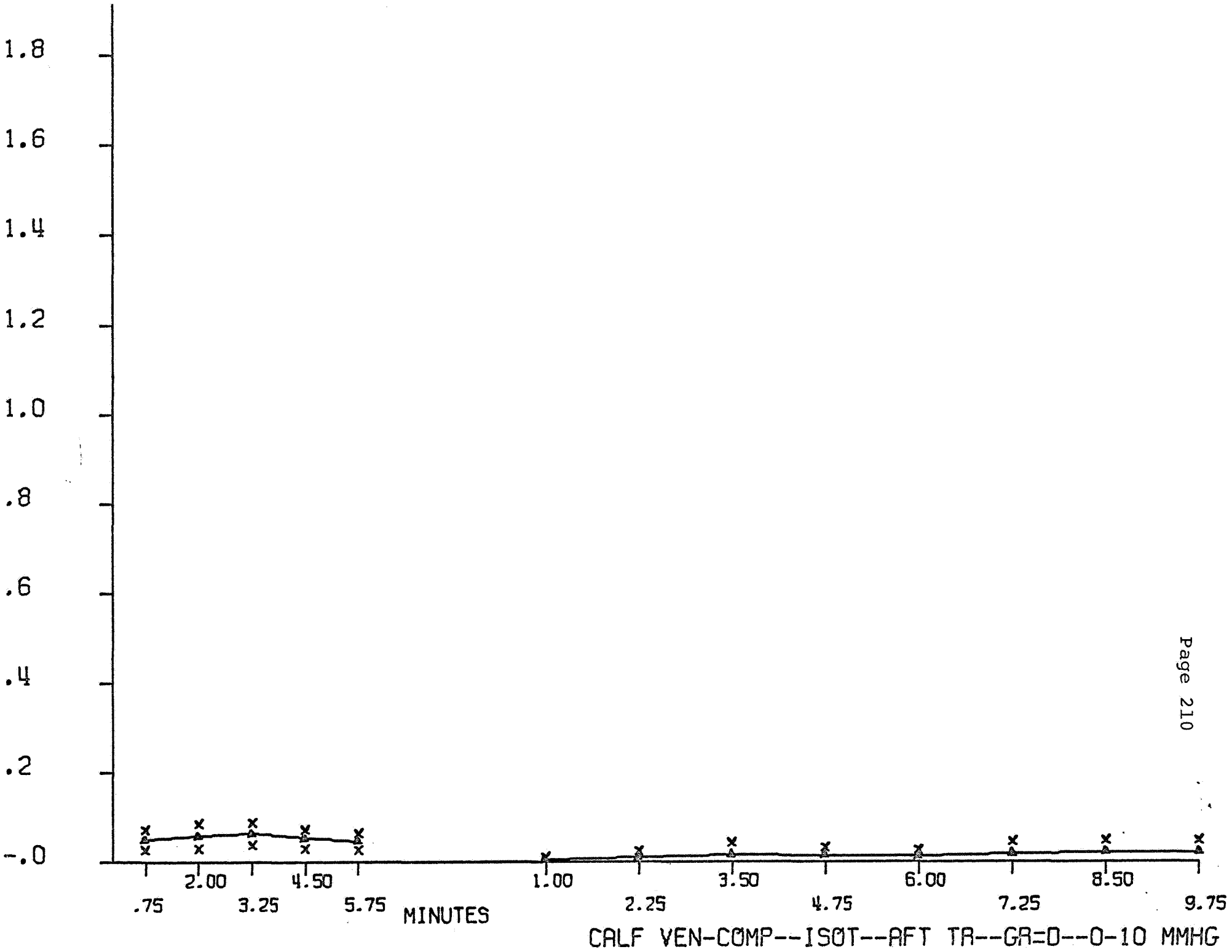
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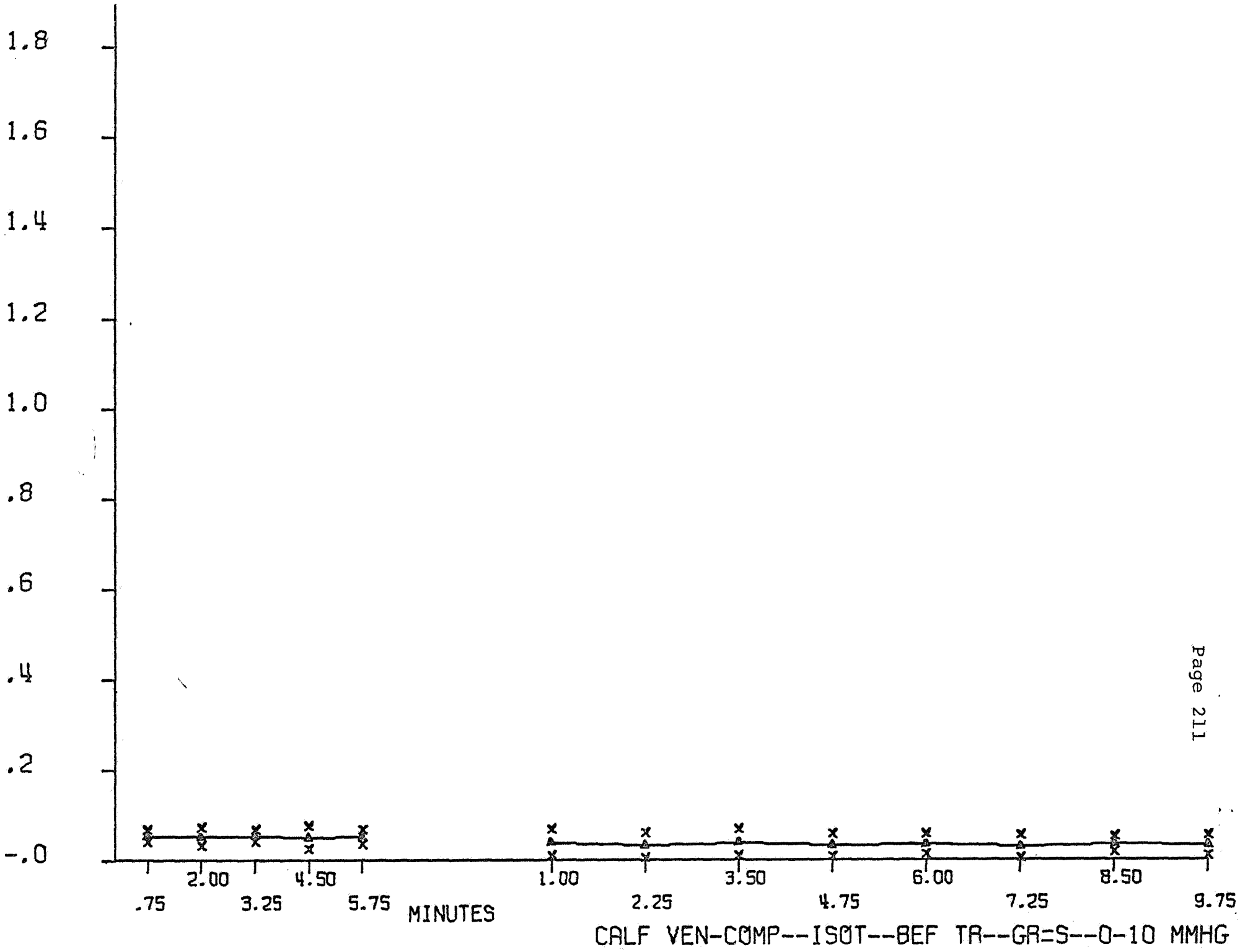
MINUTES
CALF VEN-COMP--ISOT--AFT TR--GR=0--0-10 MMHG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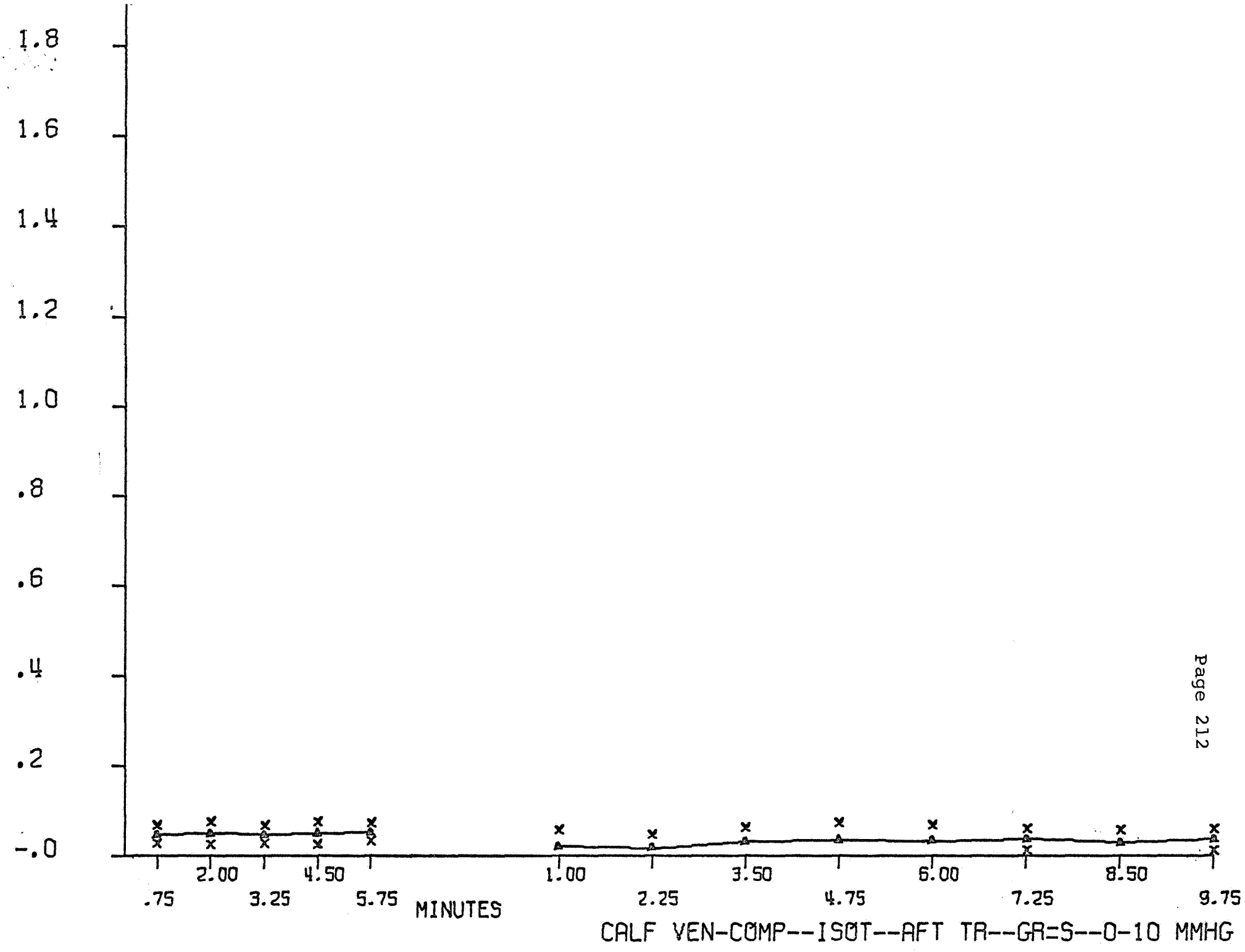
MINUTES
CALF VEN-COMP--ISOT--BEF TR--GR=S--0-10 MMHG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MINUTES
CALF VEN-COMP--ISOT--AFT TR--GR=S--0-10 MMHG

APPENDIX XV

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isotonic exercise, before and after conditioning, 10 to 20 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.27	0.37	0.20	0.22	0.12	0.235	0.095
2.00	0.27	0.41	0.19	0.23	0.12	0.243	0.108
3.25	0.21	0.31	0.23	0.22	0.12	0.219	0.070
4.50	0.26	0.29	0.26	0.22	0.12	0.229	0.068
5.75	0.23	0.36	0.26	0.23	0.00	0.269	0.062
			POST CONDITIONING				
1.00 MIN	0.33	0.08	0.32	0.25	0.12	0.220	0.115
2.25	0.33	0.13	0.22	0.20	0.18	0.211	0.073
3.50	0.35	0.14	0.28	0.22	0.14	0.226	0.090
4.75	0.33	0.00	0.35	0.24	0.12	0.259	0.106
6.00	0.39	0.17	0.36	0.27	0.14	0.266	0.109
7.25	0.41	0.21	0.31	0.25	0.15	0.267	0.100
8.50	0.43	0.22	0.33	0.27	0.12	0.273	0.117
9.75	0.45	0.00	0.00	0.28	0.14	0.289	0.155

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.23	0.21	0.17	0.22	0.11	0.189	0.049
2.00	0.24	0.24	0.18	0.17	0.10	0.187	0.058
3.25	0.24	0.29	0.18	0.22	0.11	0.209	0.069
4.50	0.25	0.29	0.20	0.17	0.11	0.206	0.071
5.75	0.22	0.23	0.20	0.17	0.15	0.195	0.032
			POST CONDITIONING				
1.00 MIN	0.35	0.05	0.26	0.16	0.14	0.194	0.114
2.25	0.30	0.05	0.28	0.16	0.16	0.193	0.102
3.50	0.30	0.01	0.32	0.16	0.16	0.193	0.126
4.75	0.35	0.03	0.30	0.15	0.14	0.195	0.131
6.00	0.39	0.03	0.32	0.16	0.10	0.201	0.153
7.25	0.41	0.05	0.32	0.16	0.08	0.206	0.154
8.50	0.39	0.03	0.30	0.15	0.16	0.207	0.142
9.75	0.41	0.05	0.32	0.15	0.14	0.217	0.147

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.33	0.17	0.14	0.13	0.193	0.091
2.00	0.31	0.16	0.14	0.16	0.195	0.080
3.25	0.30	0.17	0.15	0.16	0.196	0.072
4.50	0.27	0.14	0.12	0.14	0.167	0.068
5.75	0.28	0.19	0.15	0.18	0.199	0.056
		POST CONDITIONING				
1.00 MIN	0.38	0.16	0.21	0.17	0.228	0.105
2.25	0.44	0.25	0.15	0.18	0.257	0.130
3.50	0.51	0.25	0.12	0.19	0.269	0.172
4.75	0.52	0.25	0.16	0.18	0.279	0.167
6.00	0.52	0.29	0.19	0.19	0.301	0.156
7.25	0.54	0.24	0.21	0.12	0.279	0.179
8.50	0.58	0.26	0.17	0.18	0.300	0.192
9.75	0.54	0.30	0.23	0.18	0.312	0.159

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.28	0.12	0.16	0.20	0.191	0.070
2.00	0.39	0.10	0.21	0.21	0.227	0.120
3.25	0.26	0.09	0.21	0.20	0.189	0.070
4.50	0.30	0.12	0.21	0.20	0.204	0.073
5.75	0.33	0.08	0.00	0.18	0.200	0.125
			POST CONDITIONING			
1.00 MIN	0.47	0.19	0.23	0.16	0.261	0.144
2.25	0.50	0.14	0.27	0.18	0.273	0.159
3.50	0.50	0.14	0.23	0.16	0.256	0.165
4.75	0.50	0.18	0.21	0.17	0.263	0.158
6.00	0.47	0.13	0.29	0.17	0.264	0.155
7.25	0.45	0.14	0.31	0.12	0.253	0.157
8.50	0.43	0.13	0.27	0.17	0.248	0.133
9.75	0.47	0.11	0.29	0.17	0.260	0.160

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.13	0.22	0.15	0.17	0.169	0.037
2.00	0.13	0.23	0.11	0.17	0.160	0.050
3.25	0.14	0.23	0.11	0.17	0.164	0.052
4.50	0.14	0.22	0.16	0.17	0.175	0.033
5.75	0.13	0.23	0.14	0.19	0.172	0.045
		POST CONDITIONING				
1.00 MIN	0.05	0.26	0.07	0.03	0.103	0.107
2.25	0.04	0.25	0.10	0.02	0.102	0.104
3.50	0.02	0.26	0.11	0.02	0.102	0.116
4.75	0.05	0.25	0.15	0.02	0.121	0.106
6.00	0.05	0.23	0.16	0.03	0.120	0.096
7.25	0.04	0.22	0.16	0.05	0.118	0.088
8.50	0.03	0.25	0.17	0.03	0.121	0.107
9.75	0.04	0.26	0.16	0.03	0.124	0.109

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=D--10-20 MMHG

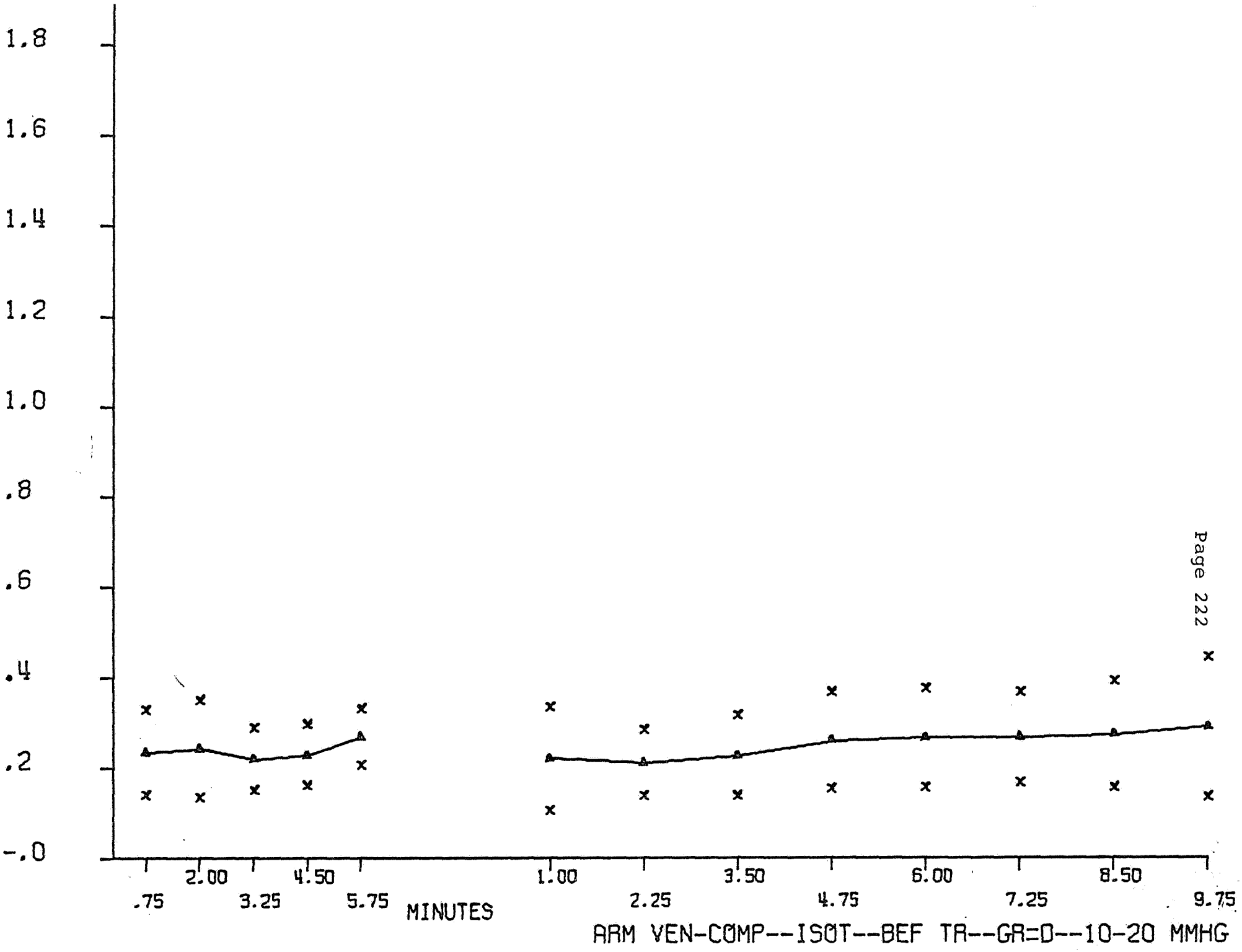
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.08	0.21	0.17	0.10	0.151	0.058
2.00	0.17	0.10	0.18	0.18	0.11	0.148	0.040
3.25	0.00	0.09	0.19	0.17	0.10	0.137	0.049
4.50	0.18	0.11	0.20	0.17	0.11	0.155	0.040
5.75	0.18	0.11	0.18	0.16	0.11	0.148	0.036
			POST CONDITIONING				
1.00 MIN	0.15	0.01	0.02	0.09	0.06	0.066	0.058
2.25	0.17	0.01	0.04	0.05	0.07	0.069	0.062
3.50	0.22	0.01	0.04	0.07	0.07	0.082	0.081
4.75	0.24	0.03	0.04	0.09	0.09	0.097	0.083
6.00	0.23	0.04	0.04	0.15	0.09	0.109	0.081
7.25	0.27	0.05	0.04	0.14	0.09	0.117	0.092
8.50	0.28	0.08	0.04	0.18	0.11	0.137	0.097
9.75	0.27	0.09	0.06	0.15	0.09	0.132	0.081

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=D--10-20 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.14	0.08	0.18	0.11	0.05	0.112	0.052
2.00	0.15	0.07	0.21	0.11	0.04	0.117	0.068
3.25	0.15	0.08	0.18	0.11	0.05	0.113	0.053
4.50	0.13	0.10	0.20	0.11	0.05	0.117	0.054
5.75	0.13	0.07	0.00	0.16	0.05	0.102	0.051
			POST CONDITIONING				
1.00 MIN	0.07	-0.00	0.05	0.04	0.05	0.041	0.027
2.25	0.07	-0.00	0.05	0.04	0.05	0.042	0.028
3.50	0.09	0.01	0.05	0.04	0.06	0.049	0.030
4.75	0.10	0.06	0.05	0.04	0.05	0.059	0.024
6.00	0.12	0.04	0.06	0.04	0.06	0.065	0.030
7.25	0.14	0.04	0.06	0.03	0.05	0.063	0.045
8.50	0.16	0.04	0.08	0.05	0.05	0.078	0.051
9.75	0.16	0.04	0.07	0.04	0.08	0.079	0.050

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=S--10-20 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.04	0.18	0.12	0.09	0.107	0.055
2.00	0.04	0.20	0.12	0.08	0.110	0.069
3.25	0.04	0.20	0.11	0.11	0.114	0.065
4.50	0.04	0.16	0.09	0.09	0.097	0.049
5.75	0.04	0.17	0.09	0.06	0.088	0.058
		POST CONDITIONING				
1.00 MIN	0.00	0.19	0.03	0.02	0.078	0.096
2.25	0.00	0.20	0.04	0.03	0.093	0.094
3.50	0.00	0.19	0.04	0.03	0.089	0.087
4.75	0.00	0.19	0.06	0.04	0.098	0.084
6.00	0.00	0.21	0.06	0.05	0.105	0.088
7.25	0.00	0.16	0.06	0.06	0.096	0.058
8.50	0.00	0.16	0.11	0.06	0.108	0.053
9.75	0.00	0.19	0.11	0.08	0.125	0.056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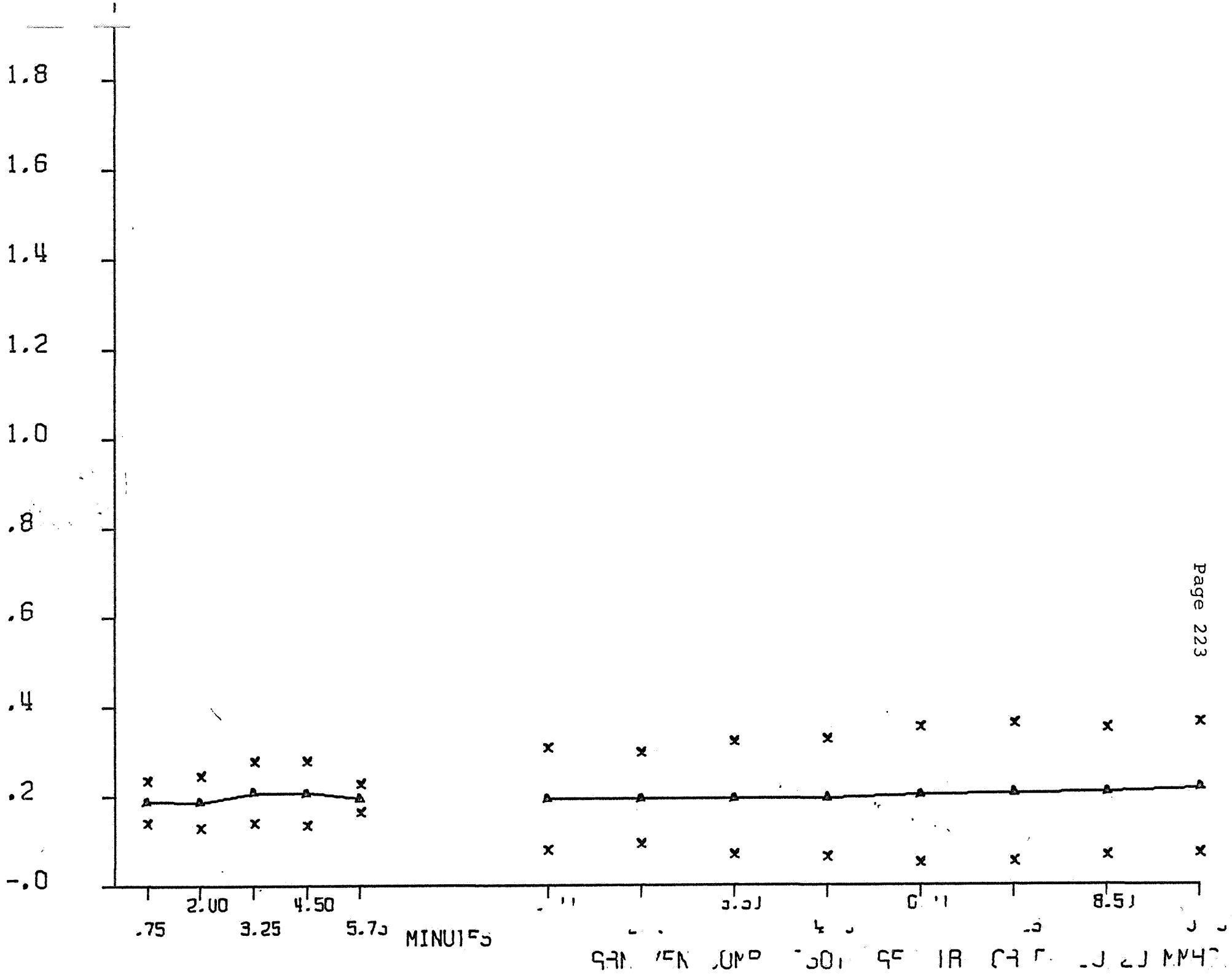
MINUTES
ARM VEN-COMP--ISOT--BEF TR--GR=0--10-20 MMHG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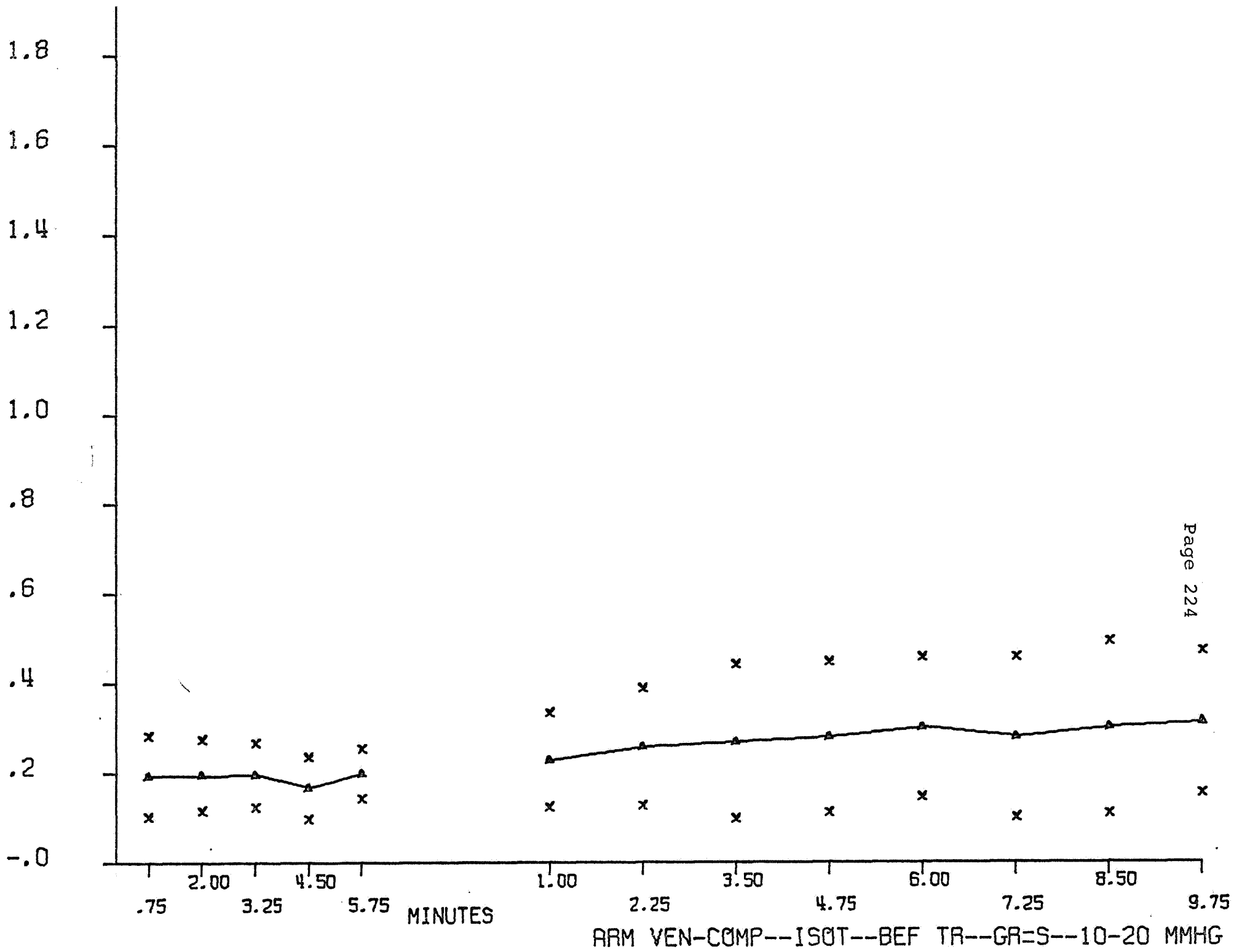
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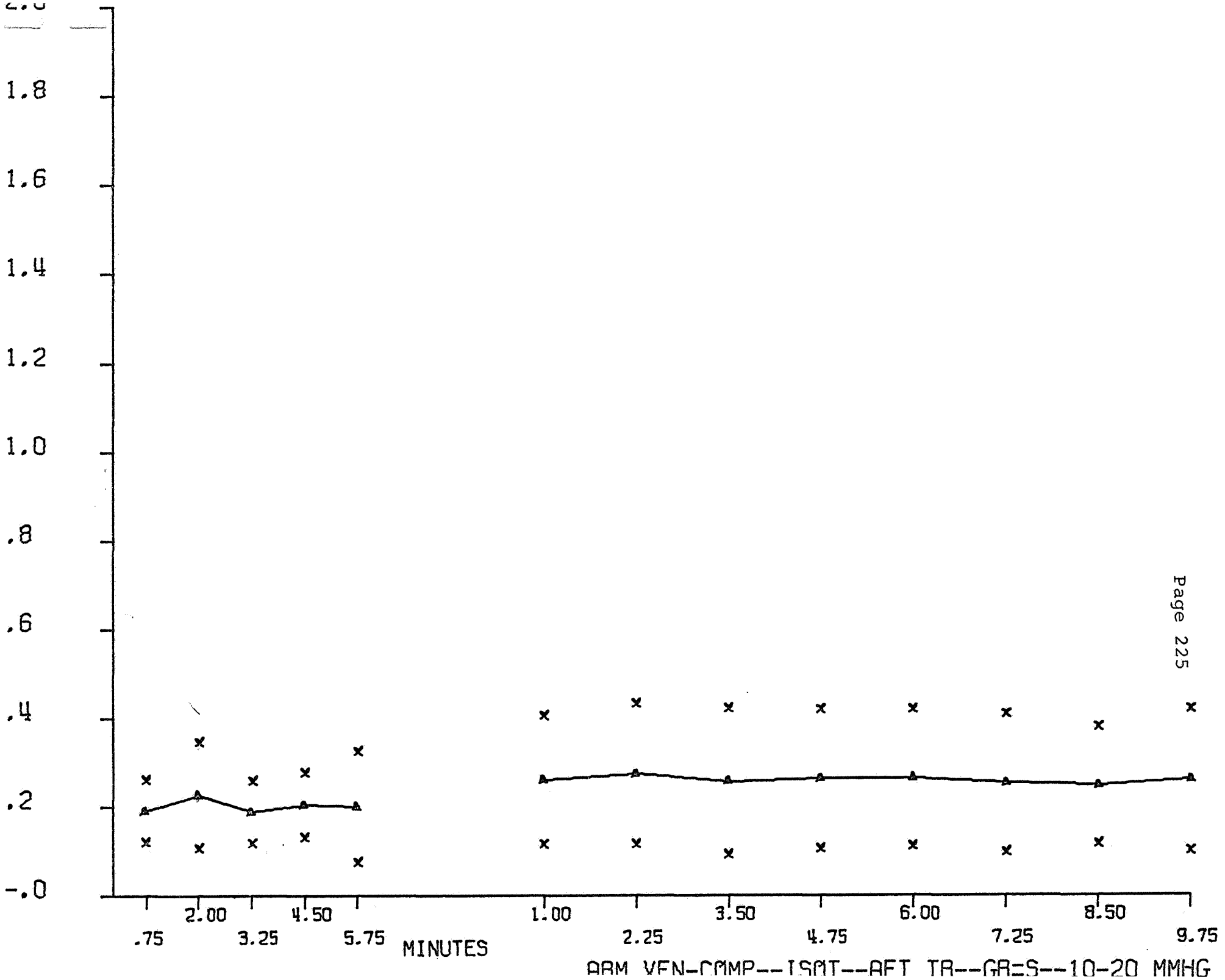
MINUTES
ARM VEN-COMP--ISOT--BEF TR--GR=S--10-20 MMHG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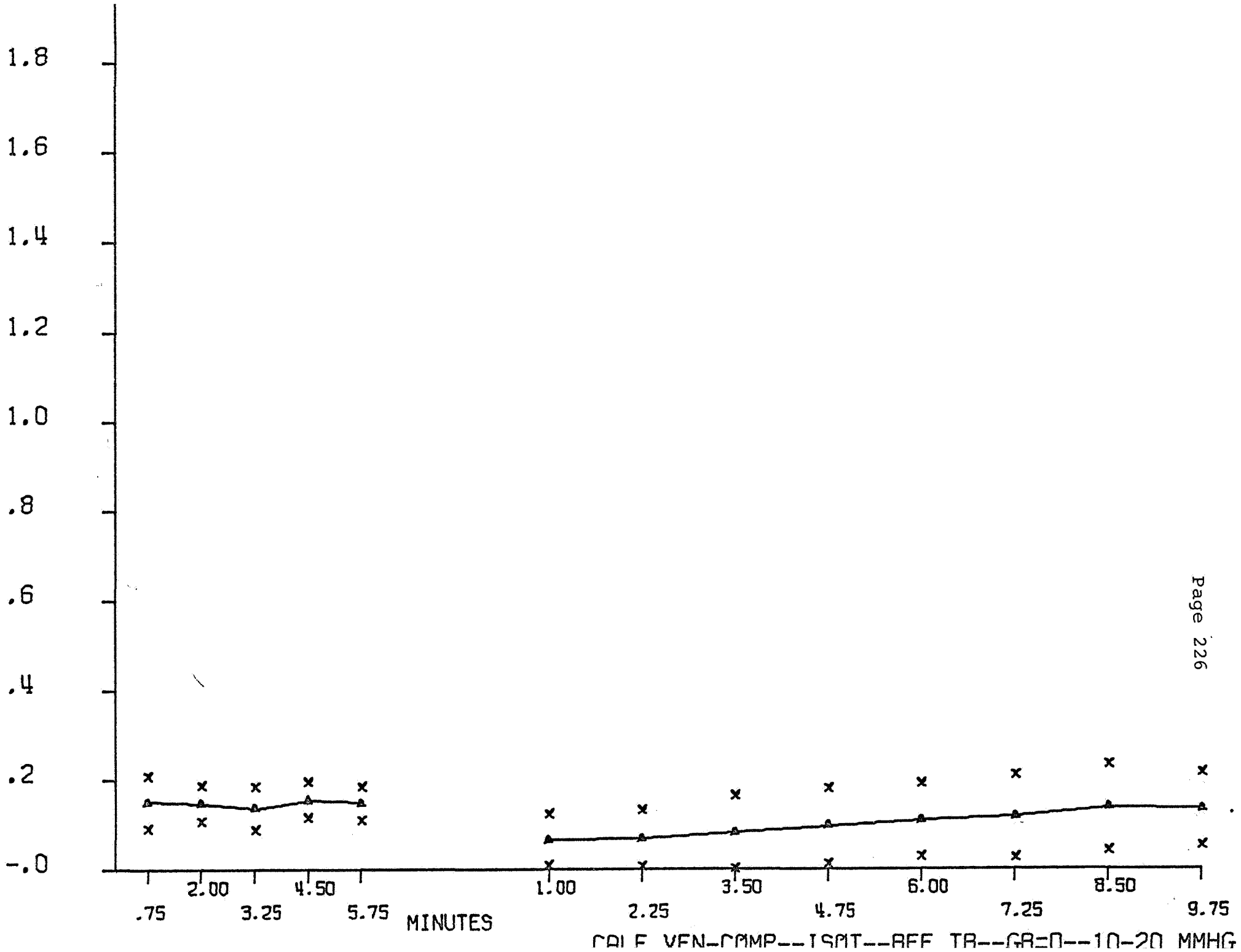
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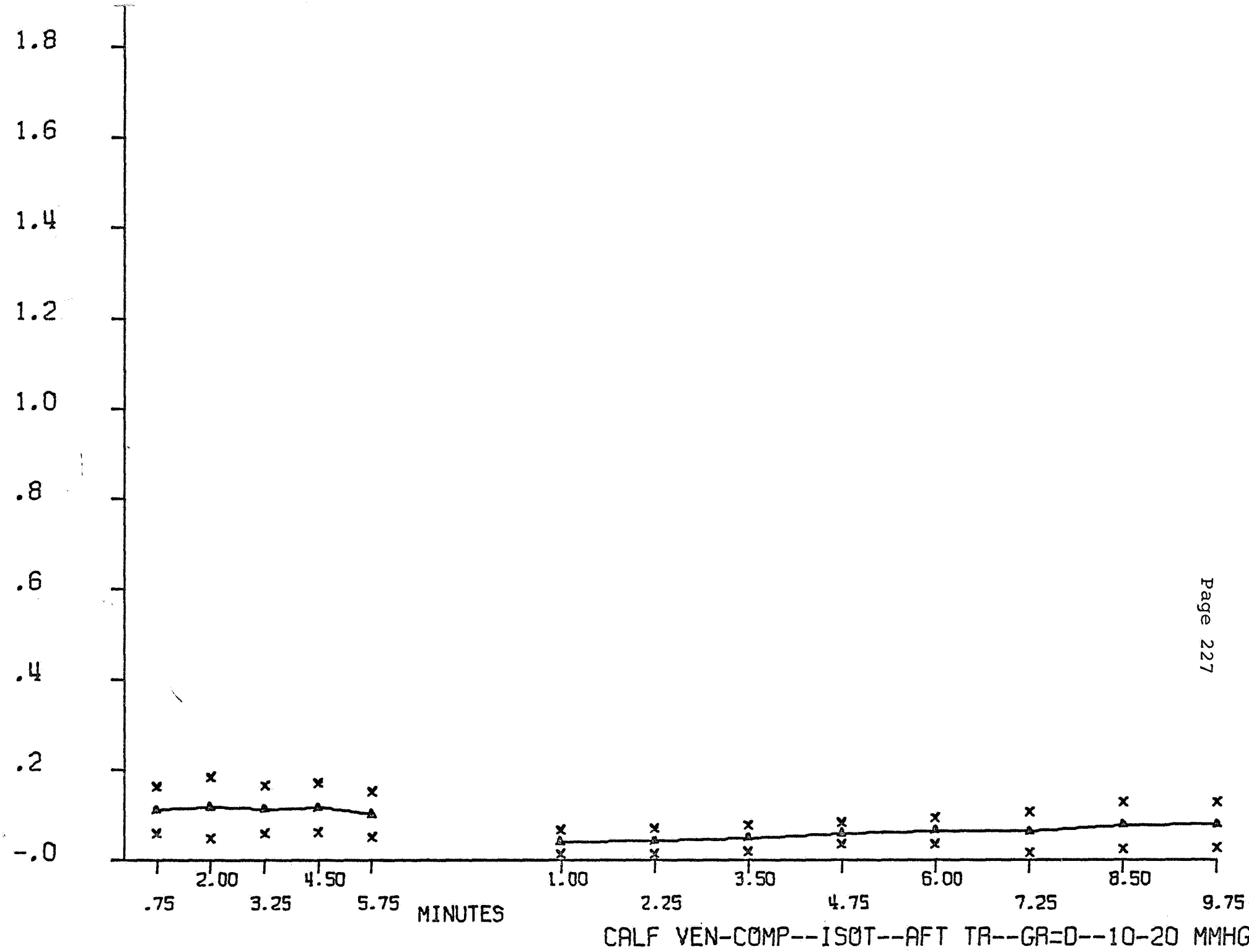
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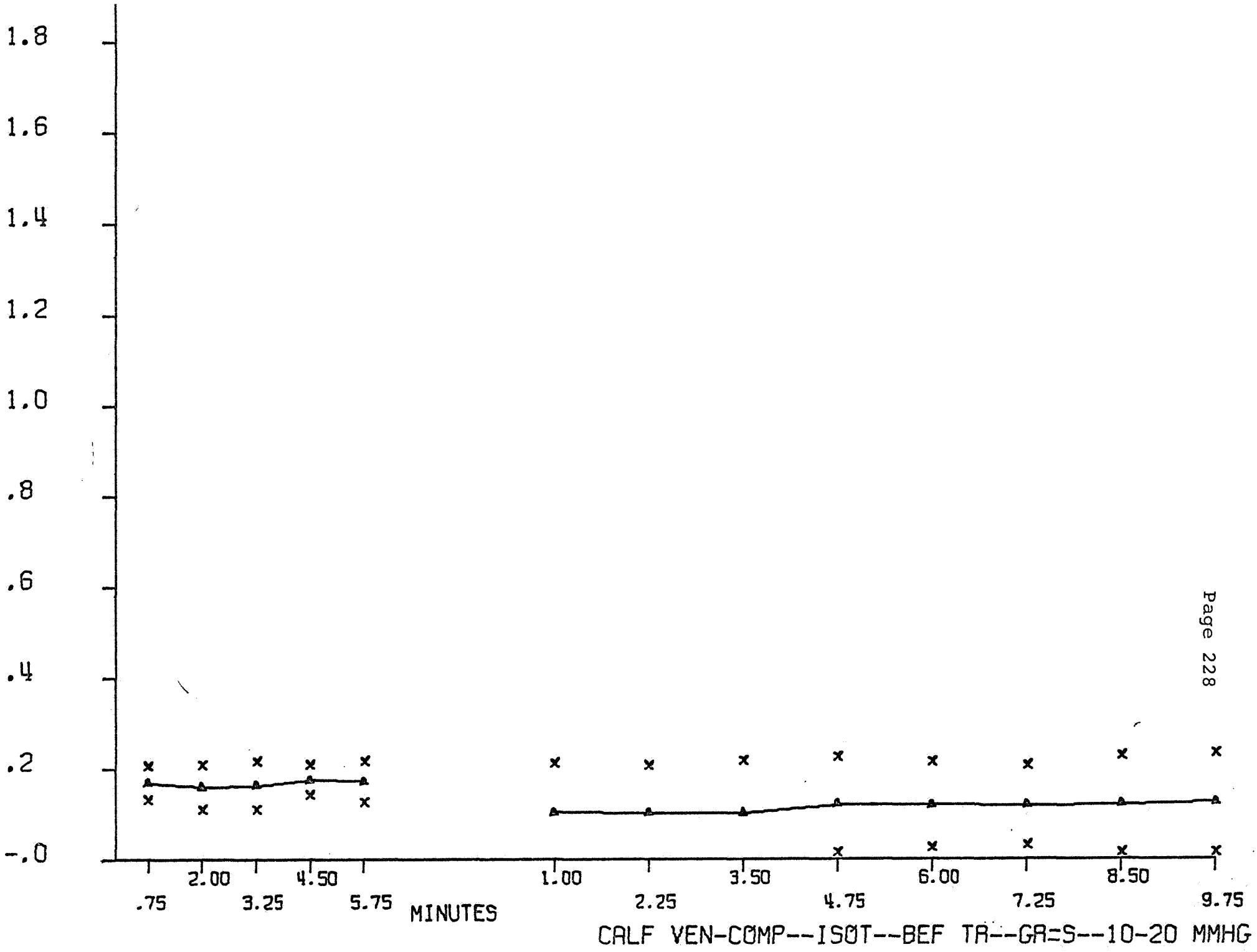
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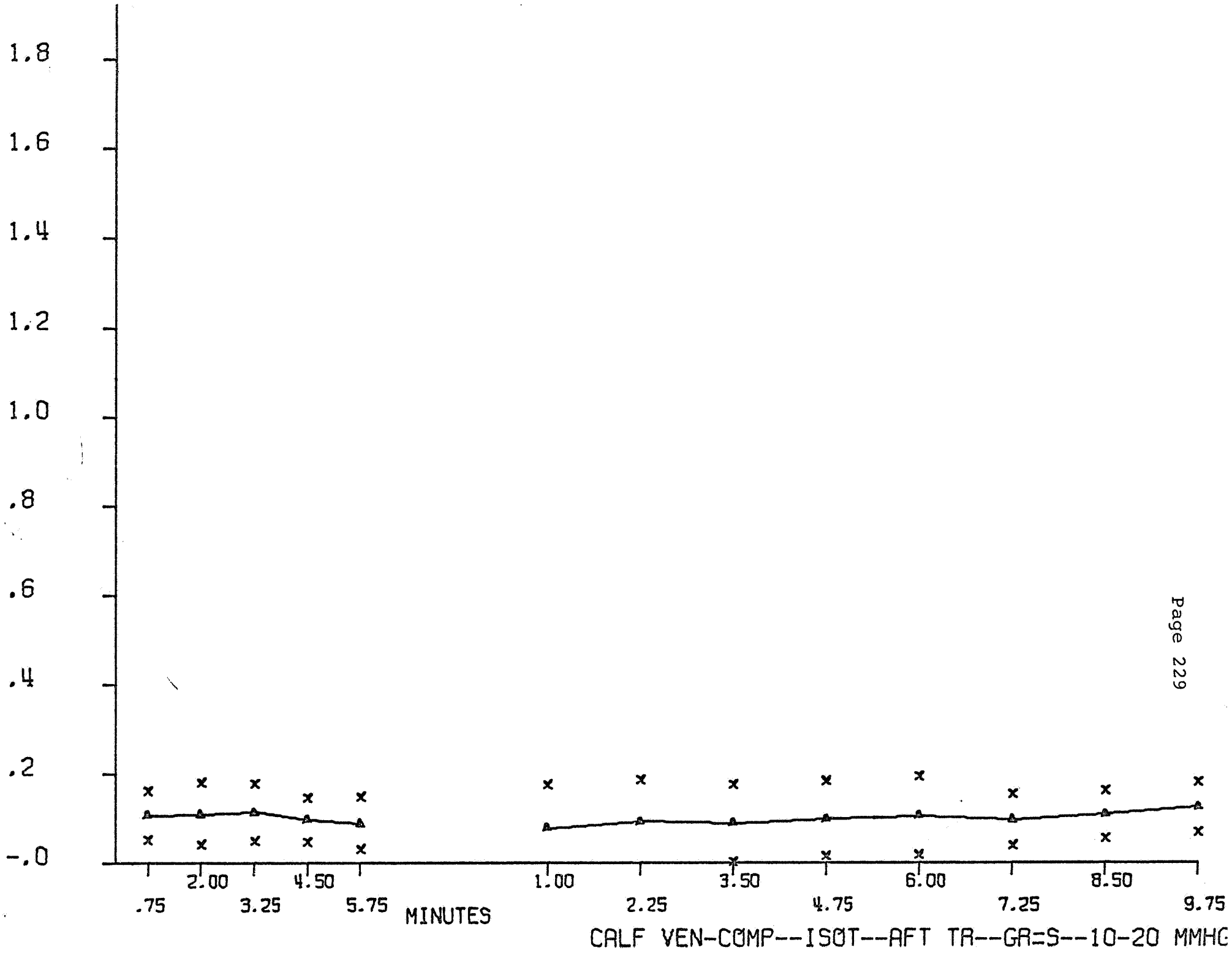
CALF VEN-COMP--ISOT--BEF TR--GR=S--10-20 MMHG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MINUTES
CALF VEN-COMP--ISOT--AFT TR--GR=S--10-20 MMHG

APPENDIX XVI

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isotonic exercise, before and after conditioning, 20 to 30 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.33	0.16	0.19	0.229	0.068
2.00	0.22	0.27	0.26	0.19	0.21	0.229	0.034
3.25	0.25	0.28	0.34	0.20	0.17	0.247	0.067
4.50	0.20	0.37	0.31	0.16	0.21	0.250	0.089
5.75	0.22	0.30	0.30	0.17	0.00	0.249	0.066
			POST CONDITIONING				
1.00 MIN	0.27	0.20	0.42	0.13	0.29	0.262	0.109
2.25	0.27	0.17	0.44	0.20	0.17	0.252	0.114
3.50	0.27	0.23	0.41	0.18	0.21	0.261	0.091
4.75	0.27	0.00	0.39	0.16	0.22	0.260	0.100
6.00	0.27	0.31	0.39	0.16	0.22	0.271	0.090
7.25	0.25	0.31	0.44	0.16	0.21	0.273	0.112
8.50	0.29	0.33	0.43	0.16	0.27	0.295	0.100
9.75	0.22	0.00	0.00	0.18	0.24	0.214	0.033

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.20	0.27	0.19	0.15	0.18	0.198	0.043
2.00	0.20	0.24	0.22	0.20	0.16	0.204	0.031
3.25	0.26	0.24	0.22	0.17	0.16	0.212	0.043
4.50	0.23	0.32	0.22	0.22	0.14	0.226	0.064
5.75	0.17	0.24	0.20	0.20	0.18	0.199	0.027
			POST CONDITIONING				
1.00 MIN	0.22	0.13	0.15	0.15	0.20	0.171	0.036
2.25	0.24	0.12	0.24	0.15	0.20	0.191	0.054
3.50	0.28	0.12	0.24	0.15	0.22	0.204	0.067
4.75	0.29	0.11	0.26	0.16	0.22	0.210	0.075
6.00	0.28	0.13	0.24	0.16	0.24	0.213	0.062
7.25	0.28	0.08	0.26	0.17	0.24	0.208	0.083
8.50	0.30	0.11	0.28	0.20	0.20	0.218	0.079
9.75	0.33	0.13	0.28	0.20	0.24	0.236	0.075

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.28	0.15	0.14	0.18	0.186	0.065
2.00	0.26	0.16	0.13	0.20	0.186	0.056
3.25	0.26	0.16	0.14	0.15	0.177	0.054
4.50	0.27	0.16	0.14	0.18	0.184	0.058
5.75	0.26	0.17	0.12	0.17	0.177	0.057
		POST CONDITIONING				
1.00 MIN	0.30	0.17	0.18	0.15	0.203	0.068
2.25	0.37	0.25	0.14	0.16	0.231	0.106
3.50	0.37	0.17	0.14	0.16	0.211	0.110
4.75	0.35	0.17	0.16	0.16	0.208	0.094
6.00	0.40	0.19	0.17	0.17	0.233	0.110
7.25	0.42	0.24	0.12	0.21	0.248	0.126
8.50	0.42	0.26	0.11	0.20	0.248	0.130
9.75	0.40	0.18	0.15	0.18	0.227	0.114

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.32	0.14	0.21	0.17	0.208	0.080
2.00	0.28	0.15	0.18	0.17	0.198	0.060
3.25	0.28	0.14	0.18	0.18	0.197	0.063
4.50	0.35	0.10	0.21	0.13	0.198	0.113
5.75	0.35	0.15	0.00	0.17	0.226	0.112
		POST CONDITIONING				
1.00 MIN	0.28	0.17	0.21	0.18	0.211	0.052
2.25	0.33	0.19	0.16	0.18	0.217	0.078
3.50	0.35	0.15	0.21	0.18	0.224	0.090
4.75	0.32	0.14	0.25	0.21	0.228	0.077
6.00	0.28	0.16	0.31	0.18	0.234	0.073
7.25	0.33	0.15	0.27	0.21	0.240	0.077
8.50	0.31	0.18	0.31	0.16	0.238	0.082
9.75	0.33	0.19	0.33	0.18	0.258	0.084

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=D--20-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.17	0.15	0.15	0.15	0.17	0.155	0.012
2.00	0.19	0.19	0.16	0.17	0.17	0.175	0.013
3.25	0.00	0.21	0.15	0.18	0.17	0.176	0.023
4.50	0.19	0.23	0.15	0.18	0.15	0.178	0.034
5.75	0.16	0.16	0.15	0.18	0.18	0.164	0.014
			POST CONDITIONING				
1.00 MIN	0.23	0.07	0.05	0.07	0.15	0.115	0.073
2.25	0.23	0.11	0.04	0.19	0.17	0.148	0.075
3.50	0.24	0.13	0.04	0.19	0.16	0.152	0.075
4.75	0.23	0.17	0.04	0.22	0.17	0.163	0.077
6.00	0.25	0.17	0.05	0.20	0.17	0.169	0.071
7.25	0.25	0.17	0.05	0.19	0.17	0.167	0.070
8.50	0.27	0.19	0.05	0.21	0.15	0.174	0.079
9.75	0.28	0.17	0.06	0.23	0.17	0.183	0.082

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=D--20-30 MMHG

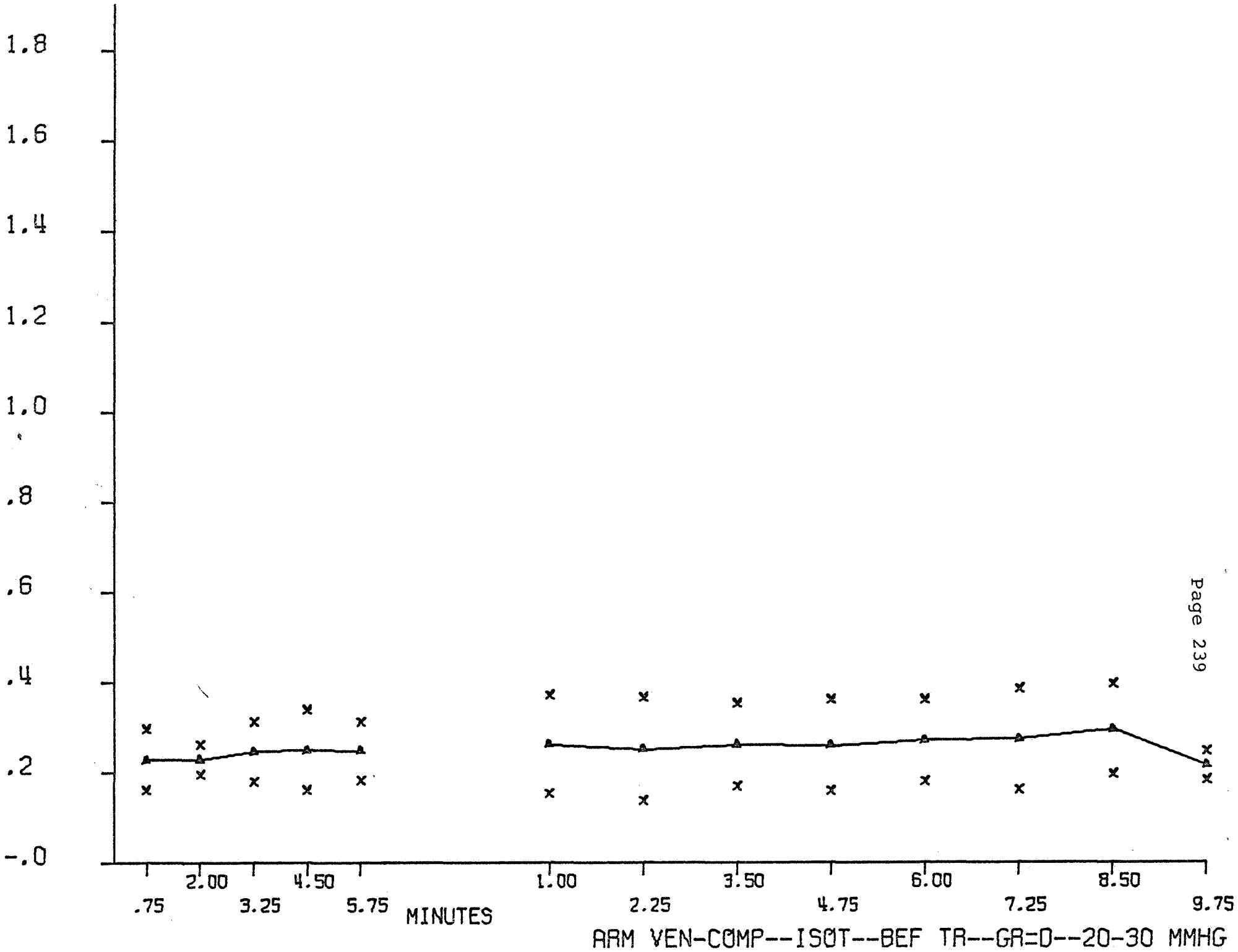
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.10	0.16	0.09	0.11	0.13	0.118	0.029
2.00	0.15	0.16	0.15	0.16	0.13	0.149	0.014
3.25	0.13	0.16	0.17	0.16	0.11	0.146	0.024
4.50	0.13	0.16	0.15	0.11	0.11	0.133	0.026
5.75	0.15	0.17	0.00	0.13	0.13	0.147	0.019
			POST CONDITIONING				
1.00 MIN	0.13	0.08	0.03	0.04	0.23	0.102	0.082
2.25	0.13	0.04	0.02	0.05	0.22	0.092	0.084
3.50	0.17	0.10	0.03	0.09	0.24	0.126	0.080
4.75	0.20	0.08	0.03	0.11	0.24	0.134	0.087
6.00	0.20	0.08	0.08	0.16	0.24	0.150	0.071
7.25	0.21	0.14	0.10	0.18	0.21	0.167	0.047
8.50	0.25	0.18	0.11	0.18	0.19	0.182	0.050
9.75	0.25	0.16	0.15	0.16	0.21	0.185	0.040

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.17	0.10	0.17	0.148	0.032
2.00	0.15	0.17	0.10	0.21	0.156	0.043
3.25	0.16	0.17	0.12	0.17	0.155	0.024
4.50	0.16	0.18	0.13	0.18	0.162	0.025
5.75	0.15	0.18	0.13	0.19	0.162	0.028
		POST CONDITIONING				
1.00 MIN	0.02	0.21	0.12	0.05	0.098	0.085
2.25	0.03	0.22	0.14	0.05	0.107	0.089
3.50	0.03	0.21	0.16	0.09	0.124	0.076
4.75	0.03	0.21	0.12	0.10	0.113	0.075
6.00	0.03	0.20	0.15	0.13	0.128	0.070
7.25	0.03	0.19	0.15	0.11	0.123	0.068
8.50	0.03	0.21	0.15	0.13	0.130	0.072
9.75	0.04	0.19	0.11	0.11	0.113	0.059

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=S--20-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.15	0.16	0.12	0.11	0.136	0.023
2.00	0.13	0.15	0.09	0.11	0.122	0.026
3.25	0.12	0.14	0.09	0.08	0.107	0.026
4.50	0.14	0.15	0.09	0.08	0.116	0.035
5.75	0.14	0.16	0.07	0.09	0.117	0.042
		POST CONDITIONING				
1.00 MIN	0.00	0.21	0.11	0.03	0.117	0.091
2.25	0.00	0.19	0.09	0.06	0.114	0.065
3.50	0.00	0.16	0.11	0.11	0.125	0.034
4.75	0.00	0.18	0.12	0.11	0.136	0.041
6.00	0.00	0.16	0.12	0.11	0.132	0.027
7.25	0.00	0.14	0.11	0.15	0.130	0.022
8.50	0.00	0.15	0.11	0.16	0.140	0.031
9.75	0.00	0.13	0.12	0.15	0.132	0.013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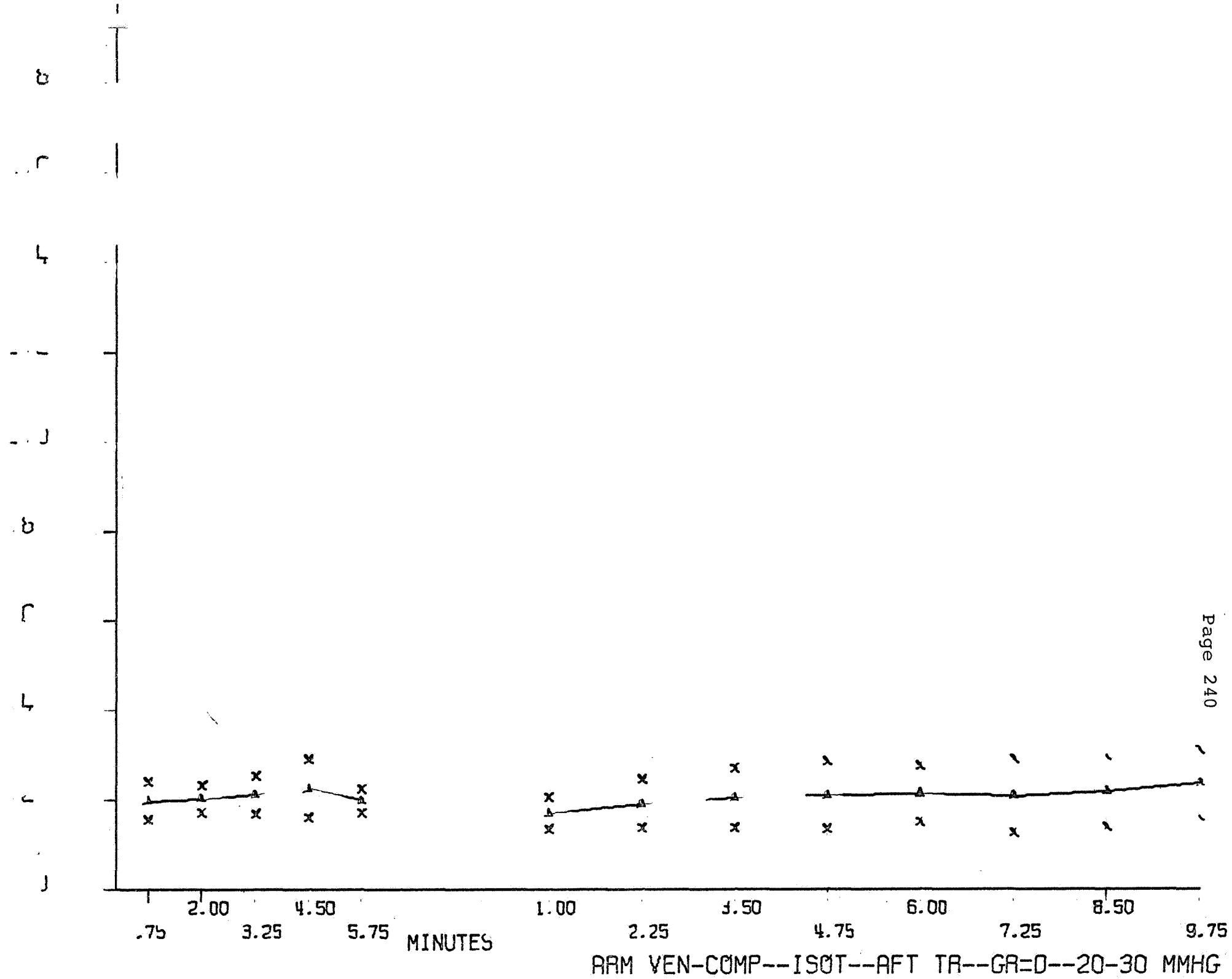
ARM VEN-COMP--ISOT--BEF TR--GR=0--20-30 MMHG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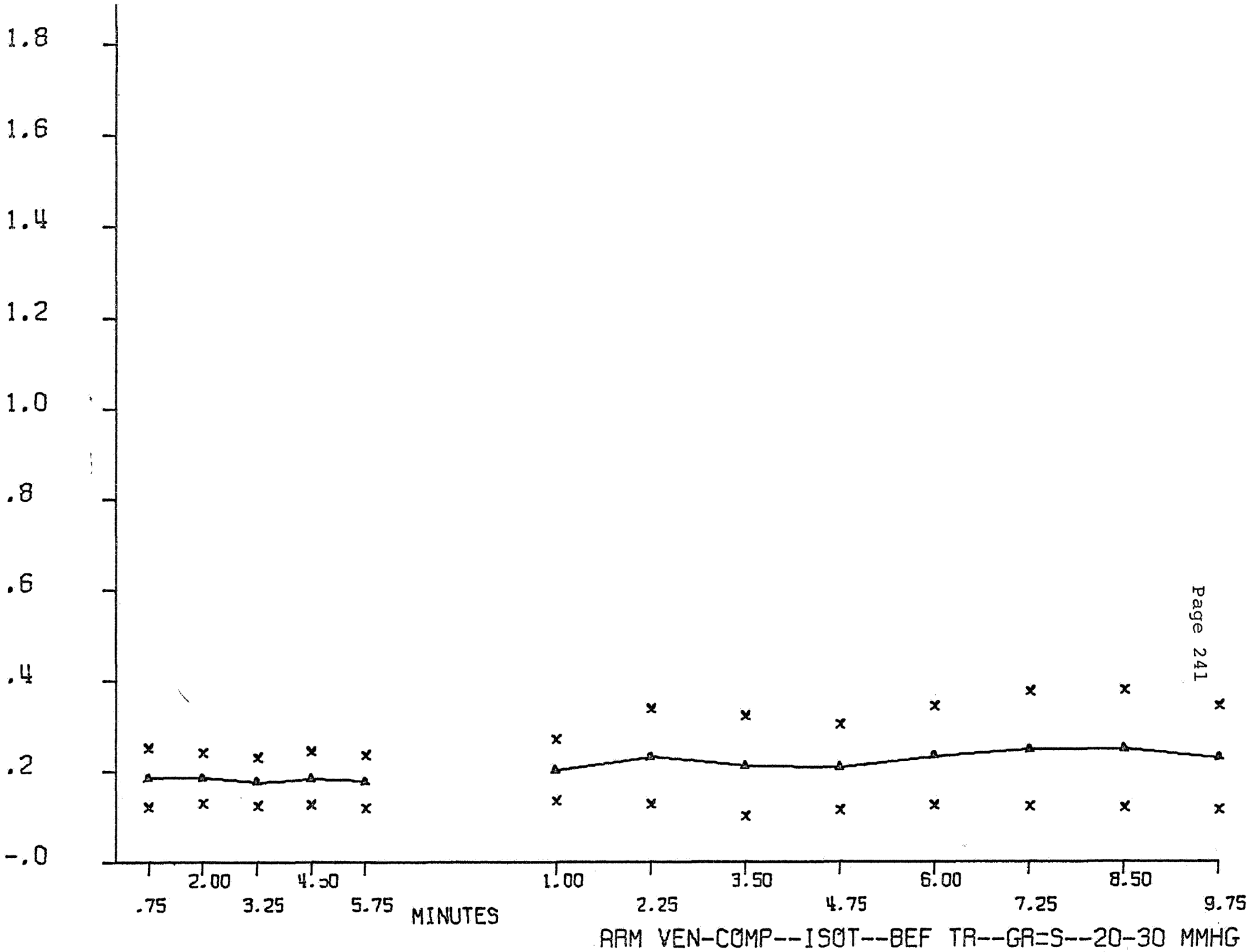
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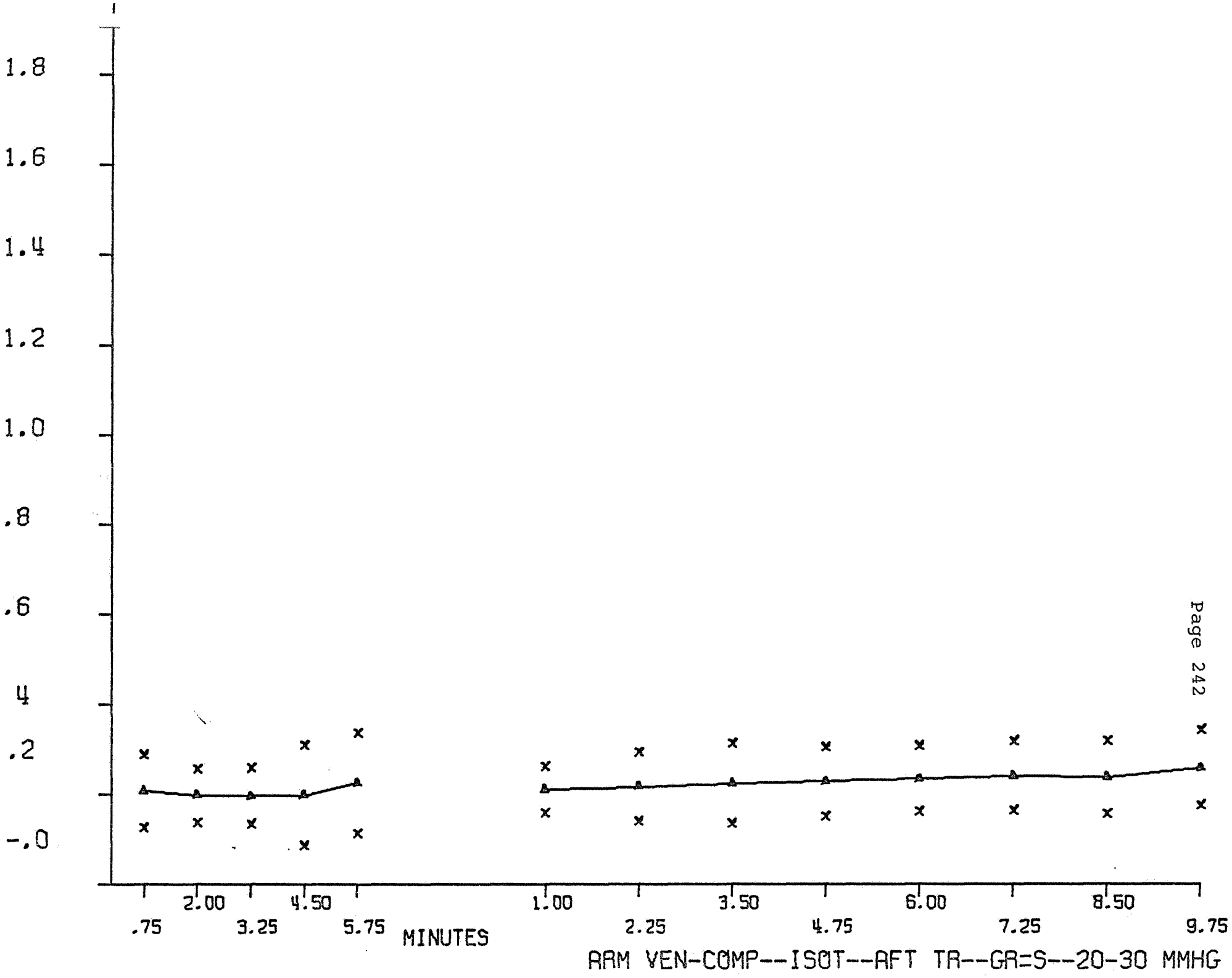
ARM VEN-COMP--ISOT--BEF TR--GR=S--20-30 MMHG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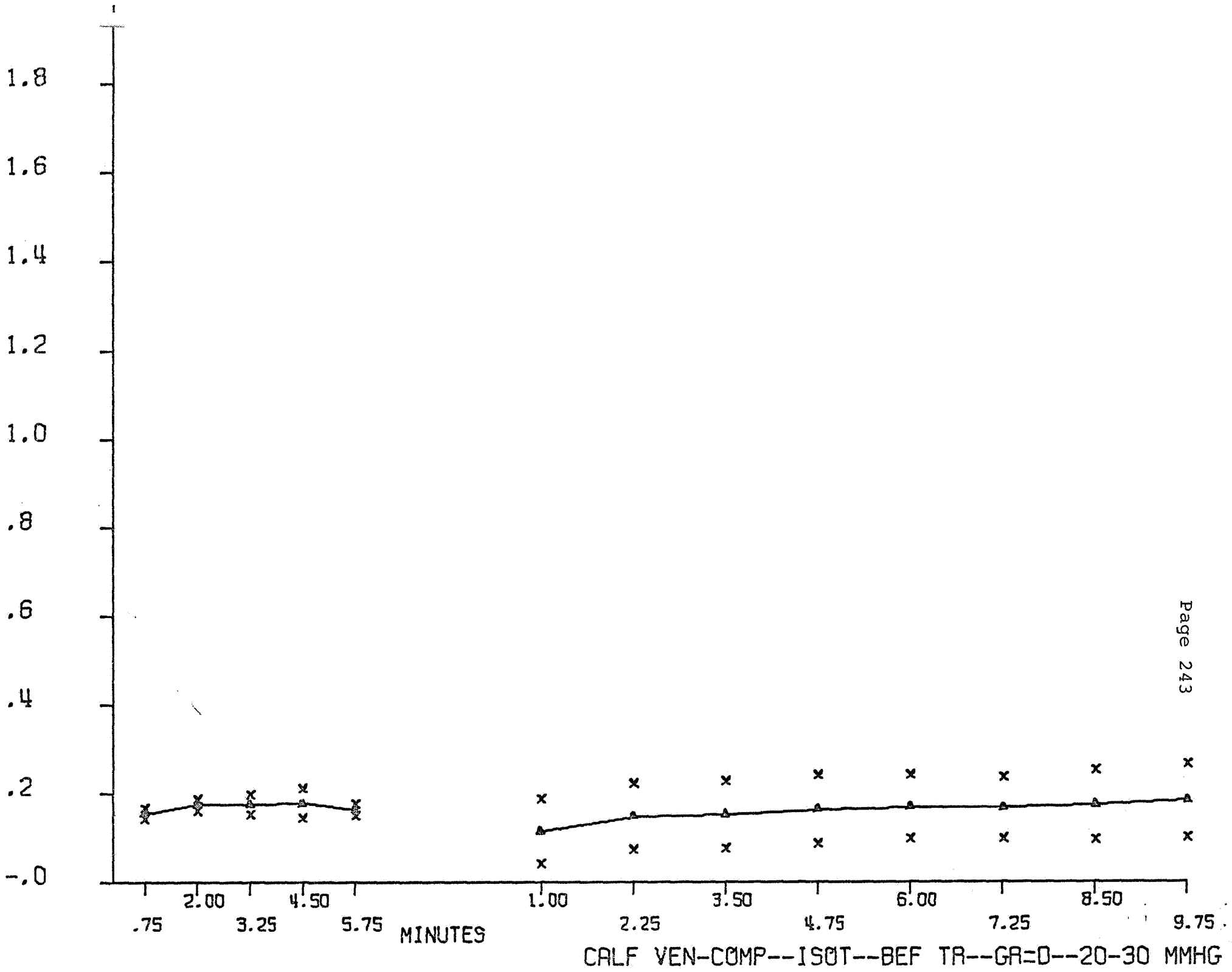
MINUTES
ARM VEN-COMP--ISOT--AFT TR--GR=S--20-30 MMHG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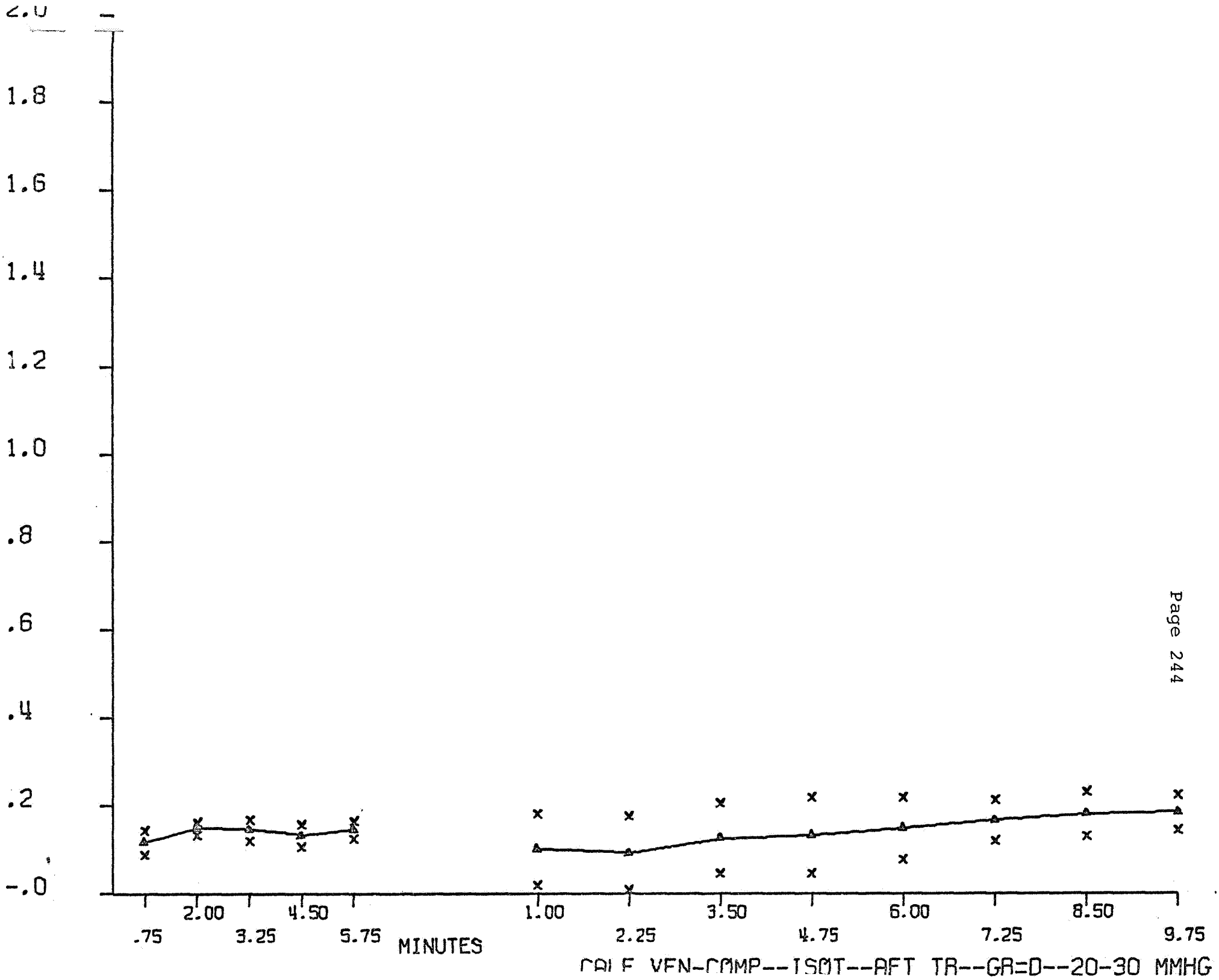
MINUTES
CALF VEN-COMP--ISOT--BEF TR--GR=0--20-30 MMHG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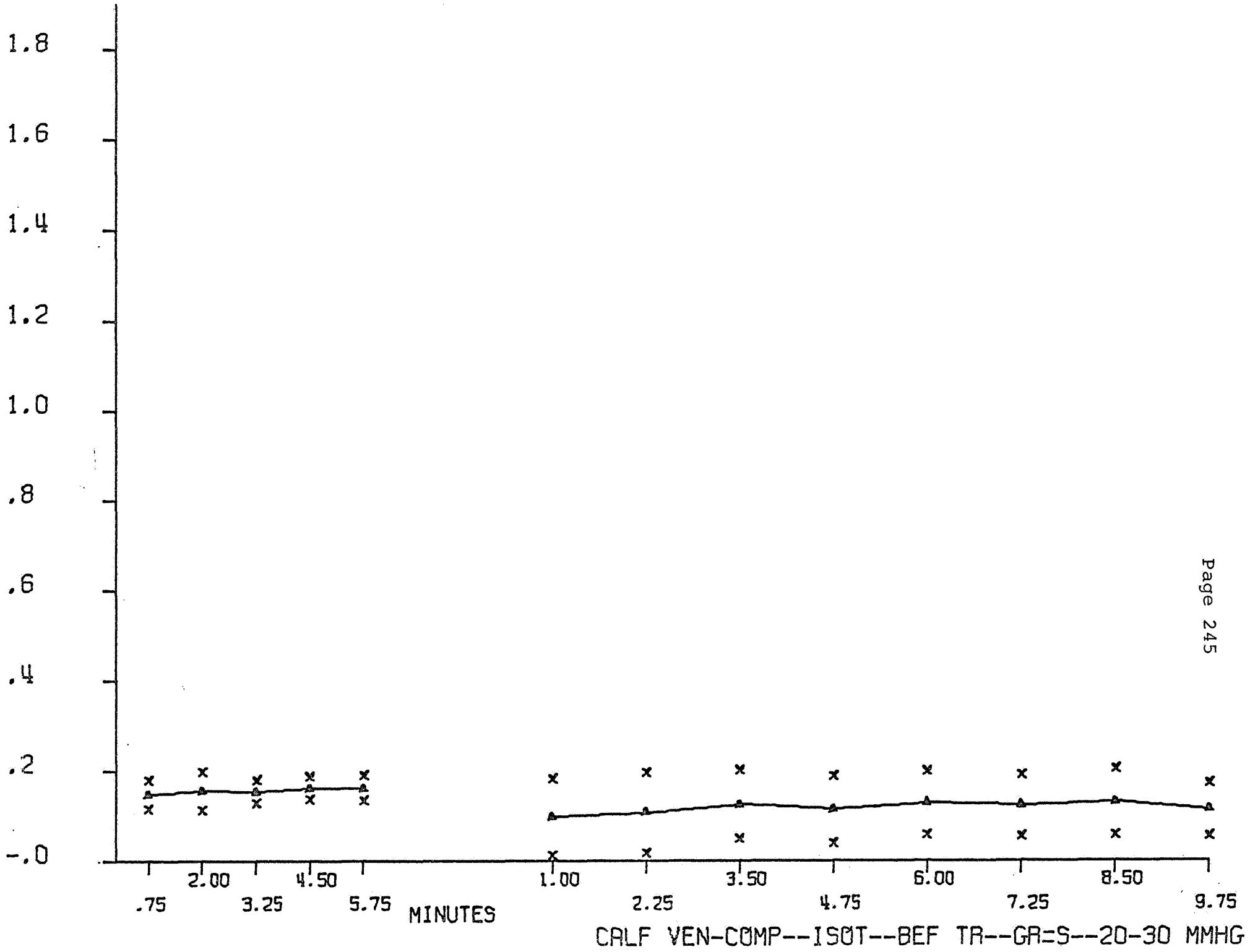
CALF VEN-COMP--ISOT--AFT TR--GR=D--20-30 MMHG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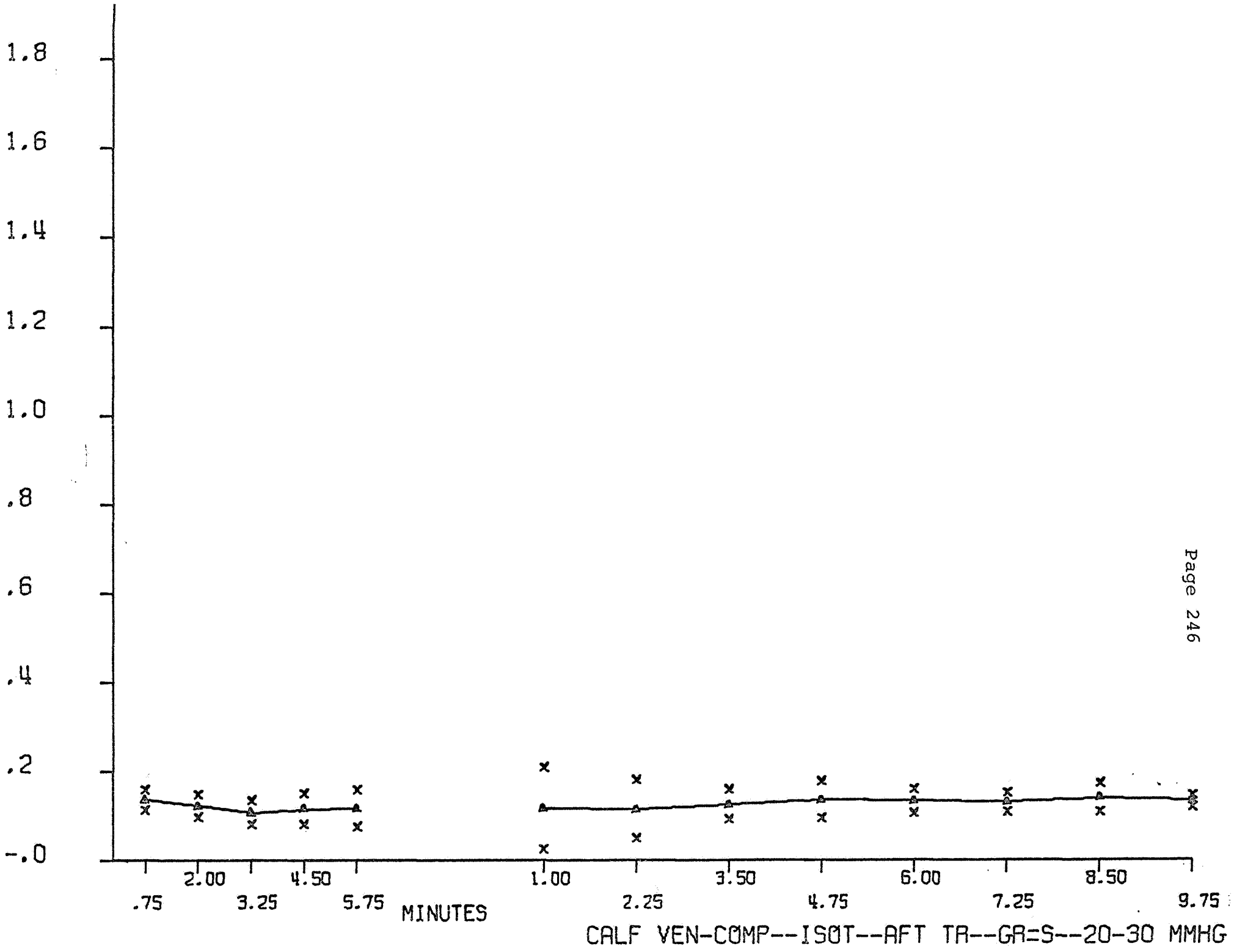
MINUTES
CALF VEN-COMP--ISOT--BEF TR--GRES--20-30 MMHG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MINUTES
CALF VEN-COMP--ISOT--AFT TR--GR=S--20-30 MMHG

APPENDIX XVII

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after arterial occlusion, before and after conditioning, 0 to 30 mm Hg.

Units: Milliliters/100 milliliter arm · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm · mm Hg.

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.84	2.21	1.68	1.20	0.97	1.578	0.497
2.00	1.84	2.27	1.49	1.33	1.04	1.595	0.475
3.25	1.90	2.07	1.89	1.33	0.91	1.621	0.482
4.50	1.84	2.24	1.86	1.20	1.09	1.647	0.486
5.75	1.90	2.24	1.80	1.27	0.00	1.801	0.402
			POST CONDITIONING				
1.00 MIN	2.09	2.09	2.64	1.27	1.14	1.845	0.628
2.25	1.60	2.03	1.93	1.40	0.33	1.457	0.677
3.50	1.72	1.78	1.86	1.40	0.99	1.550	0.358
4.75	1.54	1.78	1.95	1.33	1.04	1.530	0.360
6.00	1.60	1.89	1.64	1.27	1.09	1.497	0.317
7.25	1.60	1.82	1.77	1.20	1.04	1.485	0.347
8.50	1.63	1.78	1.58	1.33	1.12	1.488	0.263
9.75	1.66	1.72	1.77	1.27	1.12	1.504	0.293

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.76	1.77	1.12	1.17	1.03	1.371	0.365
2.00	1.70	1.93	1.27	1.24	0.97	1.423	0.388
3.25	1.96	2.01	1.27	1.30	0.97	1.503	0.461
4.50	1.89	2.17	1.34	1.30	0.91	1.523	0.505
5.75	1.69	1.77	1.28	1.24	1.15	1.426	0.286
			POST CONDITIONING				
1.00 MIN	2.55	1.93	1.88	1.31	1.03	1.739	0.592
2.25	2.35	2.01	1.46	1.44	0.97	1.645	0.541
3.50	2.03	2.33	1.46	1.50	1.15	1.694	0.477
4.75	2.15	1.85	1.46	1.37	0.97	1.561	0.457
6.00	1.83	1.85	1.70	1.37	1.15	1.580	0.309
7.25	1.80	1.85	1.40	1.44	1.09	1.514	0.315
8.50	1.69	2.01	0.99	1.37	1.15	1.443	0.413
9.75	1.89	1.69	1.28	1.14	1.09	1.418	0.355

AVERAGES FOR ARM VEN-COMP--A O--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	1.96	1.16	1.10	1.11	1.332	0.419
2.00	1.89	1.05	1.08	1.27	1.320	0.392
3.25	1.82	1.08	1.10	1.11	1.277	0.362
4.50	1.75	0.99	0.98	1.16	1.222	0.362
5.75	1.96	1.22	1.05	1.24	1.367	0.404
			POST CONDITIONING			
1.00 MIN	2.24	1.44	1.56	1.32	1.639	0.412
2.25	1.82	1.21	1.53	1.22	1.445	0.291
3.50	1.47	1.24	1.34	1.14	1.296	0.142
4.75	1.47	1.02	1.29	1.14	1.230	0.194
6.00	1.96	0.91	1.17	1.08	1.281	0.465
7.25	1.75	1.08	1.08	1.16	1.266	0.325
8.50	1.68	1.05	1.08	1.29	1.274	0.292
9.75	2.03	1.03	0.96	1.14	1.289	0.499

AVERAGES FOR ARM VEN-COMP--A O--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	2.10	0.91	1.23	1.14	1.347	0.520
2.00	2.28	0.96	1.29	1.22	1.437	0.576
3.25	1.85	0.91	1.23	1.22	1.303	0.394
4.50	2.13	0.81	1.42	1.06	1.357	0.574
5.75	2.28	0.91	0.00	1.18	1.456	0.723
			POST CONDITIONING			
1.00 MIN	3.13	0.96	2.16	0.79	1.759	1.098
2.25	2.42	0.76	2.03	0.71	1.479	0.875
3.50	2.14	0.99	1.35	0.95	1.356	0.551
4.75	1.50	0.76	1.35	0.79	1.099	0.380
6.00	1.64	0.76	1.42	0.75	1.142	0.458
7.25	1.57	0.74	1.11	0.87	1.069	0.365
8.50	1.42	0.76	1.36	0.87	1.101	0.337
9.75	2.00	0.76	1.23	0.00	1.329	0.623

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.37	0.81	1.20	1.03	0.99	1.080	0.215
2.00	1.37	1.03	1.20	1.08	0.99	1.134	0.153
3.25	0.00	1.07	1.17	1.11	0.95	1.074	0.095
4.50	1.48	1.15	1.20	1.11	0.95	1.178	0.195
5.75	1.28	0.87	1.20	1.11	0.99	1.091	0.164
			POST CONDITIONING				
1.00 MIN	1.67	1.06	1.09	1.21	0.99	1.204	0.274
2.25	1.48	1.07	1.09	1.21	0.95	1.159	0.203
3.50	1.37	1.09	1.31	1.11	1.01	1.178	0.153
4.75	1.20	1.12	1.26	1.24	0.99	1.161	0.109
6.00	1.20	0.93	1.26	1.21	1.03	1.127	0.137
7.25	1.14	1.06	1.23	1.24	1.03	1.140	0.094
8.50	1.20	1.09	1.31	1.27	0.99	1.171	0.132
9.75	1.20	1.05	1.31	1.21	0.92	1.139	0.153

AVERAGES FOR CALF VEN-COMP--A O--AFT TR--GR=D--0-30 MMHG

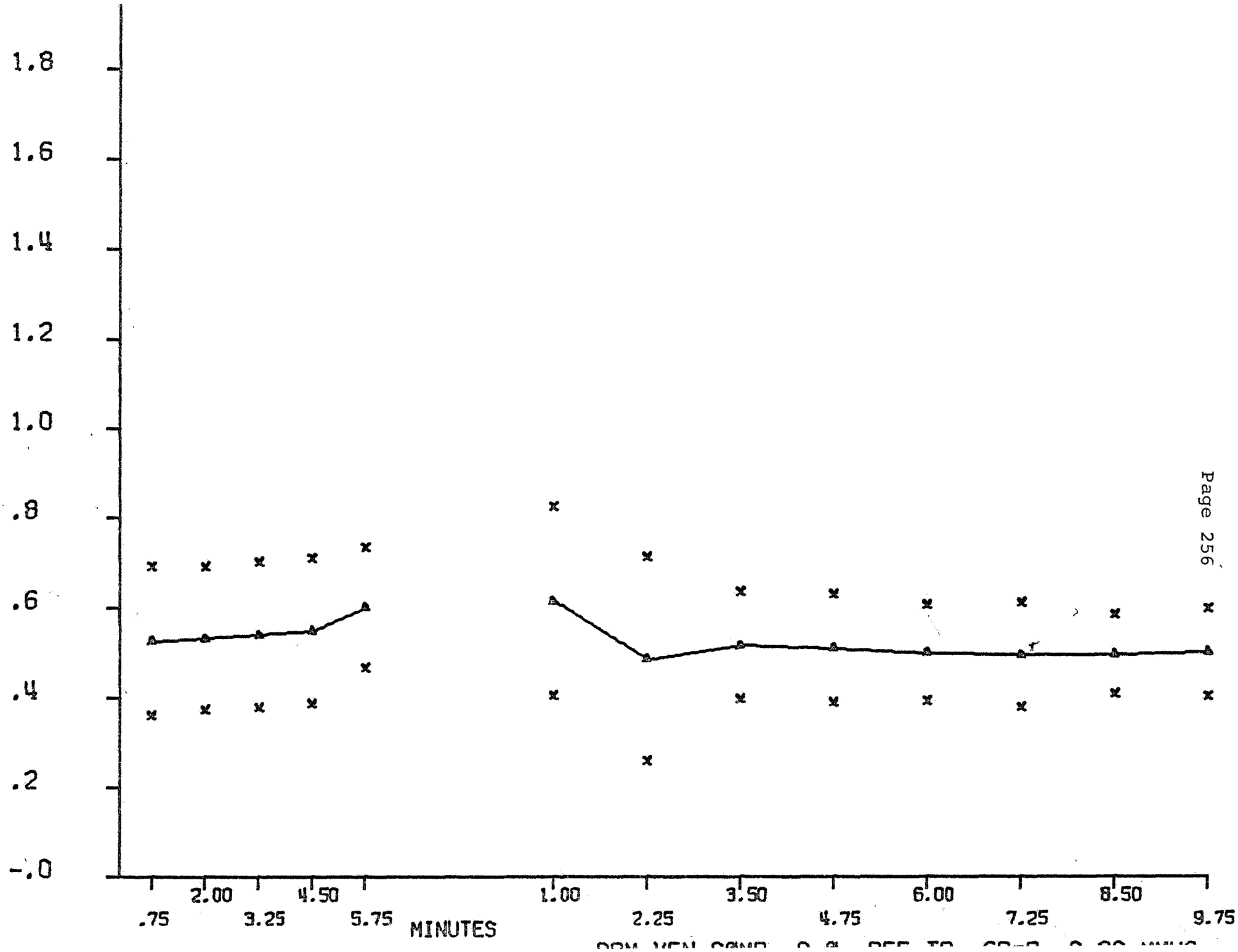
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.92	0.77	1.00	0.79	0.71	0.839	0.121
2.00	1.11	0.74	1.32	0.99	0.71	0.976	0.259
3.25	1.04	0.80	1.32	0.99	0.69	0.968	0.245
4.50	0.94	0.86	1.28	0.79	0.66	0.906	0.230
5.75	0.99	0.80	0.00	1.02	0.73	0.885	0.141
			POST CONDITIONING				
1.00 MIN	1.58	0.86	1.18	0.84	0.80	1.055	0.332
2.25	1.19	0.80	1.05	0.95	0.76	0.948	0.178
3.50	1.19	0.80	1.14	1.10	0.80	1.005	0.190
4.75	1.34	0.74	1.19	1.05	0.76	1.013	0.264
6.00	1.29	0.80	1.05	0.95	0.80	0.978	0.203
7.25	1.34	0.88	1.19	0.90	0.76	1.012	0.240
8.50	1.34	0.74	1.09	0.90	0.76	0.964	0.253
9.75	1.39	0.80	1.14	0.90	0.78	1.000	0.261

AVERAGES FOR CALF VEN-COMP--A O--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	1.04	1.37	0.92	1.14	1.115	0.190
2.00	1.06	1.36	0.82	1.18	1.107	0.229
3.25	1.06	1.41	0.87	1.14	1.119	0.223
4.50	1.11	1.41	1.02	1.11	1.164	0.168
5.75	1.06	1.41	0.94	1.23	1.162	0.203
			POST CONDITIONING			
1.00 MIN	1.11	1.28	0.92	1.19	1.126	0.155
2.25	1.11	1.47	0.92	1.14	1.160	0.228
3.50	1.11	1.53	0.97	1.14	1.189	0.241
4.75	1.11	1.53	0.82	1.19	1.162	0.293
6.00	1.14	1.41	0.92	1.28	1.186	0.209
7.25	1.11	1.41	0.87	1.18	1.143	0.222
8.50	1.04	1.39	0.92	1.18	1.131	0.201
9.75	1.21	1.33	0.92	1.19	1.161	0.172

AVERAGES FOR CALF VEN-COMP--A C--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	0.71	1.24	0.81	0.73	0.874	0.250
2.00	0.62	1.32	0.77	0.69	0.847	0.319
3.25	0.62	1.24	0.67	0.68	0.805	0.293
4.50	0.64	1.20	0.67	0.63	0.789	0.278
5.75	0.64	1.24	0.63	0.17	0.671	0.439
			POST CONDITIONING			
1.00 MIN	0.53	1.35	0.85	0.73	0.867	0.350
2.25	0.56	1.32	0.81	0.58	0.816	0.352
3.50	0.58	1.36	0.85	0.83	0.903	0.326
4.75	0.62	1.28	0.72	0.73	0.838	0.299
6.00	0.64	1.35	0.81	0.73	0.884	0.321
7.25	0.62	1.32	0.85	0.63	0.856	0.325
8.50	0.71	1.20	0.59	0.68	0.795	0.278
9.75	0.64	1.24	0.59	0.95	0.855	0.304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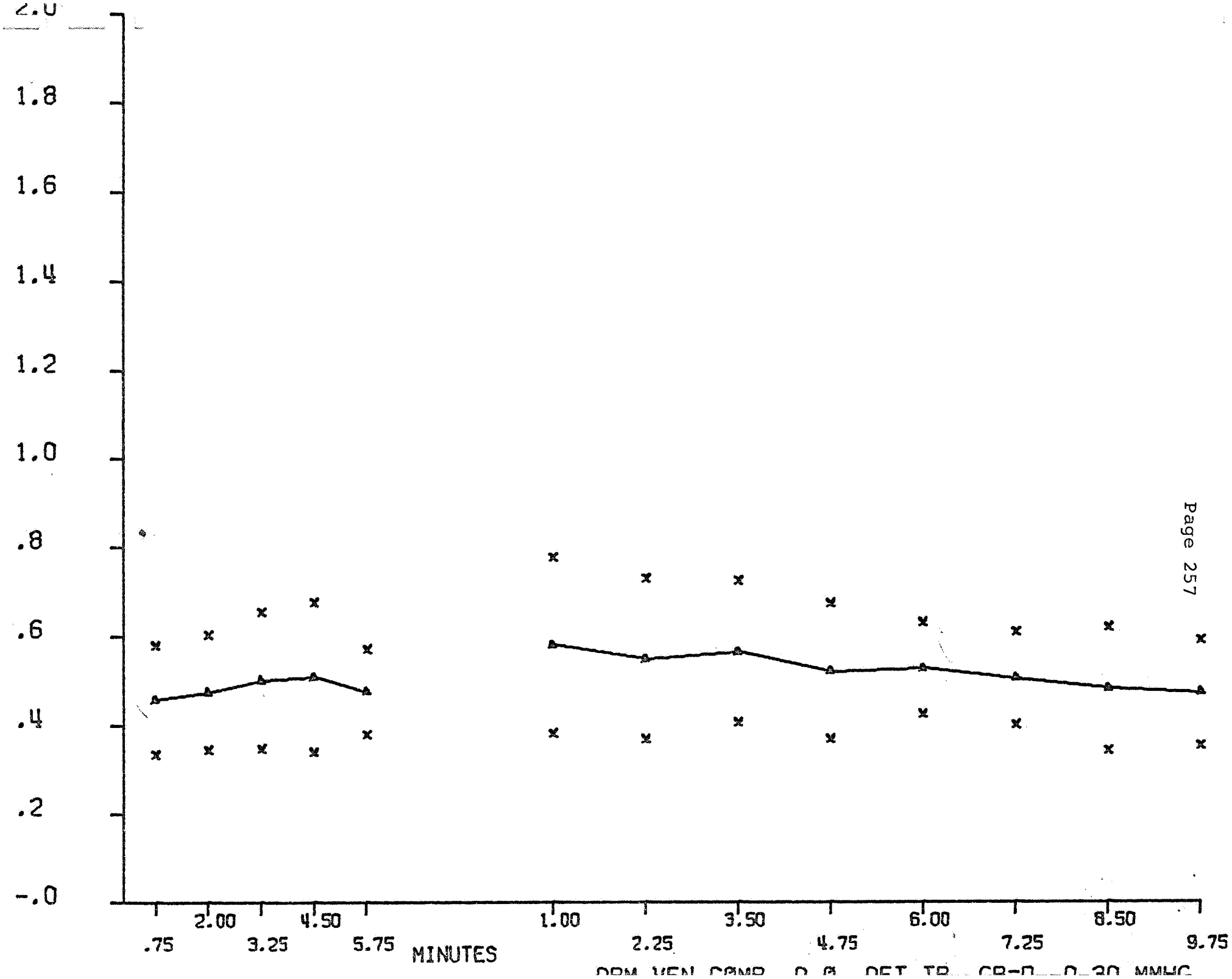
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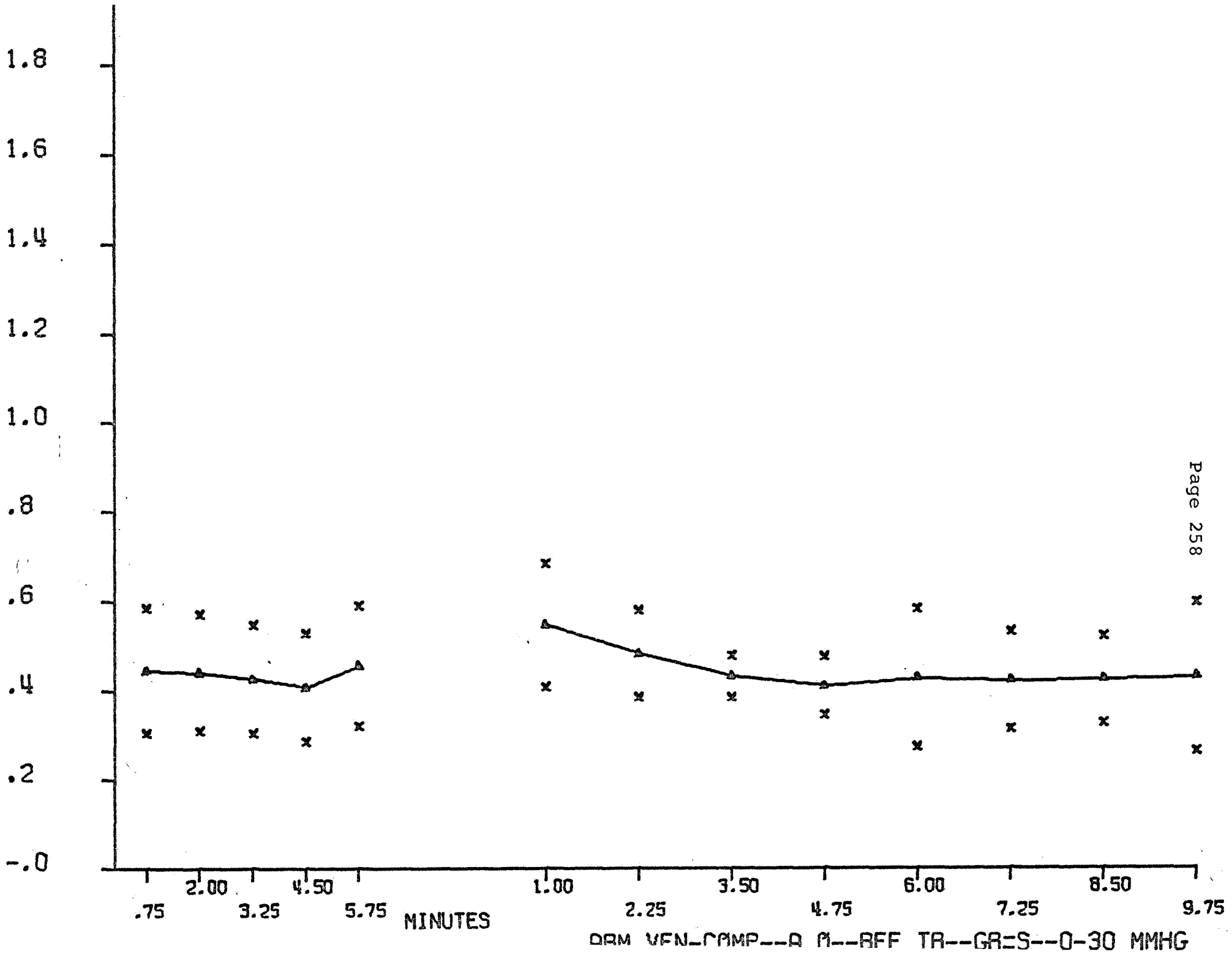
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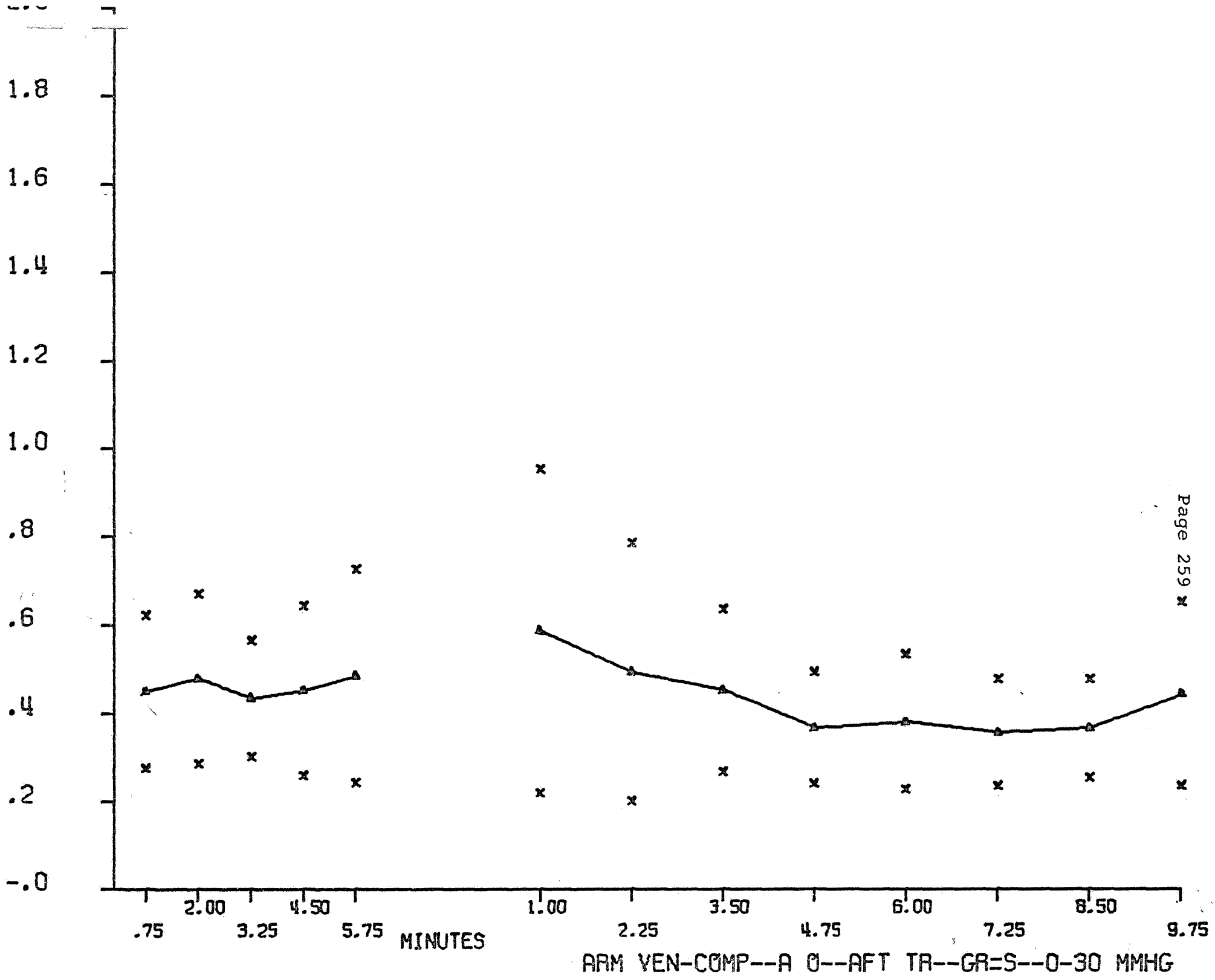
ORM VEN-COMP--A M--REF TR--GRES--0-30 MMHG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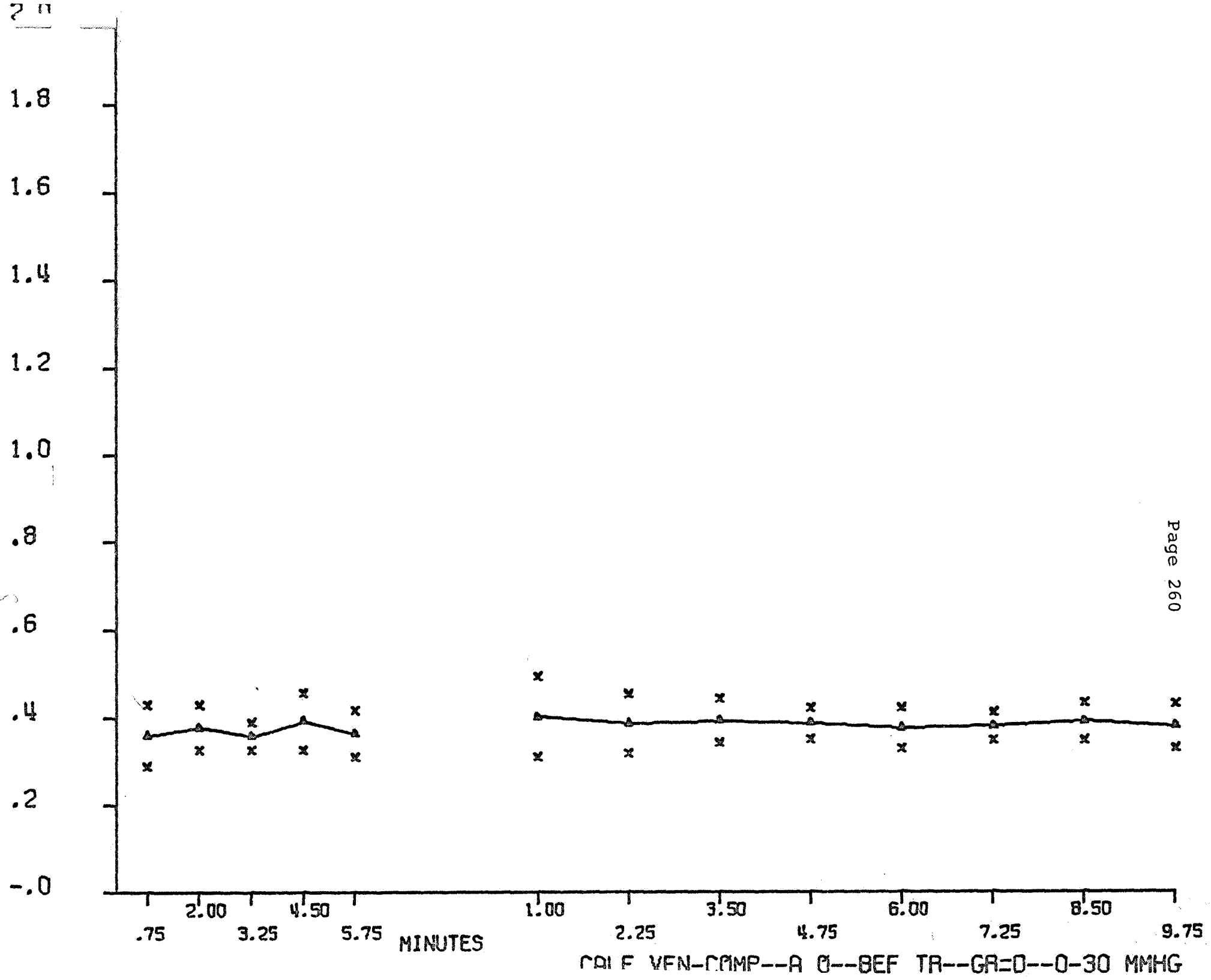
ARM VEN-COMP--A 0--AFT TR--GR=S--0-30 MMHG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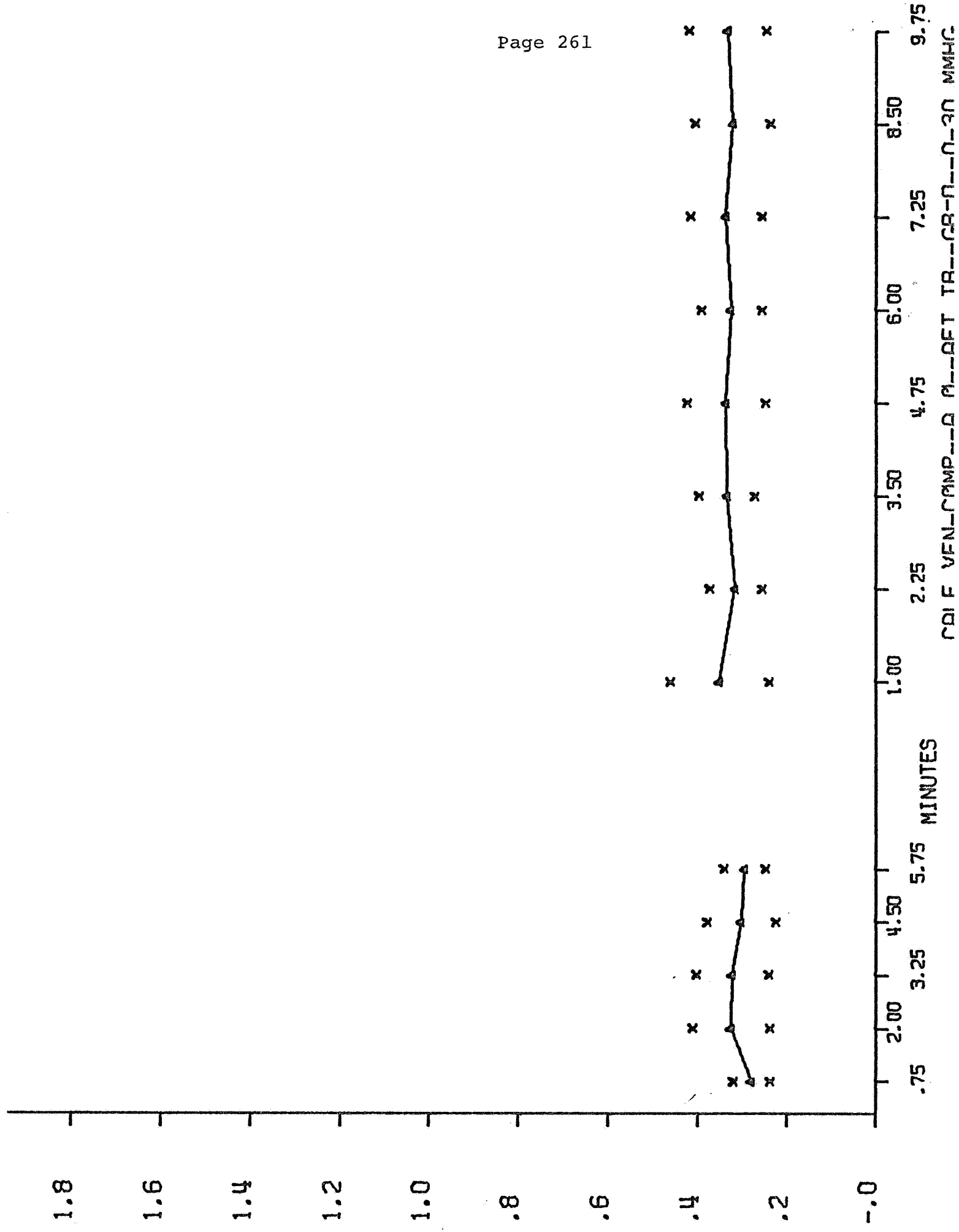
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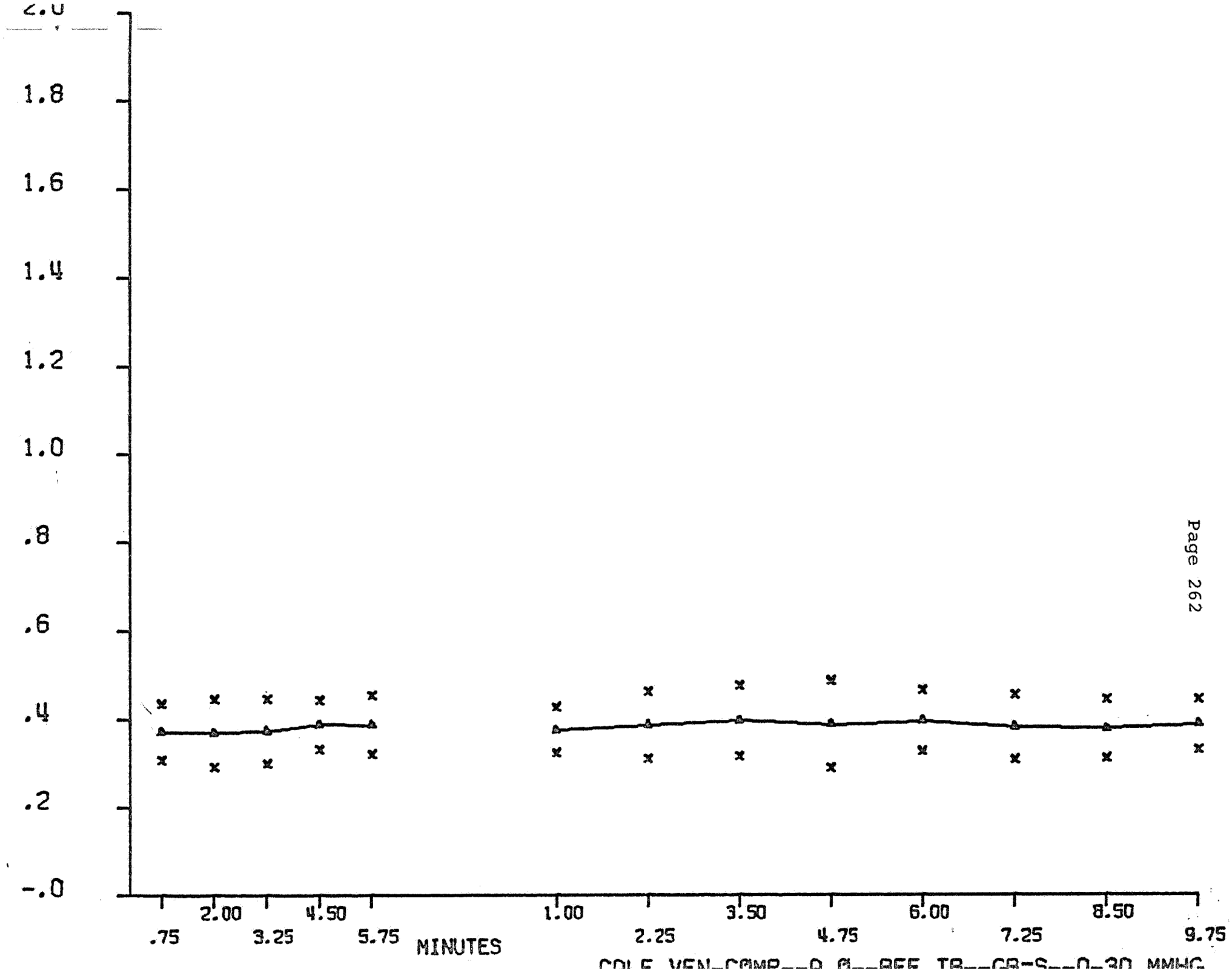
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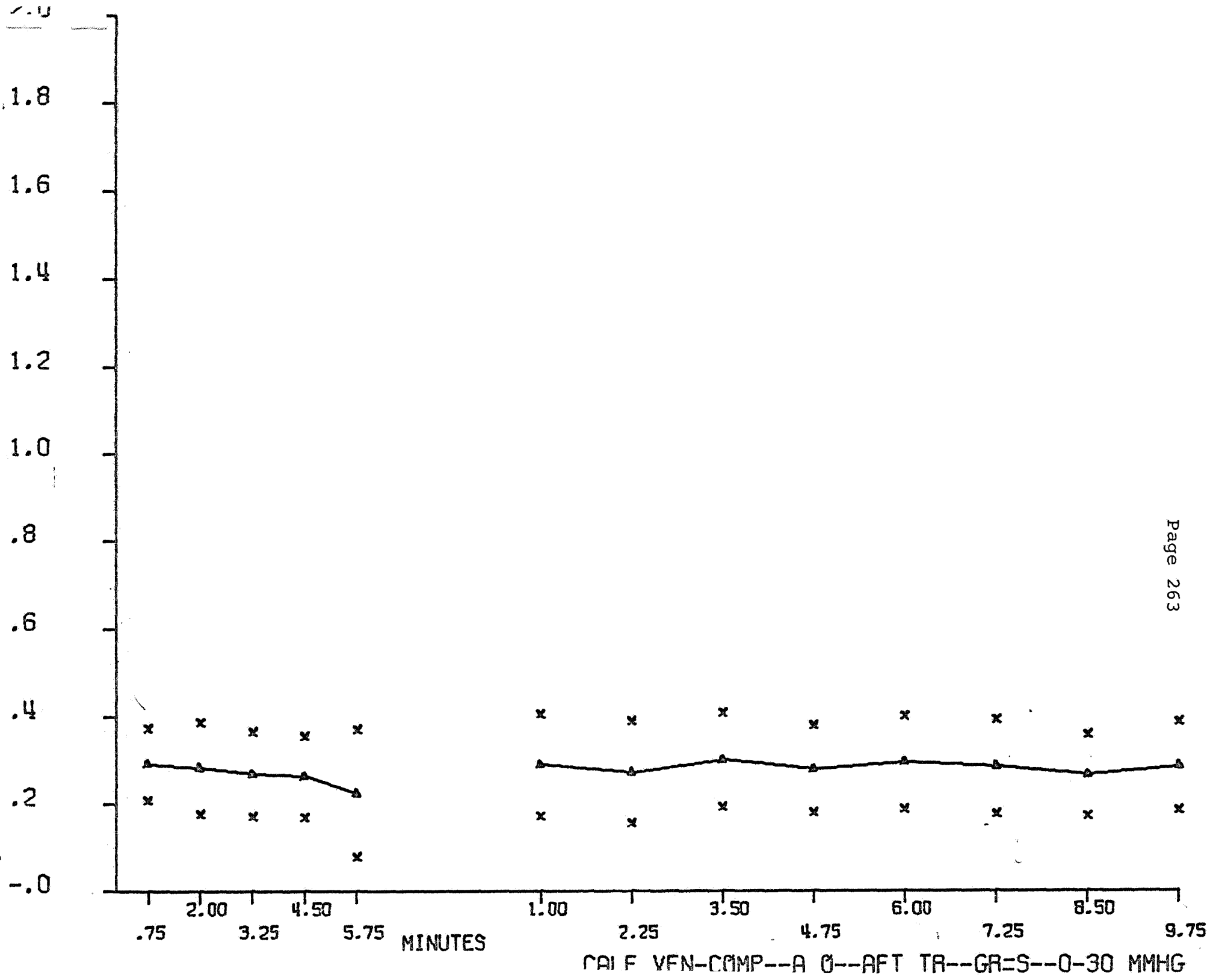
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MINUTES
CALF VEN-COMP--A 0--AFT TR--GRES--0-30 MMHG

APPENDIX XVIII

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isometric exercise, before and after conditioning, 0 to 30 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.84	2.21	1.68	1.20	0.97	1.578	0.497
2.00	1.84	2.27	1.49	1.33	1.04	1.595	0.475
3.25	1.90	2.07	1.89	1.33	0.91	1.621	0.482
4.50	1.84	2.24	1.86	1.20	1.09	1.647	0.486
5.75	1.90	2.24	1.80	1.27	0.00	1.801	0.402
			POST CONDITIONING				
1.00 MIN	2.03	1.16	1.67	1.20	0.99	1.410	0.428
2.25	2.21	1.26	1.70	1.20	1.02	1.478	0.480
3.50	2.34	1.40	1.52	1.30	0.97	1.504	0.507
4.75	2.40	1.26	1.49	1.27	0.94	1.471	0.553
6.00	2.33	1.96	1.61	1.56	0.99	1.692	0.498
7.25	2.21	1.78	1.58	1.50	0.99	1.614	0.443
8.50	2.21	1.75	1.67	1.27	0.97	1.574	0.476
9.75	2.40	0.00	1.80	1.36	0.92	1.618	0.629

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.76	1.77	1.12	1.17	1.03	1.371	0.365
2.00	1.70	1.93	1.27	1.24	0.97	1.423	0.388
3.25	1.96	2.01	1.27	1.30	0.97	1.503	0.461
4.50	1.89	2.17	1.34	1.30	0.91	1.523	0.505
5.75	1.69	1.77	1.28	1.24	1.15	1.426	0.286
			POST CONDITIONING				
1.00 MIN	2.03	1.45	1.70	1.01	0.60	1.358	0.562
2.25	2.29	1.53	1.88	1.08	0.78	1.511	0.604
3.50	2.36	1.65	1.64	1.04	1.21	1.581	0.512
4.75	2.49	1.45	1.64	1.24	1.14	1.594	0.538
6.00	2.48	1.61	1.52	1.37	1.03	1.601	0.540
7.25	2.55	1.29	1.70	1.31	1.15	1.598	0.570
8.50	2.42	1.85	1.34	1.24	0.97	1.563	0.575
9.75	2.61	1.61	1.52	1.24	1.15	1.625	0.583

AVERAGES FOR ARM VEN-COMP--ISOM--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	1.96	1.16	1.10	1.11	1.332	0.419
2.00	1.89	1.05	1.08	1.27	1.320	0.392
3.25	1.82	1.08	1.10	1.11	1.277	0.362
4.50	1.75	0.99	0.98	1.16	1.222	0.362
5.75	1.96	1.22	1.05	1.24	1.367	0.404
		POST CONDITIONING				
1.00 MIN	2.38	1.49	1.36	1.14	1.592	0.545
2.25	2.31	1.36	1.15	1.32	1.533	0.526
3.50	2.38	1.71	1.00	1.24	1.583	0.604
4.75	2.45	1.11	1.13	1.35	1.507	0.638
6.00	1.89	1.30	0.98	1.22	1.346	0.387
7.25	2.31	1.27	0.93	1.24	1.439	0.600
8.50	2.38	1.22	0.91	1.14	1.409	0.660
9.75	2.24	1.10	1.08	1.14	1.387	0.566

AVERAGES FOR ARM VEN-COMP--ISOM--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	2.10	0.91	1.23	1.14	1.347	0.520
2.00	2.28	0.96	1.29	1.22	1.437	0.576
3.25	1.85	0.91	1.23	1.22	1.303	0.394
4.50	2.13	0.81	1.42	1.06	1.357	0.574
5.75	2.28	0.91	0.00	1.18	1.456	0.723
			POST CONDITIONING			
1.00 MIN	3.06	0.97	1.85	1.10	1.742	0.957
2.25	2.49	1.12	1.54	0.98	1.531	0.679
3.50	2.56	1.11	1.29	1.02	1.498	0.718
4.75	2.67	1.07	1.29	1.06	1.521	0.770
6.00	2.73	1.07	1.38	1.02	1.551	0.803
7.25	2.35	1.02	1.35	0.95	1.415	0.648
8.50	2.49	1.02	1.84	1.03	1.593	0.713
9.75	2.42	1.02	1.54	0.00	1.658	0.709

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.37	0.81	1.20	1.03	0.99	1.080	0.215
2.00	1.37	1.03	1.20	1.08	0.99	1.134	0.153
3.25	0.00	1.07	1.17	1.11	0.95	1.074	0.095
4.50	1.48	1.15	1.20	1.11	0.95	1.178	0.195
5.75	1.28	0.87	1.20	1.11	0.99	1.091	0.164
			POST CONDITIONING				
1.00 MIN	1.20	0.81	0.98	1.11	0.95	1.009	0.150
2.25	1.37	0.84	1.12	1.19	0.95	1.092	0.207
3.50	1.37	0.81	1.25	1.16	0.95	1.108	0.227
4.75	1.31	0.75	1.17	1.19	0.95	1.073	0.225
6.00	1.08	0.75	1.15	1.21	0.81	1.000	0.209
7.25	1.28	0.93	1.15	1.16	0.85	1.076	0.176
8.50	1.43	0.89	1.09	1.16	0.85	1.085	0.230
9.75	1.51	0.93	1.15	1.21	0.81	1.122	0.270

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=D--0-30 MMHG

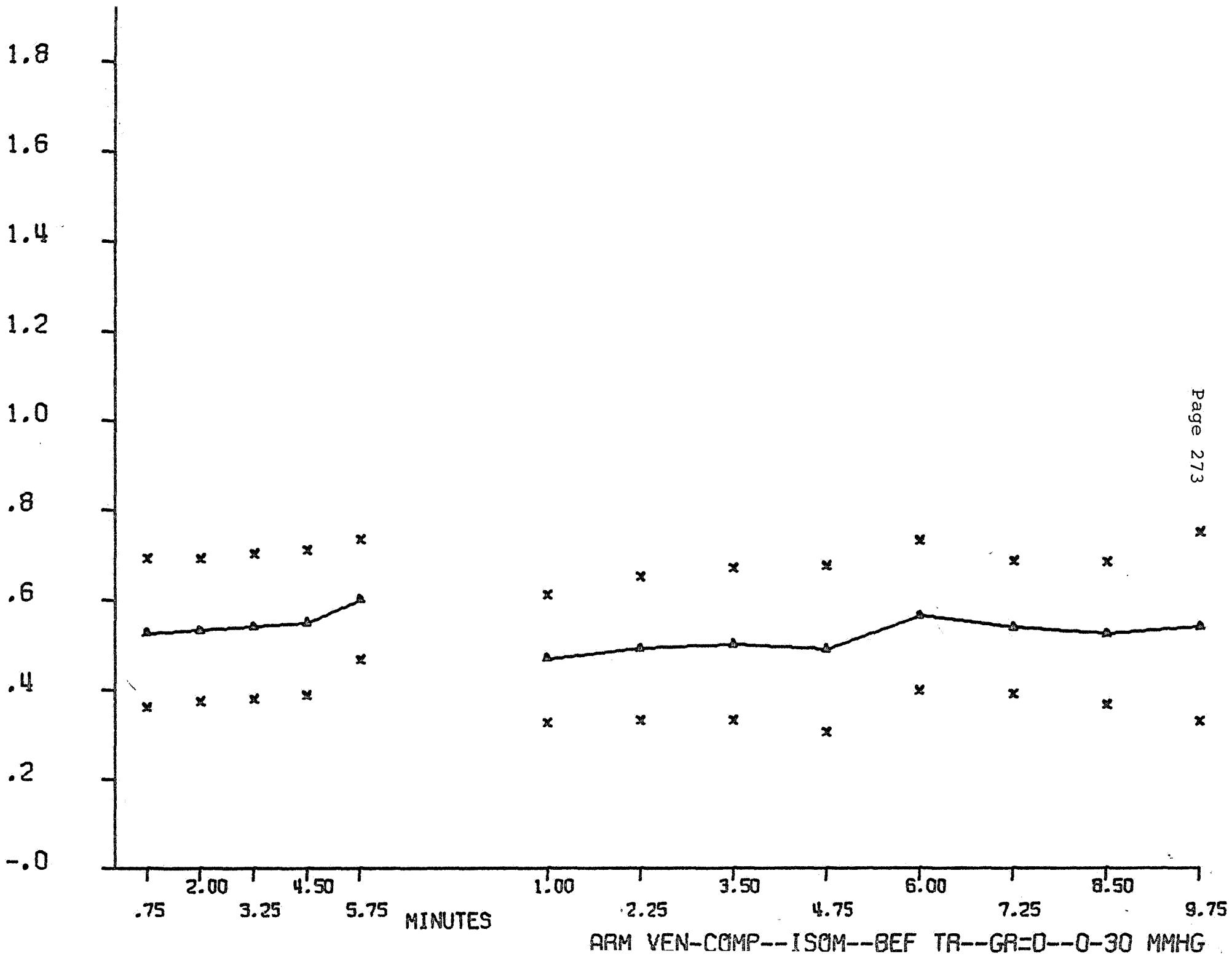
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.92	0.77	1.00	0.79	0.71	0.839	0.121
2.00	1.11	0.74	1.32	0.99	0.71	0.976	0.259
3.25	1.04	0.80	1.32	0.99	0.69	0.968	0.245
4.50	0.94	0.86	1.28	0.79	0.66	0.906	0.230
5.75	0.99	0.80	0.00	1.02	0.73	0.885	0.141
			POST CONDITIONING				
1.00 MIN	1.49	0.43	0.84	0.90	0.71	0.874	0.387
2.25	1.24	0.67	1.00	0.90	0.71	0.904	0.229
3.50	1.24	0.74	0.96	0.94	0.80	0.936	0.193
4.75	1.19	0.74	1.07	1.05	0.69	0.946	0.221
6.00	1.29	0.68	0.98	0.95	0.73	0.925	0.242
7.25	1.24	0.61	1.08	0.94	0.71	0.917	0.258
8.50	1.04	0.74	1.07	0.94	0.80	0.919	0.144
9.75	1.34	1.05	1.14	0.95	0.76	1.046	0.216

AVERAGES FOR CALF VEN-COMP--ISOM--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	1.04	1.37	0.92	1.14	1.115	0.190
2.00	1.06	1.36	0.82	1.18	1.107	0.229
3.25	1.06	1.41	0.87	1.14	1.119	0.223
4.50	1.11	1.41	1.02	1.11	1.164	0.168
5.75	1.06	1.41	0.94	1.23	1.162	0.203
			POST CONDITIONING			
1.00 MIN	0.71	1.41	0.76	0.81	0.921	0.326
2.25	0.81	1.41	0.87	1.00	1.020	0.270
3.50	0.88	1.41	0.92	0.95	1.039	0.246
4.75	0.86	1.41	0.82	0.97	1.014	0.270
6.00	0.91	1.45	0.81	0.95	1.031	0.284
7.25	0.91	1.37	0.81	0.90	0.998	0.249
8.50	0.91	1.49	0.81	0.95	1.041	0.305
9.75	1.01	1.37	0.81	0.95	1.036	0.236

AVERAGES FOR CALF VEN-COMP--ISOM--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.71	1.24	0.81	0.73	0.874	0.250
2.00	0.62	1.32	0.77	0.69	0.847	0.319
3.25	0.62	1.24	0.67	0.68	0.805	0.293
4.50	0.64	1.20	0.67	0.63	0.789	0.278
5.75	0.64	1.24	0.63	0.17	0.671	0.439
		POST CONDITIONING				
1.00 MIN	0.40	1.20	0.63	0.88	0.778	0.345
2.25	0.42	1.24	0.67	1.02	0.840	0.364
3.50	0.51	1.13	0.63	0.83	0.774	0.270
4.75	0.60	1.13	0.72	0.87	0.831	0.229
6.00	0.62	1.13	0.72	0.83	0.825	0.221
7.25	0.60	1.09	0.72	0.83	0.810	0.210
8.50	0.58	1.13	0.63	0.66	0.748	0.257
9.75	0.64	1.21	0.00	0.87	0.908	0.283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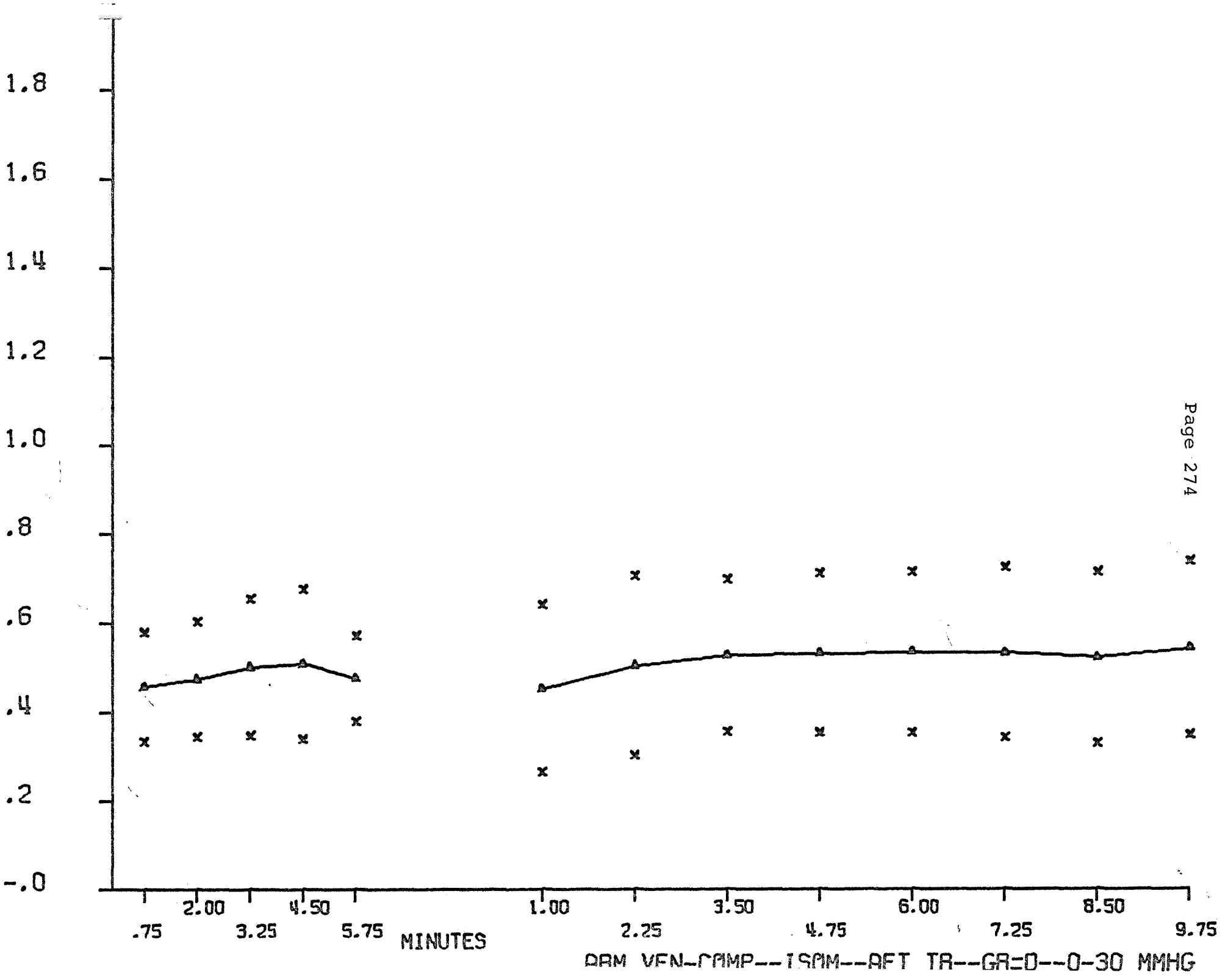
ARM VEN-COMP--ISOM--BEF TR--GR=0--0-30 MMHG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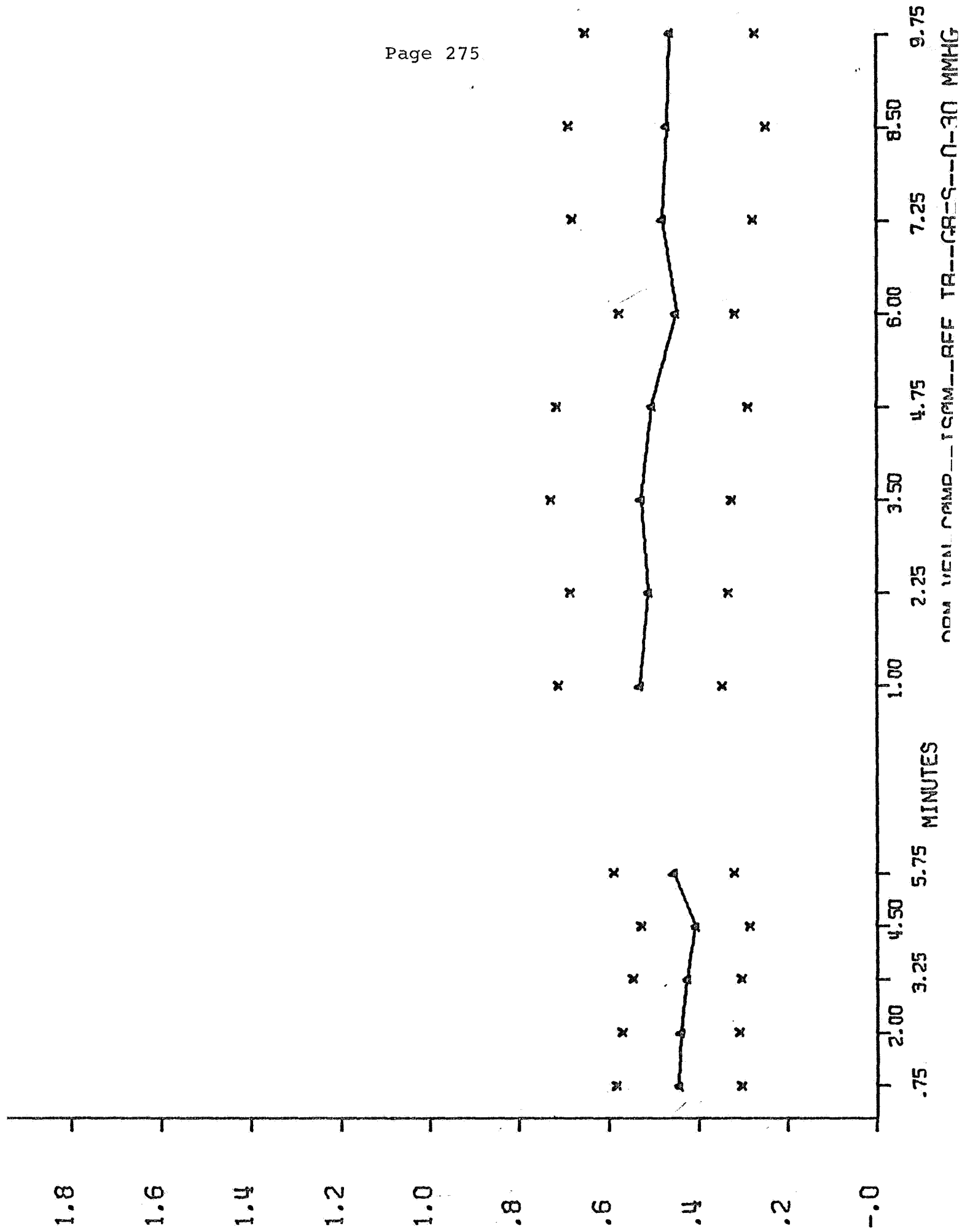
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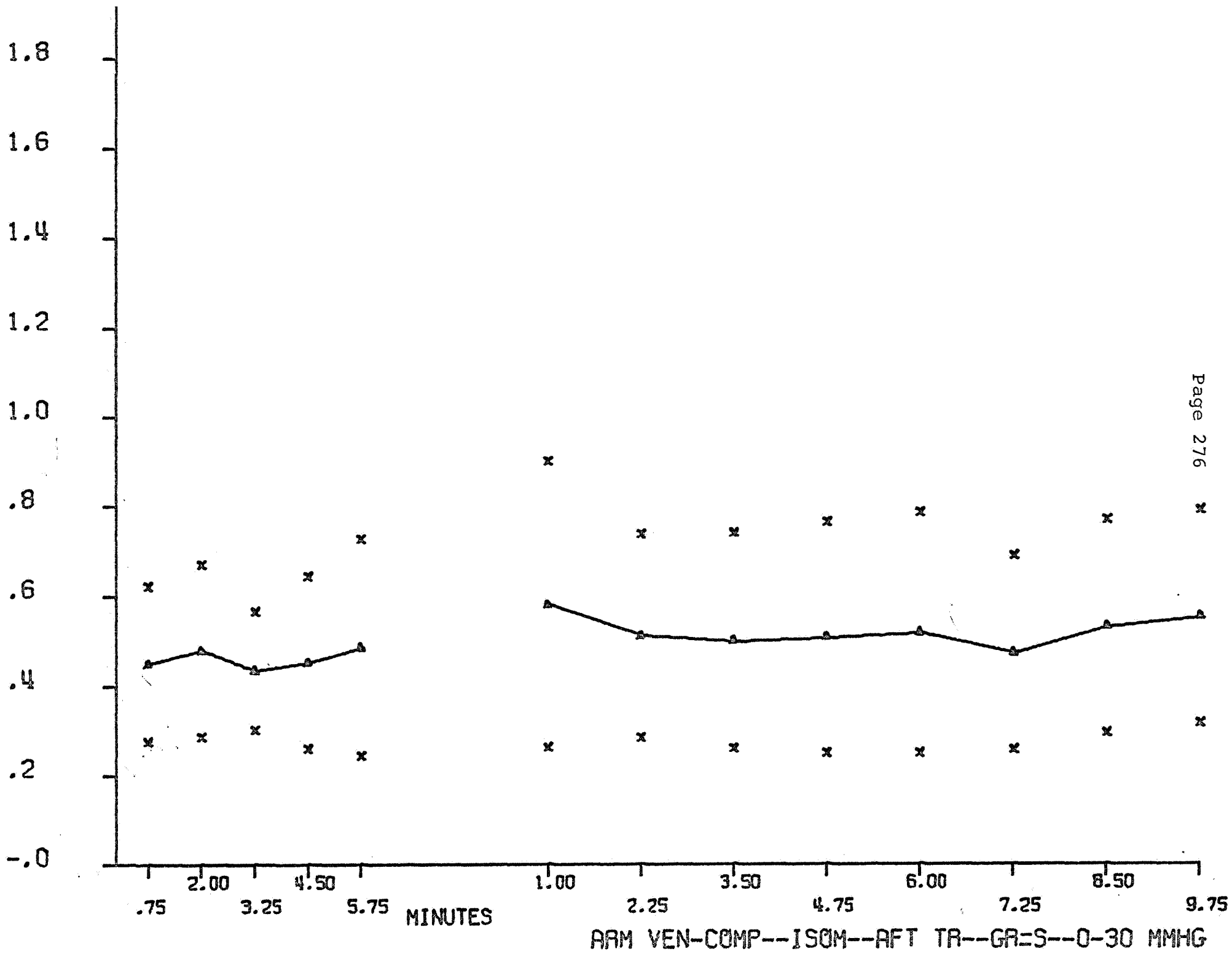
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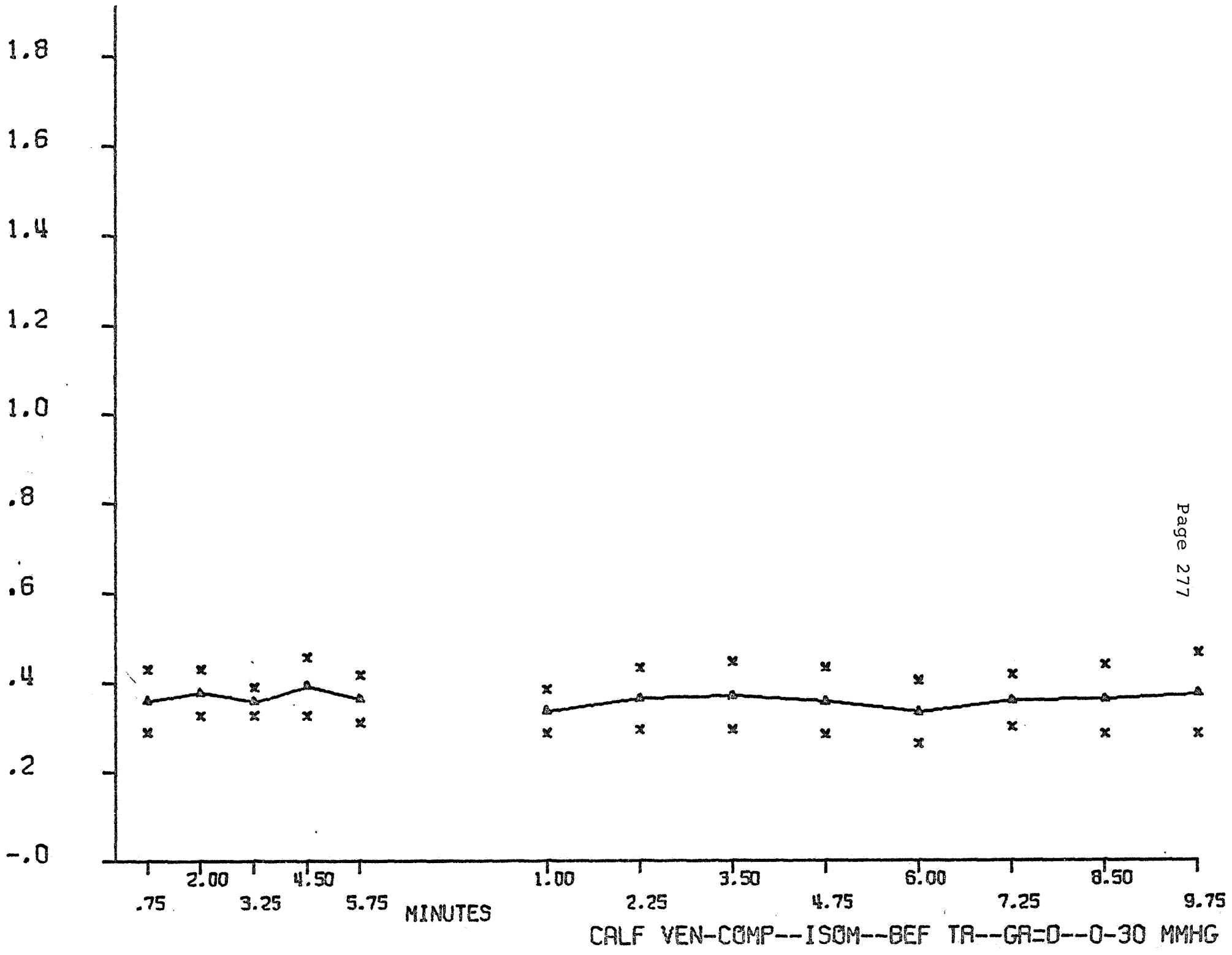
ARM VEN-COMP--ISOM--AFT TR--GRES--0-30 MMHG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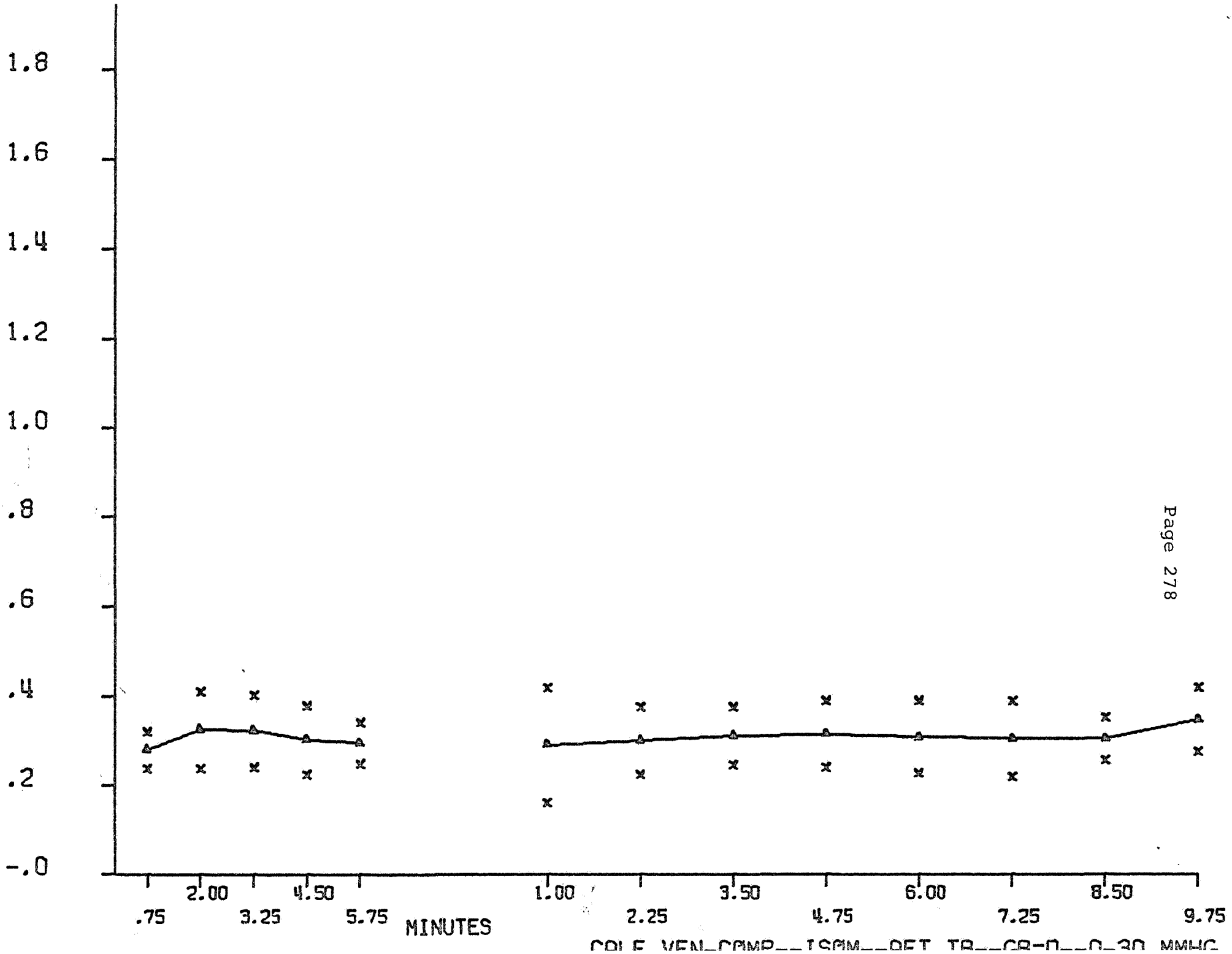
CALF VEN-COMP--ISOM--BEF TR--GA=0--0-30 MMHG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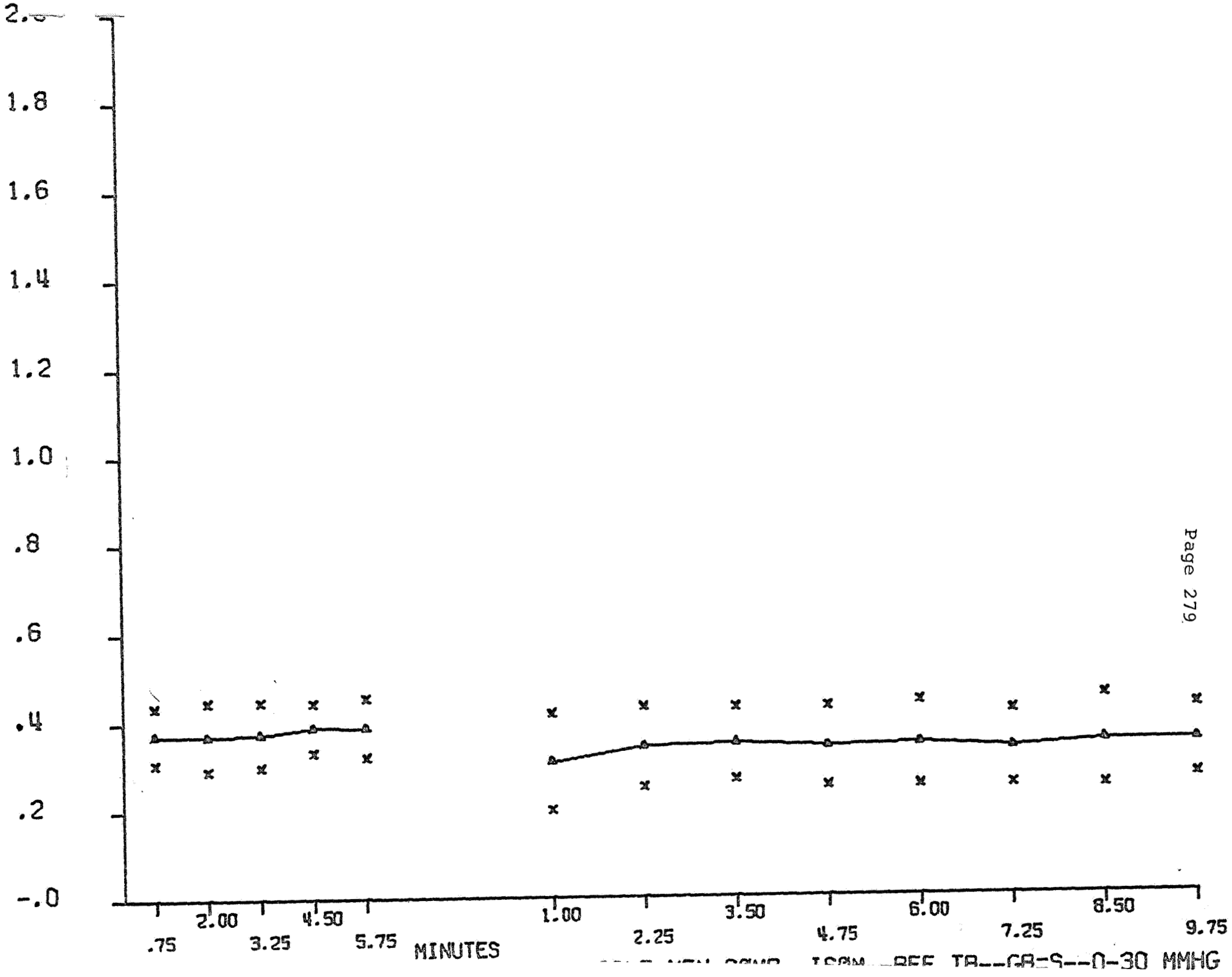
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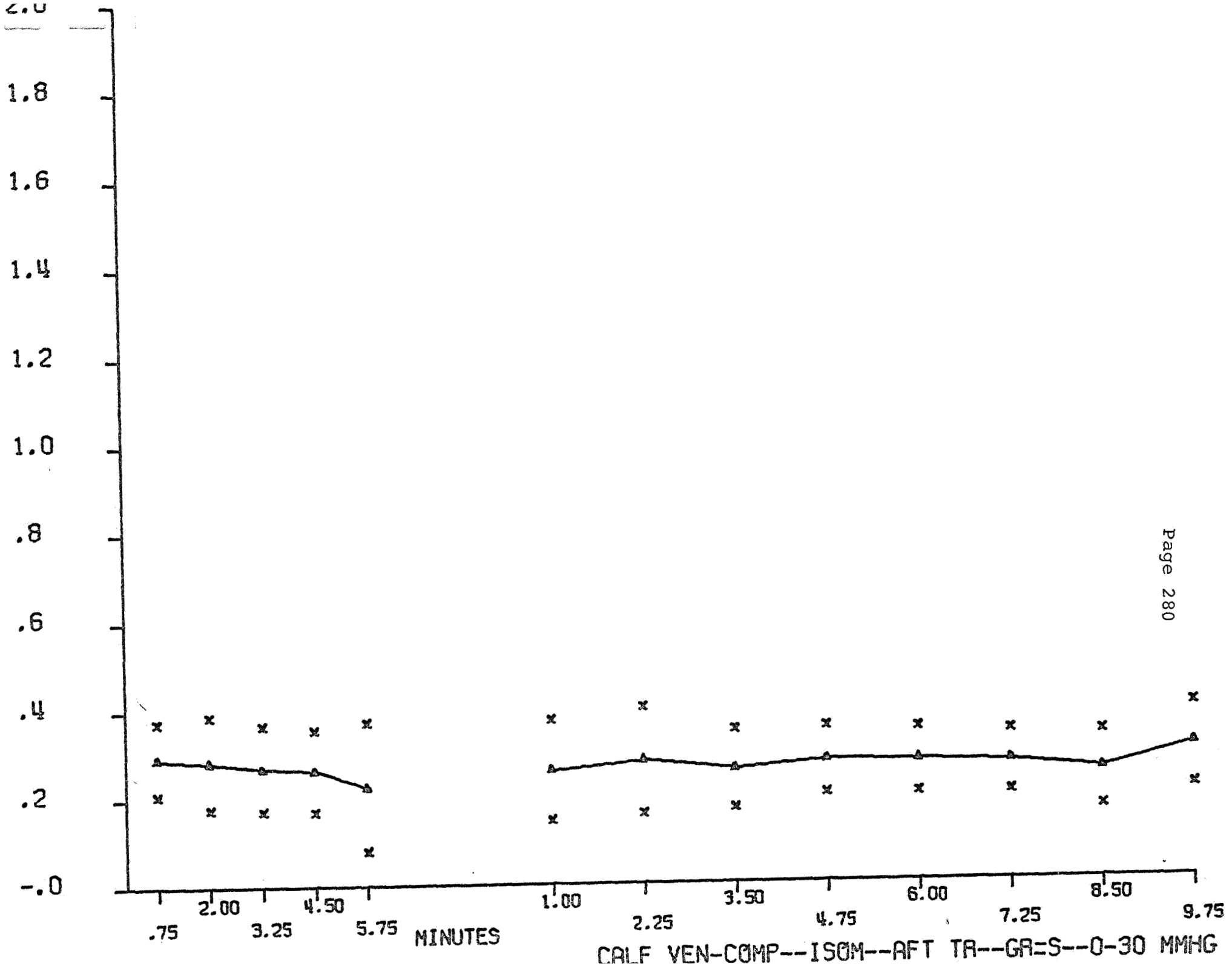
MINUTES
0-30 MMHG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MINUTES
CALF VEN-COMP--ISOM--AFT TR--GR=S--0-30 MMHG

APPENDIX XIX

Tables and graphs of venous compliance measurements (individual and grouped averages), before and after isotonic exercise, before and after conditioning, 0 to 30 mm Hg.

Units: Milliliters/100 milliliter arm or calf · mm Hg.

Graphs: Abscissa, time in minutes
Ordinate, milliliters/100 milliliter arm or calf · mm Hg.

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.84	2.21	1.68	1.20	0.97	1.578	0.497
2.00	1.84	2.27	1.49	1.33	1.04	1.595	0.475
3.25	1.90	2.07	1.89	1.33	0.91	1.621	0.482
4.50	1.84	2.24	1.86	1.20	1.09	1.647	0.486
5.75	1.90	2.24	1.80	1.27	0.00	1.801	0.402
			POST CONDITIONING				
1.00 MIN	2.09	0.98	2.32	1.23	1.44	1.613	0.571
2.25	2.09	0.98	2.04	1.40	1.24	1.550	0.494
3.50	2.15	1.22	2.17	1.33	1.34	1.644	0.475
4.75	2.28	0.00	2.32	1.33	1.29	1.805	0.571
6.00	2.33	1.64	2.32	1.40	1.29	1.798	0.500
7.25	2.40	1.72	2.32	1.33	1.24	1.801	0.540
8.50	2.58	1.82	2.35	1.40	1.32	1.894	0.562
9.75	2.52	0.00	0.00	1.53	1.34	1.795	0.632

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.76	1.77	1.12	1.17	1.03	1.371	0.365
2.00	1.70	1.93	1.27	1.24	0.97	1.423	0.388
3.25	1.96	2.01	1.27	1.30	0.97	1.503	0.461
4.50	1.89	2.17	1.34	1.30	0.91	1.523	0.505
5.75	1.69	1.77	1.28	1.24	1.15	1.426	0.286
			POST CONDITIONING				
1.00 MIN	1.96	0.56	1.30	0.98	1.21	1.201	0.510
2.25	1.96	0.52	1.64	0.98	1.27	1.274	0.561
3.50	2.09	0.48	1.76	0.98	1.39	1.341	0.634
4.75	2.19	0.48	1.76	1.01	1.21	1.331	0.662
6.00	2.35	0.48	1.76	1.01	1.21	1.364	0.717
7.25	2.30	0.48	1.82	1.04	1.21	1.371	0.705
8.50	2.35	0.48	1.82	1.11	1.20	1.395	0.715
9.75	2.48	0.64	1.88	1.11	1.33	1.489	0.711

AVERAGES FOR ARM VEN-COMP--ISOT--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	1.96	1.16	1.10	1.11	1.332	0.419
2.00	1.89	1.05	1.08	1.27	1.320	0.392
3.25	1.82	1.08	1.10	1.11	1.277	0.362
4.50	1.75	0.99	0.98	1.16	1.222	0.362
5.75	1.96	1.22	1.05	1.24	1.367	0.404
		POST CONDITIONING				
1.00 MIN	2.38	1.22	1.34	1.19	1.529	0.567
2.25	2.80	1.71	0.96	1.22	1.671	0.815
3.50	3.01	1.38	0.88	1.16	1.609	0.956
4.75	2.94	1.32	1.08	1.24	1.644	0.867
6.00	3.15	1.71	1.19	1.27	1.830	0.906
7.25	3.36	1.49	1.12	1.19	1.791	1.058
8.50	3.29	1.60	1.05	1.24	1.796	1.022
9.75	3.29	1.55	1.24	1.27	1.837	0.978

AVERAGES FOR ARM VEN-COMP--ISOT--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD			
0.75 MIN	2.10	0.91	1.23	1.14	1.347	0.520
2.00	2.28	0.96	1.29	1.22	1.437	0.576
3.25	1.85	0.91	1.23	1.22	1.303	0.394
4.50	2.13	0.81	1.42	1.06	1.357	0.574
5.75	2.28	0.91	0.00	1.18	1.456	0.723
			POST CONDITIONING			
1.00 MIN	2.49	1.07	1.48	1.02	1.514	0.681
2.25	2.63	1.02	1.48	1.10	1.558	0.746
3.50	2.70	0.91	1.54	1.06	1.554	0.810
4.75	2.63	0.96	1.48	1.18	1.563	0.743
6.00	2.49	0.91	1.97	1.10	1.618	0.740
7.25	2.56	0.91	1.91	1.02	1.602	0.779
8.50	2.49	0.99	1.91	1.02	1.602	0.729
9.75	2.70	0.96	2.03	1.10	1.700	0.819

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=D--0-30 MMHG

INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	1.37	0.81	1.20	1.03	0.99	1.080	0.215
2.00	1.37	1.03	1.20	1.08	0.99	1.134	0.153
3.25	0.00	1.07	1.17	1.11	0.95	1.074	0.095
4.50	1.48	1.15	1.20	1.11	0.95	1.178	0.195
5.75	1.28	0.87	1.20	1.11	0.99	1.091	0.164
			POST CONDITIONING				
1.00 MIN	1.31	0.25	0.22	0.48	0.63	0.577	0.444
2.25	1.37	0.37	0.22	0.79	0.72	0.695	0.446
3.50	1.48	0.47	0.22	0.84	0.77	0.755	0.476
4.75	1.60	0.62	0.22	0.98	0.86	0.854	0.506
6.00	1.71	0.67	0.27	1.06	0.90	0.923	0.530
7.25	1.77	0.71	0.27	1.00	0.90	0.930	0.545
8.50	1.88	0.87	0.27	1.16	0.90	1.018	0.583
9.75	1.88	0.86	0.38	1.19	0.90	1.042	0.551

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=D--0-30 MMHG

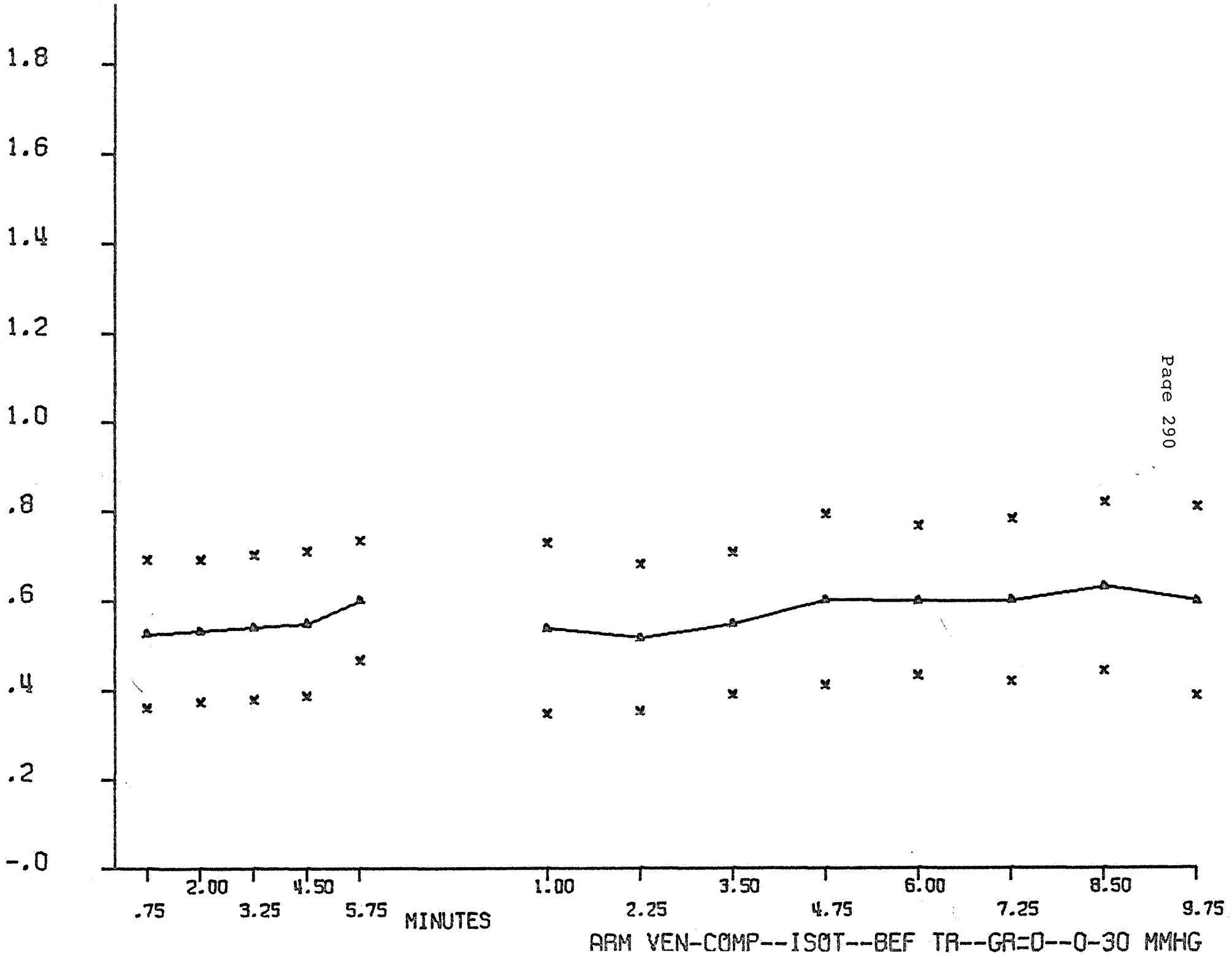
INDIVIDUAL	1	2	3	4	5	MEAN	STD DEV
TIME			PRECONDITIONING PERIOD				
0.75 MIN	0.92	0.77	1.00	0.79	0.71	0.839	0.121
2.00	1.11	0.74	1.32	0.99	0.71	0.976	0.259
3.25	1.04	0.80	1.32	0.99	0.69	0.968	0.245
4.50	0.94	0.86	1.28	0.79	0.66	0.906	0.230
5.75	0.99	0.80	0.00	1.02	0.73	0.885	0.141
			POST CONDITIONING				
1.00 MIN	0.64	0.25	0.23	0.21	0.88	0.441	0.303
2.25	0.64	0.12	0.18	0.26	0.94	0.431	0.351
3.50	0.82	0.37	0.23	0.37	1.09	0.574	0.363
4.75	0.94	0.43	0.23	0.47	1.04	0.622	0.350
6.00	0.99	0.37	0.41	0.63	1.02	0.682	0.309
7.25	1.14	0.55	0.48	0.63	0.95	0.750	0.281
8.50	1.34	0.68	0.59	0.74	0.90	0.848	0.295
9.75	1.34	0.62	0.68	0.63	1.04	0.861	0.317

AVERAGES FOR CALF VEN-COMP--ISOT--BEF TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	1.04	1.37	0.92	1.14	1.115	0.190
2.00	1.06	1.36	0.82	1.18	1.107	0.229
3.25	1.06	1.41	0.87	1.14	1.119	0.223
4.50	1.11	1.41	1.02	1.11	1.164	0.168
5.75	1.06	1.41	0.94	1.23	1.162	0.203
		POST CONDITIONING				
1.00 MIN	0.36	1.62	0.66	0.24	0.718	0.625
2.25	0.30	1.61	0.79	0.19	0.724	0.648
3.50	0.30	1.62	0.92	0.33	0.793	0.618
4.75	0.33	1.57	0.92	0.38	0.799	0.580
6.00	0.30	1.49	1.07	0.52	0.846	0.536
7.25	0.28	1.41	1.07	0.47	0.807	0.523
8.50	0.30	1.53	1.07	0.52	0.857	0.554
9.75	0.30	1.53	0.92	0.47	0.808	0.550

AVERAGES FOR CALF VEN-COMP--ISOT--AFT TR--GR=S--0-30 MMHG

INDIVIDUAL	6	7	8	9	MEAN	STD DEV
TIME		PRECONDITIONING PERIOD				
0.75 MIN	0.71	1.24	0.81	0.73	0.874	0.250
2.00	0.62	1.32	0.77	0.69	0.847	0.319
3.25	0.62	1.24	0.67	0.68	0.805	0.293
4.50	0.64	1.20	0.67	0.63	0.789	0.278
5.75	0.64	1.24	0.63	0.17	0.671	0.439
		POST CONDITIONING				
1.00 MIN	0.00	1.39	0.41	0.15	0.648	0.658
2.25	0.00	1.32	0.41	0.29	0.672	0.563
3.50	0.00	1.24	0.54	0.41	0.732	0.447
4.75	0.00	1.35	0.63	0.44	0.807	0.483
6.00	0.00	1.32	0.63	0.49	0.811	0.445
7.25	0.00	1.09	0.59	0.68	0.786	0.270
8.50	0.00	1.13	0.67	0.69	0.830	0.260
9.75	0.00	1.15	0.72	0.78	0.882	0.232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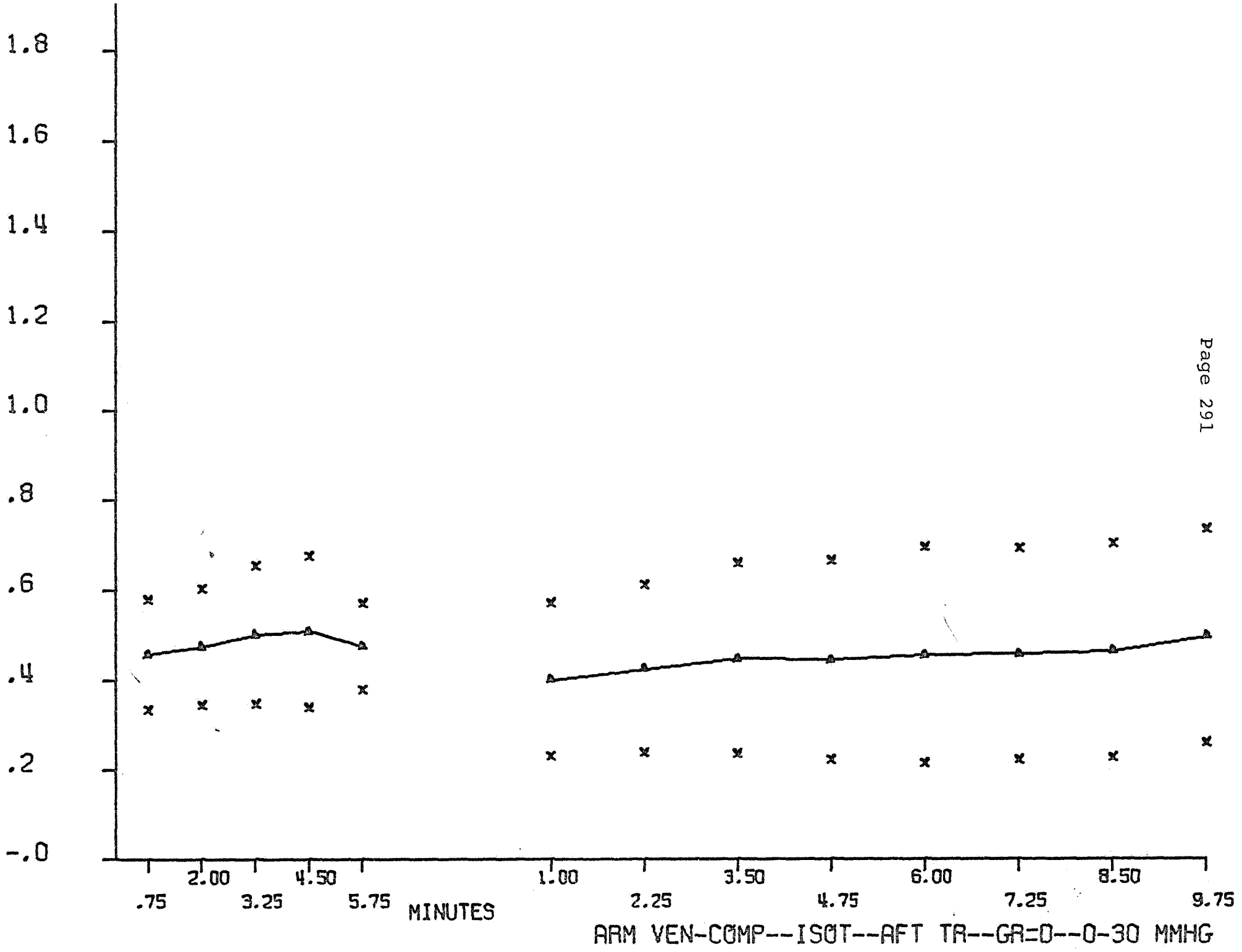
ARM VEN-COMP--ISOT--BEF TR--GR=0--0-30 MMHG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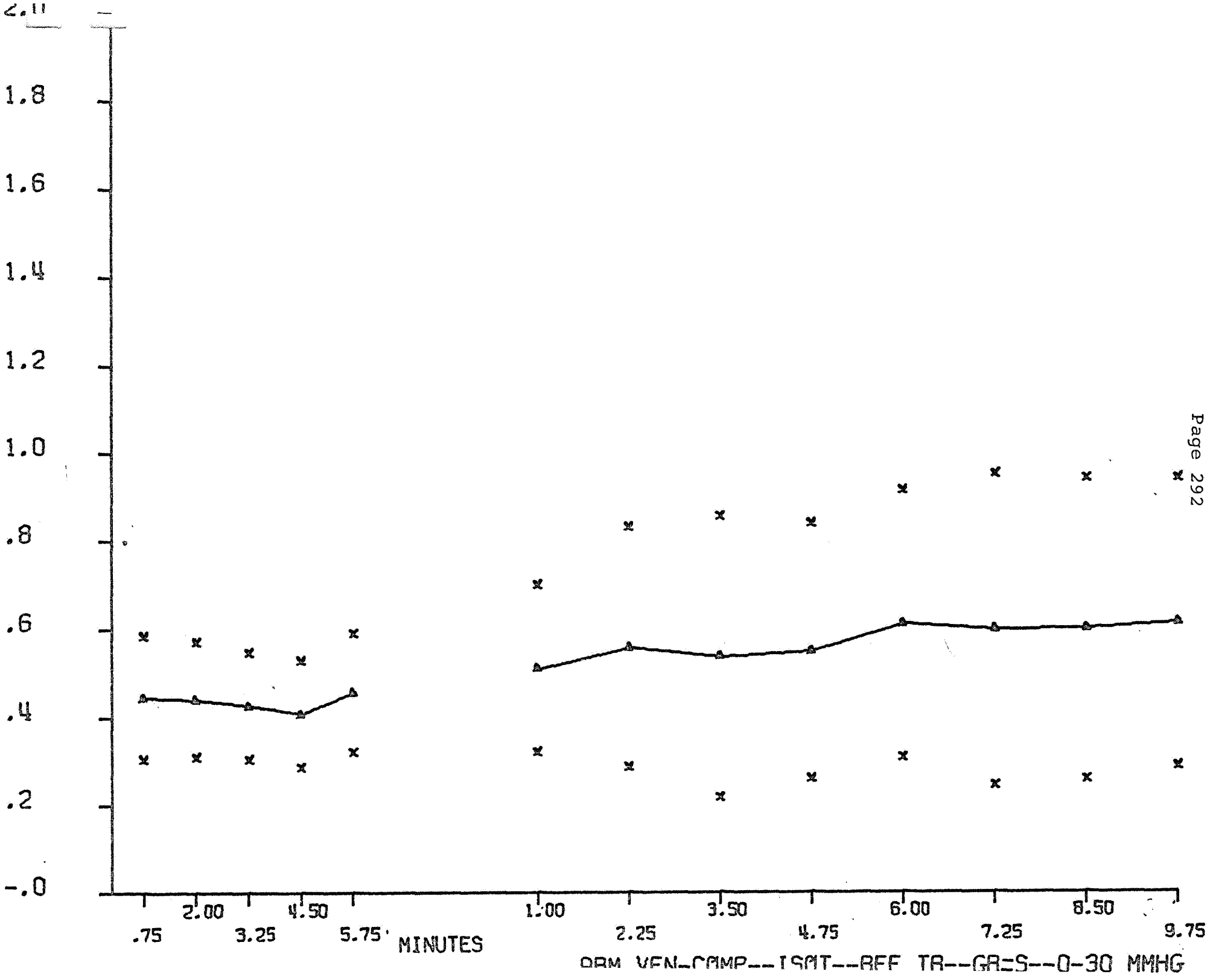
ARM VEN-COMP--ISOT--AFT TR--GR=0--0-30 MMHG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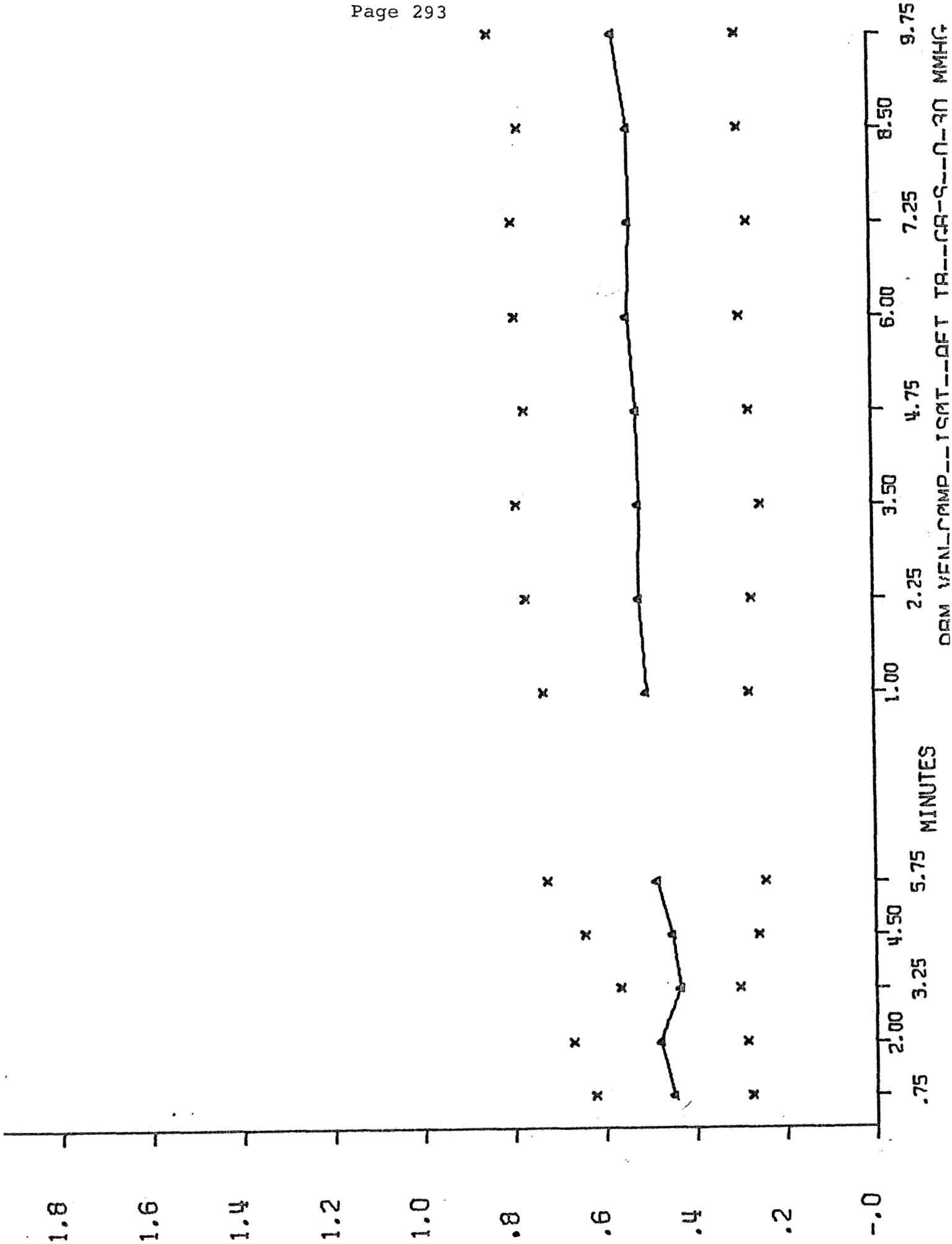
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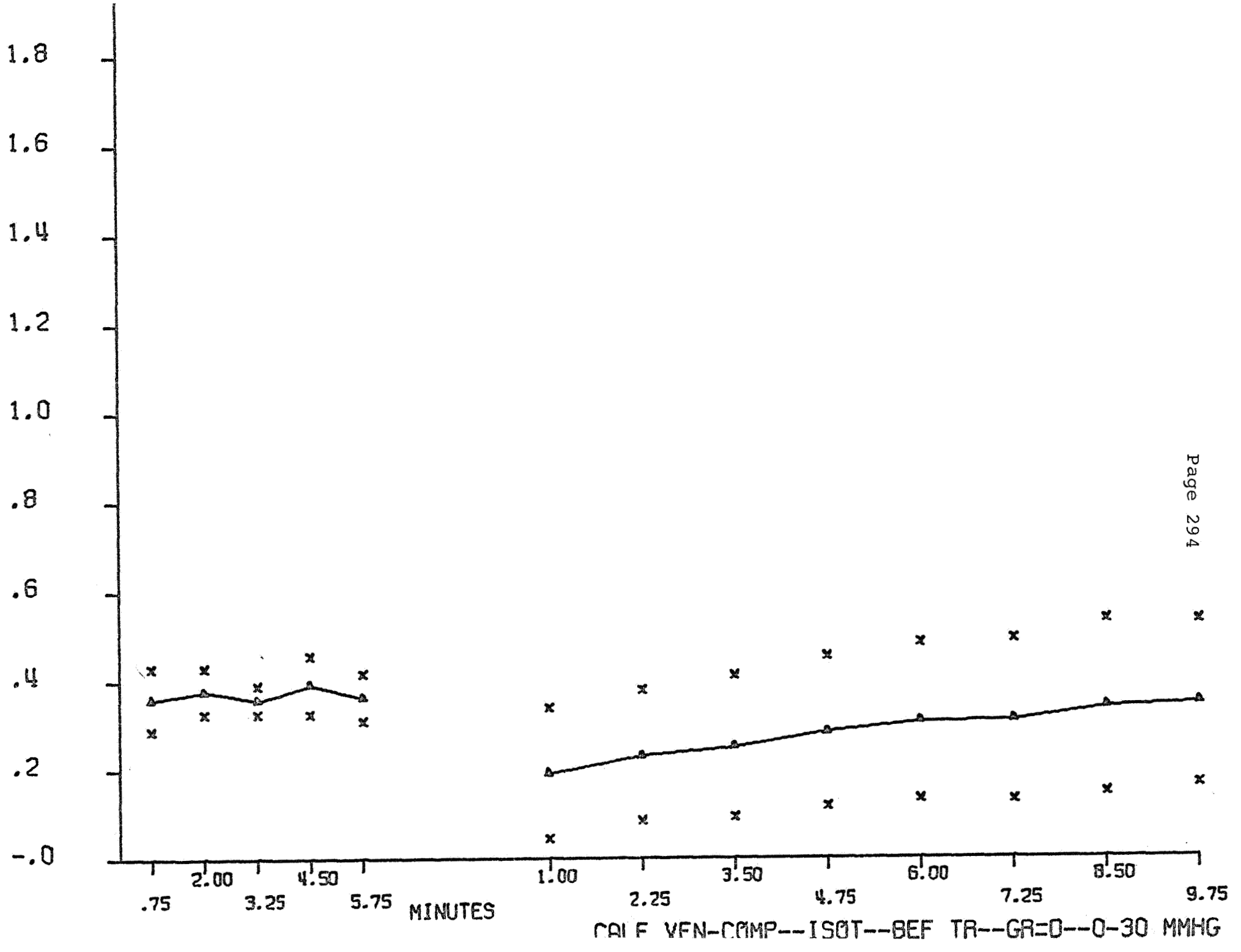
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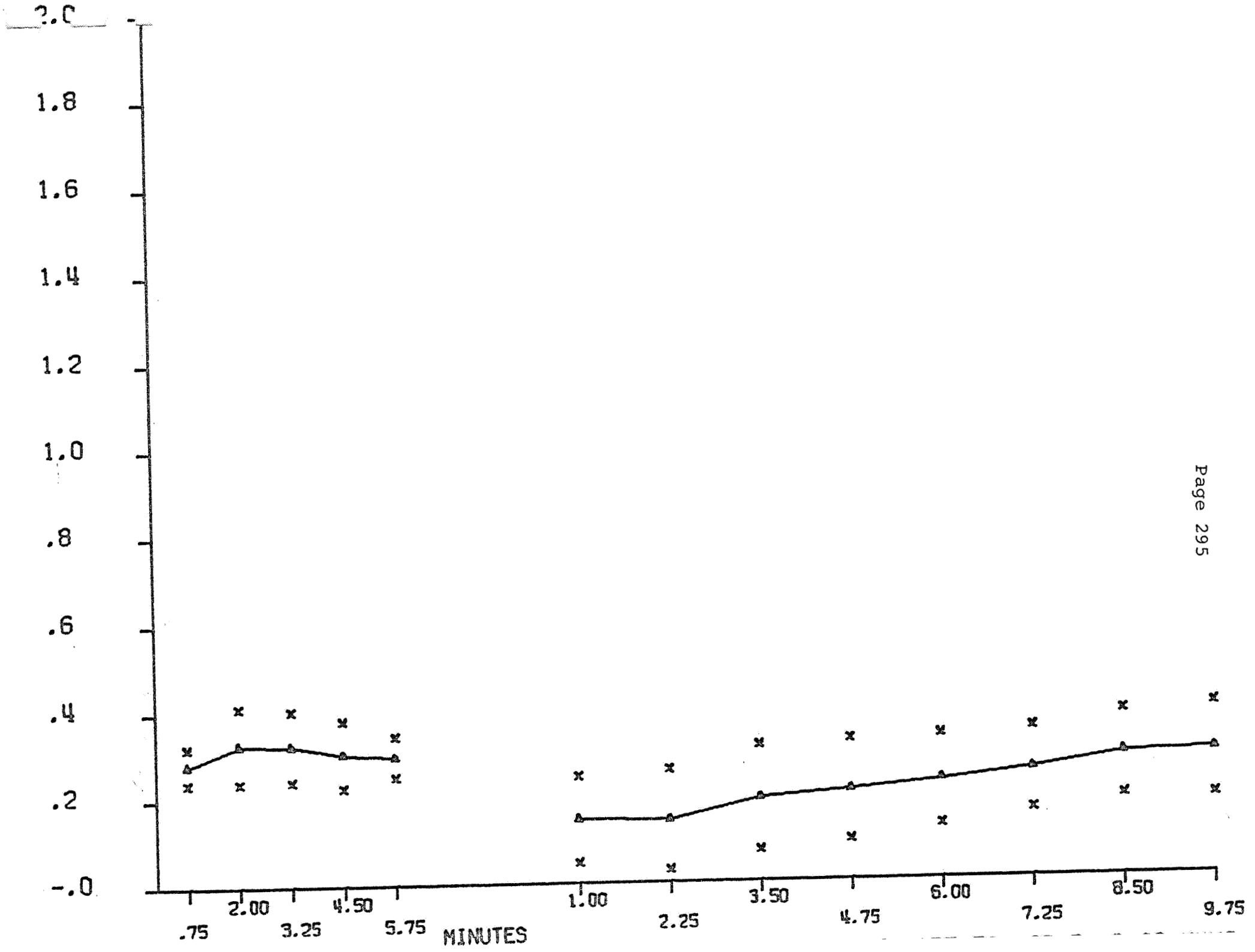
MINUTES
CALF VEN-COMP--ISOT--BEF TR--GR=0--0-30 MMHG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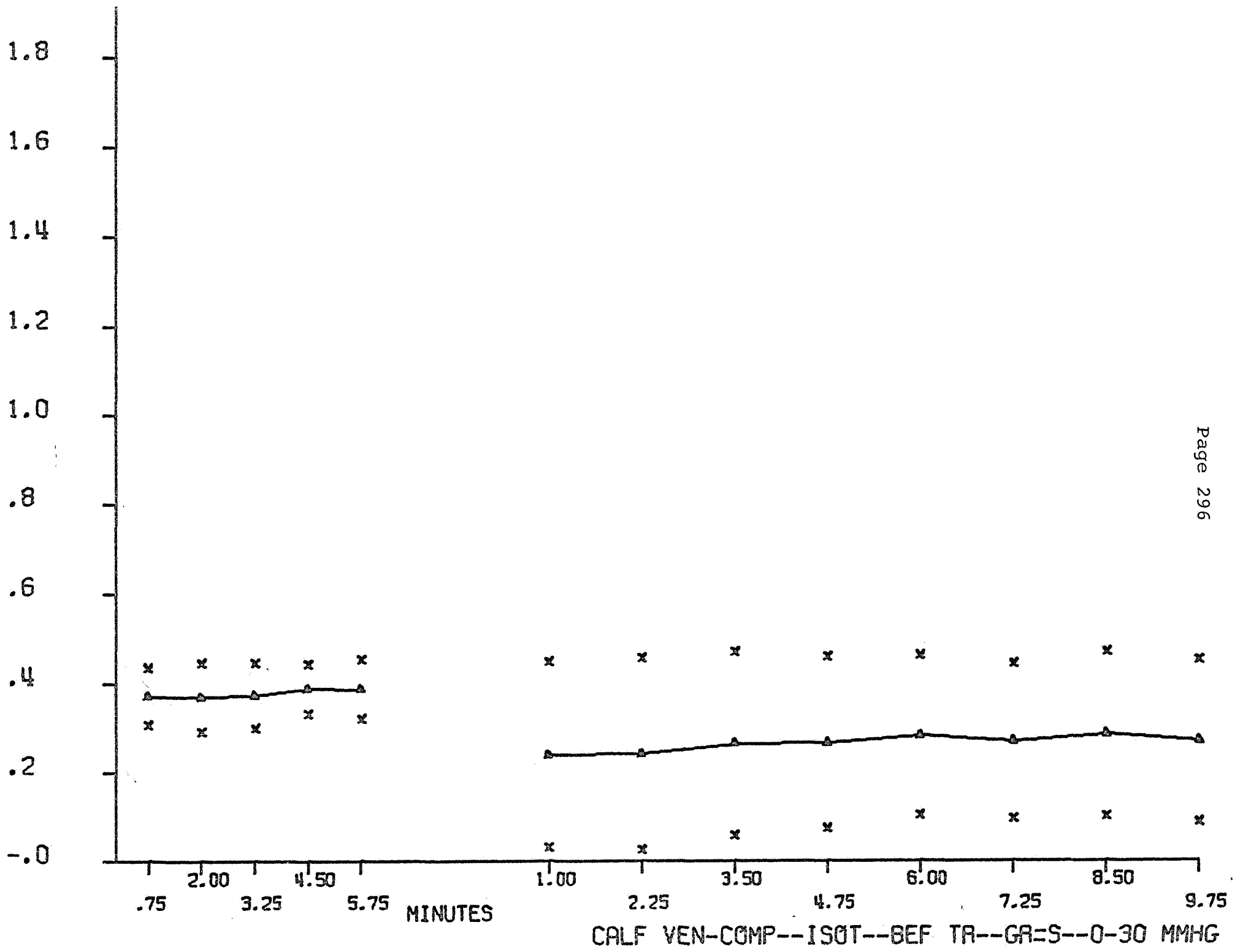
1.6
1.4
1.2
1.0
.8
.6
.4
.2
-.0
.75
2.00
3.25
4.50
5.75
1.00
2.25
3.50
4.75
6.00
7.25
8.50
9.75
MINUTES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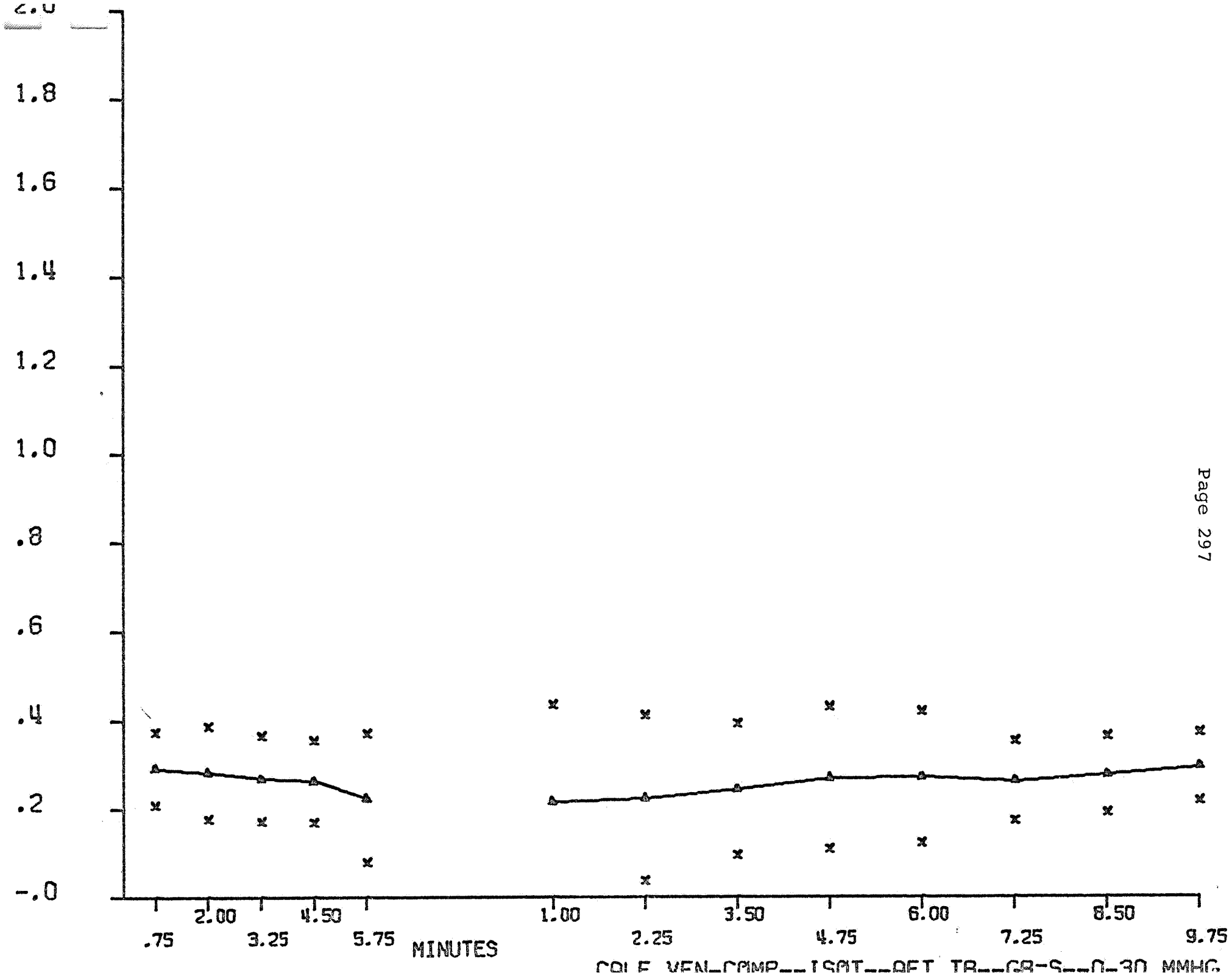
1.4
1.2
1.0
.8
.6
.4
.2
-.0
.75
2.00
3.25
4.50
5.75
1.00
2.25
3.50
4.75
6.00
7.25
8.50
9.75
MINUTES
CALF VEN-COMP--ISOT--BEF TR--GR=S--0-30 MMHG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1.8
1.6
1.4
1.2
1.0
.8
.6
.4
.2
-.0
.75
2.00
3.25
4.50
5.75
MINUTES
1.00
2.25
3.50
4.75
6.00
7.25
8.50
9.75
COLE VEN-CAMP--ISOT--OFT TR--GR-S--0-30 MMHG