

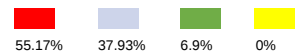
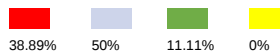
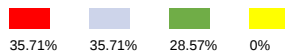
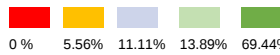
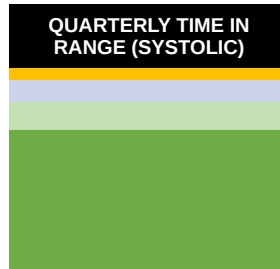
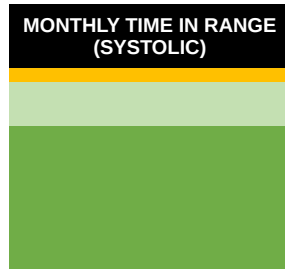
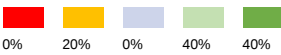


40 Mitchell Ave, Binghamton, NY 13903 Phone:(607) 723-1676

**Patient Name:** Victoria Edwards  
**Height:** 5.3

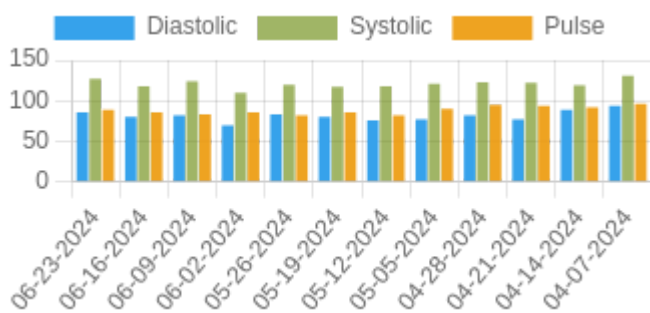
**MRN #:** 6182  
**Weight:** 184

**Birth Year:**  
**Hypertension:** S1



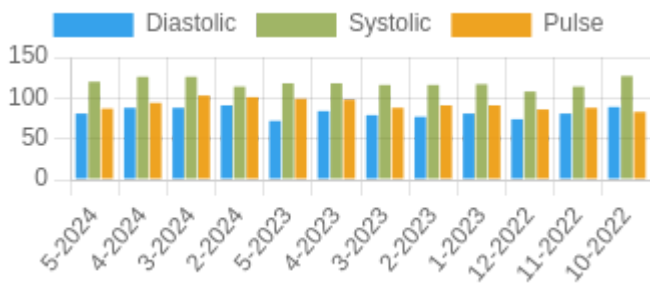
## Blood Pressure Averages

### Blood Pressure Averages: Weekly



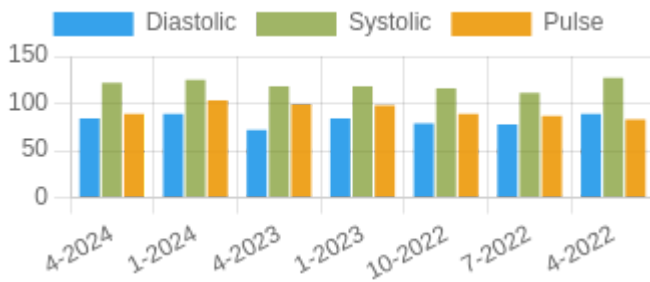
Week	Systolic(n)	Diastolic(n)	Pulse(n)
06-23-2024	127 (1)	86 (1)	89 (1)
06-16-2024	118 (2)	80 (2)	86 (2)
06-09-2024	124 (5)	82 (5)	83 (5)
06-02-2024	110 (2)	70 (2)	86 (2)
05-26-2024	120 (6)	83 (6)	82 (6)
05-19-2024	117 (6)	80 (6)	86 (6)
05-12-2024	118 (1)	76 (1)	82 (1)
05-05-2024	121 (2)	77 (2)	90 (2)
04-28-2024	123 (3)	82 (3)	95 (3)
04-21-2024	122 (2)	77 (2)	94 (2)
04-14-2024	119 (2)	89 (2)	92 (2)
04-07-2024	131 (4)	94 (4)	96 (4)

## Blood Pressure Averages: Monthly



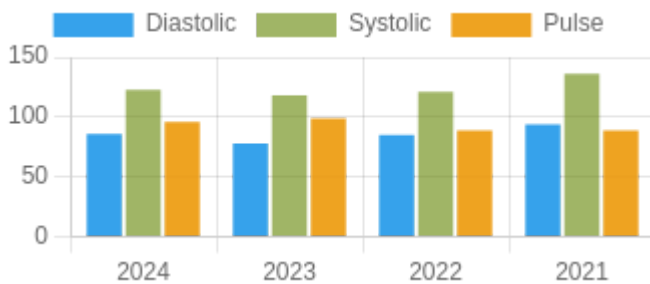
Month-Year	Systolic(n)	Diastolic(n)	Pulse(n)
5-2024	120 (17)	81 (17)	87 (17)
4-2024	126 (8)	88 (8)	94 (8)
3-2024	126 (20)	88 (20)	103 (20)
2-2024	114 (2)	91 (2)	101 (2)
5-2023	118 (4)	72 (4)	99 (4)
4-2023	118 (4)	84 (4)	98 (4)
3-2023	116 (9)	79 (9)	88 (9)
2-2023	116 (5)	77 (5)	91 (5)
1-2023	117 (7)	81 (7)	91 (7)
12-2022	108 (19)	74 (19)	86 (19)
11-2022	114 (20)	81 (20)	88 (20)
10-2022	127 (20)	89 (20)	83 (20)

### Blood Pressure Averages: Quarterly



Quarter-Year	Systolic(n)	Diastolic(n)	Pulse(n)
4-2024	122 (25)	84 (25)	89 (25)
1-2024	125 (22)	89 (22)	103 (22)
4-2023	118 (4)	72 (4)	99 (4)
1-2023	118 (4)	84 (4)	98 (4)
10-2022	116 (21)	79 (21)	89 (21)
7-2022	111 (39)	78 (39)	87 (39)
4-2022	127 (20)	89 (20)	83 (20)

### Blood Pressure Averages: Yearly



Year	Systolic(n)	Diastolic(n)	Pulse(n)
2024	123 (47)	86 (47)	96 (47)
2023	118 (8)	78 (8)	99 (8)
2022	121 (116)	85 (116)	89 (116)
2021	136 (174)	94 (174)	89 (174)

### Blood Sugar Averages

Week	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime
06-06-2024	160(5)	136(2)		254(1)			

Month-Year	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime
06-2024	153(4)	136(2)					
05-2024	218(4)	247(4)		295(2)			

Year	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime

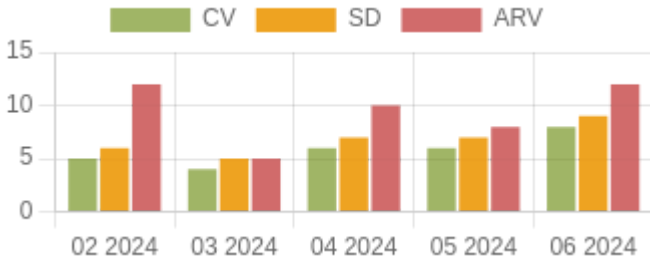
01-01-2024	185(8)	210(6)		295(2)			
01-01-2023	135(1)	127(14)	124(7)	113(3)	126(5)	113(4)	250(1)
01-01-2022		135(1)					

## Chat

Sender	Receiver	Message	Date&Time
R.A. Ramanujan , M.D.	Victoria Edwards	We were hoping Amy to train you to become savvy. Can you plan some time soon ?? and get loaded with immediate and long term plan. It is desirable to have you make in-person visit please. Best	11-06-2024
Victoria Edwards	R.A. Ramanujan , M.D.	my sugar is 265 what do i do? my alarm keeps going off	11-06-2024
null Lexi Matthias, LPN	Victoria Edwards	TODAY IS THE LAST DAY FOR VOTING. I'M SORRY THE LINK DOESN'T WORK, BUT PLEASE COPY AND PASTE INTO YOUR WEB BROWSER. TO VOTE FOR DR. RAM. THANK YOU. LEXI	10-06-2024
R.A. Ramanujan , M.D.	Victoria Edwards	GM Vickey, Contact Amy today to help you with the CGM. Thanks	03-06-2024
Victoria Edwards	R.A. Ramanujan , M.D.	i picked up the freestyle libre 3 and it's asking me questions to get it set up. one of the questions is carbohydrate serving size and it is telling me to reach out to my doctor to get that information	02-06-2024
null Lexi Matthias, LPN	Victoria Edwards	<a href="https://cardiex.com/research-contest-voting/?utm_source=email&amp;utm_medium=email&amp;utm_campaign=carifinalistvoting&amp;utm_content=rr">https://cardiex.com/research-contest-voting/?utm_source=email&amp;utm_medium=email&amp;utm_campaign=carifinalistvoting&amp;utm_content=rr</a>	31-05-2024
null Lexi Matthias, LPN	Victoria Edwards	Please help support Dr. Ram by casting your vote for our office to Beta test a new Arterial Blood Pressure device. He is up against 11 other providers, so your vote would be helpful. Please follow the link below to vote. Voting ends June 10th 2024. Thank you in advance. Lexi	31-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	Once fasting daily for now	31-05-2024
Victoria Edwards	R.A. Ramanujan , M.D.	how often do you want me to check my levels. i will be picking up the meter today	31-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	Fasting 70 and 140 one to two HR after meal.	27-05-2024
Victoria Edwards	R.A. Ramanujan , M.D.	what are normal sugar reading levels	27-05-2024
Victoria Edwards	R.A. Ramanujan , M.D.	no i don't have anything with me at work	23-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	Hello Victoria, Any means near you to check blood sugar and also BP ??	23-05-2024
Victoria Edwards	R.A. Ramanujan , M.D.	I've been having blurred vision and excessive thirst. is that anything to do with sugar?	23-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	Rx for 137 mcg thyroid dent. Best	13-05-2024
Victoria Edwards	R.A. Ramanujan , M.D.	sure	13-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	GM Vicky, ? In place of 88 mcg 1 + 1/2 tab would you mind one tablet of 137 mcg of thyroid. Please reply. Best	13-05-2024

Victoria Edwards	R.A. Ramanujan , M.D.	I'm sorry but i am confused as to what you're asking for	10-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	Please fill me in on pill strength. Thanks	10-05-2024
R.A. Ramanujan , M.D.	Victoria Edwards	GM Vicky, I will get back after research to make sure we are safe to go with Vyvanse,	10-05-2024

## Systolic Variability Trends

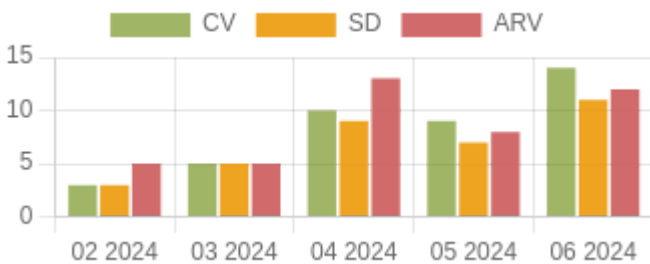


**1. CV** –The coefficient of variation (CV) is the ratio of the standard deviation to the mean. The higher the coefficient of variation, the greater the level of dispersion around the mean, Units = mmHg.

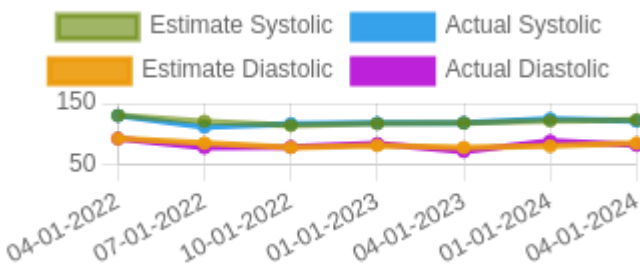
**2. ARV** – Average real variability (ARV) is a method for measuring short-term, reading-to-reading, within-subject variability. It is defined as the average of the absolute differences between consecutive readings, Units = mmHg.

**3. SD** – Standard deviation is a statistical measurement of variability. It measures how much variation there is from the average (mean), Units = mmHg.

## Diastolic Variability Trends



## Kalman Trends



**1. Mean(Arithmetic Mean)** – Mean is the average of a set of numbers

**2. SD** – Standard deviation is a statistical measurement of variability. It measures how much variation there is from the average (mean).

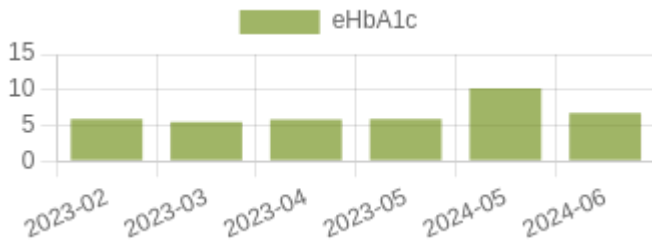
**3. V-** Variance determines the spread of numbers.. It measures how far each number in the set is from the mean (average) and from every other number in the set.

## PSR



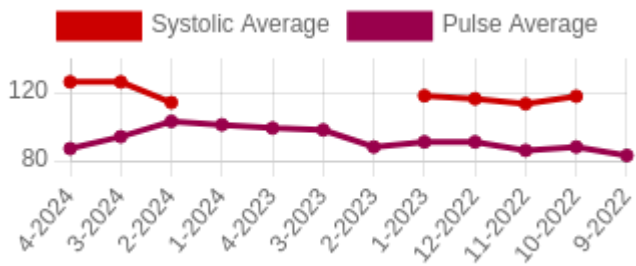
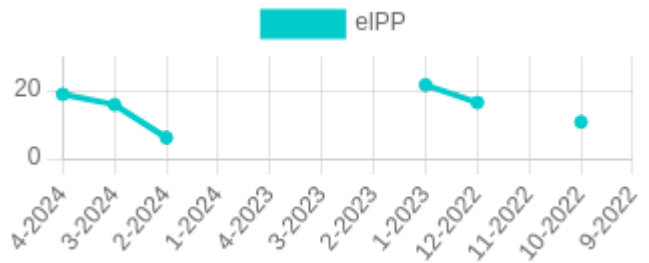
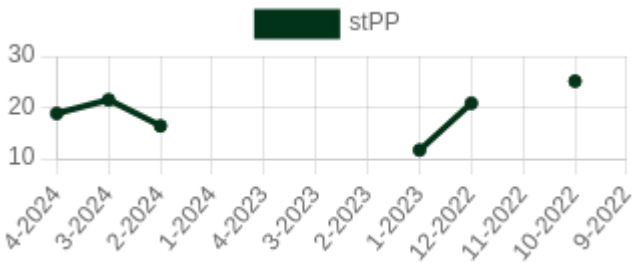
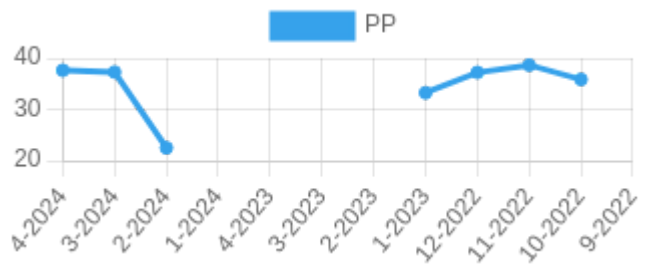
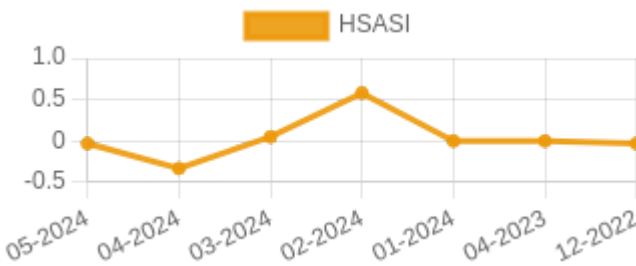
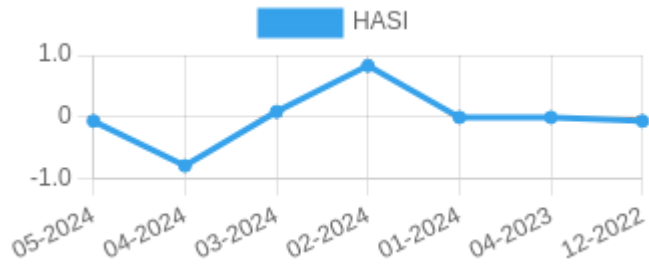
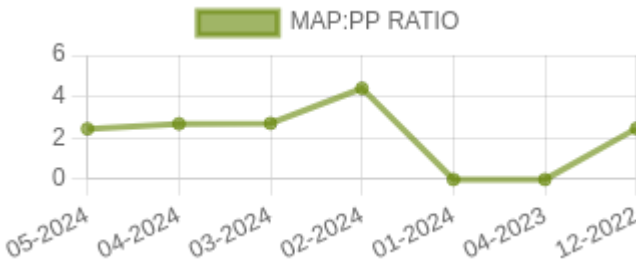
**PSR:** Pulse stiffening ratio (PSR) is the ratio between systolic and diastolic stiffness. It can be expressed as  $PSR = \frac{[systolic\ stiffness]}{[diastolic\ stiffness]}$ .

## HbA1c Trends



Estimated HbA1c - eHbA1c

## Others Trends



1. **MAP:PP Ratio**- Mean Arterial Pressure : Pulse Pressure Ratio

2. **HASI**- Home arterial stiffening index

3. **HSASI**- Home Symmetric arterial stiffening index

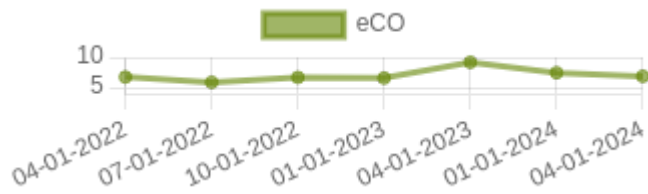
4. **PP**- Pulse Pressure

5. **WIF or widening factor number. WIF** =  $K-1/\ln(K)-1$ , where K is the variability ratio (  $K = \text{Systolic Std. Dev} / \text{Diastolic Std. Dev}$ )

6. **eIPP**- Elastic component of pulse pressure.  $eIPP = (PP - stPP)$

7. **stPP**- Stiffening component of pulse pressure.  $stPP = PP / (1 + WIF)$

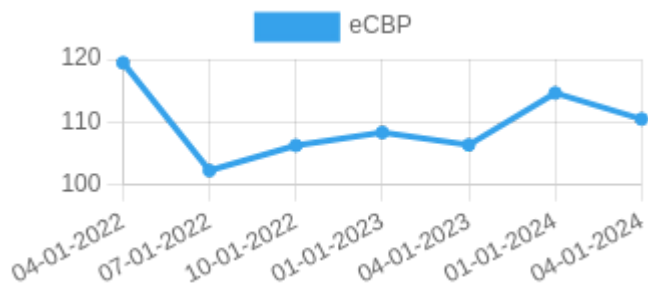
## eCO graph



eCO (Estimated Cardiac Output) Normal range to be added 5 – 10 liters/minute

Units of eCO (Estimated Cardiac Output) – liters/minute

## eCBP graph

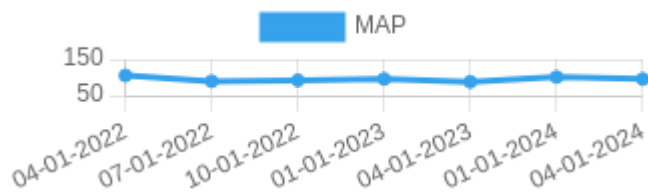


eCBP (Estimated Central Blood Pressure) normal range – 0 – 100 mmHg

1. Cardiac output scale is in liters/minute. Normal range at rest is 5-6 liters/min and (with activity goes up to 30 -35 liters/min)

2. Central mean BP is Squared, Mean radial artery BP/diastolic BP in mmHg. Scale in mmHg and range is in mmHg and the scale Should be between 0-50 50-100, 150 and 200 mmHg. No established normal at the moment.

## MAP graph



MAP -Mean arterial blood pressure.  $MAP = \text{Diastolic blood pressure} + \frac{1}{3}(\text{Systolic blood pressure} - \text{Diastolic blood pressure})$

## Reference & Abbreviations

Guide to abbreviations and blood pressure, pulse and other Metrics.

<b>HBPM</b> -Home blood pressure measurement.	<b>HBS</b> -Home blood sugar
<b>PP</b> -Pulse pressure	<b>AP</b> -Average pulse
<b>BPV</b> -Blood pressure variability	<b>SV</b> -Systolic variability
<b>DV</b> -Diastolic variability	<b>PV</b> -Pulse variability
<b>ARV</b> -Average real variability	<b>CV</b> -Coefficient of variation %
<b>SD</b> -Standard deviation	<b>MAP</b> -Mean arterial blood pressure
<b>MAP:</b> PP Mean Arterial Pressure : Pulse Pressure	<b>HASI</b> -Home arterial stiffness index
<b>HSASI</b> -Home Symmetric arterial stiffness index	<b>Estimated CO</b> -Cardiac output $[CO = (PP \times HR) \times 0.02]$
<b>PSR Pulse stiffening ratio.</b> (PSR = SBP/DBP or slope of systolic	

Estimated central blood pressure ECBP (ECBP = brachial MBP2/brachial DBP or ECBP = radial MBP2/radial DBP)

### Normal Ranges.

Systolic BP 110 – 120 mm Hg

Diastolic BP 70 – 80 mmHg

Pulse 60 - 100/min

Pulse pressure (PP) 40 mmHg (Low PP less than 25% of the systolic BP and high PP greater than 100 mm Hg)

Normal stroke volume (SV) 60 -100 ml

Cardiac output (CO) SV x pulse rate/min

Estimate Cardiac output = Stroke volume / m

Blood pressure variability; Not defined in USA. But desirable ranges ESH guidelines; Systolic day time BP less than 15 mmHg and Diastolic less than 7.9 mmHg and Weighted SD less than 12.8 mmHg for systolic

### Definitions.

MAP:PP ratio not defined.

Pulse stiffening ration; Not defined. Pulse pressure \* inverse log ( std. dev. systolic / std. dev. Diastolic) / (std. dev. systolic / std. dev. Diastolic) - 1 (Pulse pressure X ln (K)/(K-1) where K is systolic Sd /diastolic SD.)

Home arterial stiffness index; Not defined

Home arterial symmetric arterial index: Not defined.

Central blood pressure:Not defined

### References.

MAP;  
Chemla D, Antony I, Zamani K, Nitenberg A. Mean aortic pressure is the geometric mean of systolic and diastolic aortic pressure in resting humans. *J Appl Physiol* (1985). 2005 Dec;99(6):2278-84. doi: 10.1152/jappphysiol.00713.2005. Epub 2005 Jul 28. PMID: 16051709. Tien LYH, Morgan WH, Cringle SJ, Yu DY. Optimal Calculation of Mean Pressure From Pulse Pressure. *Am J Hypertens*. 2023 May 21;36(6):297-305. doi: 10.1093/ajh/hpad026. PMID: 36945835; PMCID: PMC10200551.

### PSR:

Gavish B, Izzo JL Jr. Arterial Stiffness: Going a Step Beyond. *Am J Hypertens*. 2016 Nov 1;29(11):1223-1233. doi: 10.1093/ajh/hpw061. PMID: 27405964.

### DCBP:

Chemla D, Millasseau S, Hamzaoui O, Teboul JL, Monnet X, Michard F, Jozwiak M. New Method to Estimate Central Systolic Blood Pressure From Peripheral Pressure: A Proof of Concept and Validation Study. *Front Cardiovasc Med*. 2021 Dec 15;8:772613. doi: 10.3389/fcvm.2021.772613. PMID: 34977186; PMCID: PMC8714848.

### CO

Koenig J, Hill LK, Williams DP, Thayer JF. Estimating cardiac output from blood pressure and heart rate: the liljestrand& zander formula. *Biomed Sci Instrum*. 2015;51:85-90. PMID: 25996703; PMCID: PMC5317099.

### BP

Mean arterial blood pressure;

Guidelines recommend less than 125 mmHg Poon LC, Shennan A, Hyett JA, Kapur A, Hadar E, Divakar H, McAuliffe F, da Silva Costa F, von Dadelszen P, McIntyre HD, Kihara AB, Di Renzo GC, Romero R, D'Alton M, Berghella V, Nicolaidis KH, Hod M. The International Federation of Gynecology and Obstetrics (FIGO) initiative on pre-eclampsia: a pragmatic guide for first-trimester screening and prevention. *Int J*

### GynaecolObstet 2019;

145(Suppl 1):1–33. Not defined in general (desirable MAP ,90 mm Hg) Melgarejo JD, Yang WY, Thijs L, Li Y, Asayama K, Hansen TW, Wei FF, Kikuya M, Ohkubo T, Dolan E, Stolarz-Skrzypek K, Huang QF, Tikhonoff V, Malyutina S, Casiglia E, Lind L, Sandoya E, Filipovský J, Gillis-Malinowska N, Narkiewicz K, Kawecka-Jaszcz K, Boggia J, Wang

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JG, Imai Y, Vanassche T, Verhamme P, Janssens S, O'Brien E, Maestre GE, Staessen JA, Zhang ZY; International Database on Ambulatory Blood Pressure in Relation to Cardiovascular Outcome Investigators\*. Association of Fatal and Nonfatal Cardiovascular Outcomes With 24-Hour Mean Arterial Pressure. Hypertension. 2021 Jan;77(1):39-48

We hope these complementary multiparametric data along with standard set used in daily practice helps to understand home blood pressure trend and other information they may potentially generate in the future to understand medication effects and patient management.

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