



PD NEMESIS “Unplanned RRT Starts”



Dr. George B. Pylypchuk
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Objectives

- Discuss clinical implications of unplanned and planned RRT starts
- Explore effect of unplanned starts on PD initiation
- Review a local experience of unplanned starts





The Plan



No plan but hope for the best



Greater than 3 months planning



Can we improve early mortality in patients receiving RRT ? Metcalf et al KI 57 253-45 2000

Table 5. Logistic regression multivariate analysis of factors affecting death by 90 days

	Odds ratio	95% CI for odds ratio	Significance <i>P</i>
Mode of presentation			<0.0001
Unplanned	3.6	1.4–9.3	=0.008
Acute renal failure	8.9	3.3–23.8	<0.0001
Acute on CRF	7.9	3.0–20.7	<0.0001
ESCRF	6.0	2.2–16.7	=0.0006
Risk group			<0.001
Medium	2.2	0.9–5.7	=0.09
High	4.7	1.9–11.5	=0.0007
Serum albumin	0.90	0.85–0.95	<0.0001

Planned presentation and low risk are the reference categories. Abbreviations are: CRF, chronic renal failure; ESCRF, end-stage chronic renal failure.



Planned vs nonplanned starts

Metcalf et al: Early mortality in patients receiving RRT

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Table 6. Planned and unplanned presentation groups

	"Planned" (N = 227)	"Unplanned" (N = 129)	P value
Median age (range)	59.1 (15.6–85.4)	67.2 (22.5–87.1)	<0.001 ^a
Mean serum albumin g/L	37.9 SD 5.32	35.7 SD 5.06	<0.001 ^c
Median follow-up months (range)	24 (1–335)	17 (1–243)	=0.002 ^a
Median estimated creatinine clearance (mL/min) (range)	8.53 (2.69–22.5)	7.43 (2.2–25.4)	=0.002 ^a
Risk group %			
Low	97 (42.7%)	32 (24.8%)	=0.002 ^b
Medium	63 (27.8%)	54 (41.9%)	
High	67 (29.5%)	43 (33.3%)	
Primary renal diagnosis %			
Glomerulonephritis	40 (17.6%)	16 (12.4%)	=0.2 ^b
Interstitial disease	70 (30.8%)	31 (24%)	
Multisystem	36 (15.9%)	30 (23.3%)	
Diabetic nephropathy	38 (16.7%)	24 (18.6%)	
Unknown	43 (18.9%)	28 (21.7%)	
Hospital admission days	Median 3 (0–94) IQR 0–10	Median 9 (0–124) IQR 4–19	<0.001 ^a

^aKruskal Wallis test

^b χ^2 test

^cStudent's *t*-test



Predialysis Care and survival

Lorenzo et al AJKD 43,6,999-1007 2004

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LORENZO ET AL

Table 1. Demographic and Clinical Data for Patients Stratified According to Presentation Mode and Type of Vascular Access at Entry

	Total	Planned	Unplanned	AVF	Catheter
No. of patients	538	281 (52)	257 (48)	284 (53)	254 (47)
Mean age (y)	65 ± 15	65 ± 14	64 ± 16	65 ± 14	65 ± 1.5
Male-female ratio	0.62	0.59	0.66	0.64	0.61
Diabetics (%)	43	40	46	38	48*
Khan's risk groups					
Low	131 (24)	68 (24)	63 (25)	82 (29)	49 (19)
Moderate	196 (37)	110 (39)	86 (33)	110 (39)	86 (34)
High	211 (39)	103 (37)	108 (42)	92 (32)	119 (46)*
Distribution by center†					
Center A	126	88 (70)	38 (30)	54 (43)	72 (57)
Center B	154	75 (49)	79 (51)	57 (37)	97 (63)
Center C	258	118 (46)	140 (54)	173 (67)	185 (33)
Follow-up (mo)	23.7 ± 16	23.1 ± 14	24.3 ± 19	25.6 ± 16	21.5 ± 16‡
Total no. of deaths	173 (32)	58 (21)	115 (45)§	63 (22)	110 (43)*
No. of deaths during the first year	79	19	60§	18	61*
GFR (mL/min)	10.8 ± 3.9	11.6 ± 3.4	10.0 ± 4.3§	10.6 ± 3.1	11.1 ± 4.7
KtV	1.2 ± 0.3	1.2 ± 0.3	1.2 ± 0.2	1.2 ± 0.3	1.2 ± 0.3

NOTE. Values expressed as number (percent) or mean ± SD.

* $P < 0.001$ versus AVF.

† $P < 0.01$.

‡ $P < 0.003$ versus AVF.

§ $P < 0.001$ versus planned.

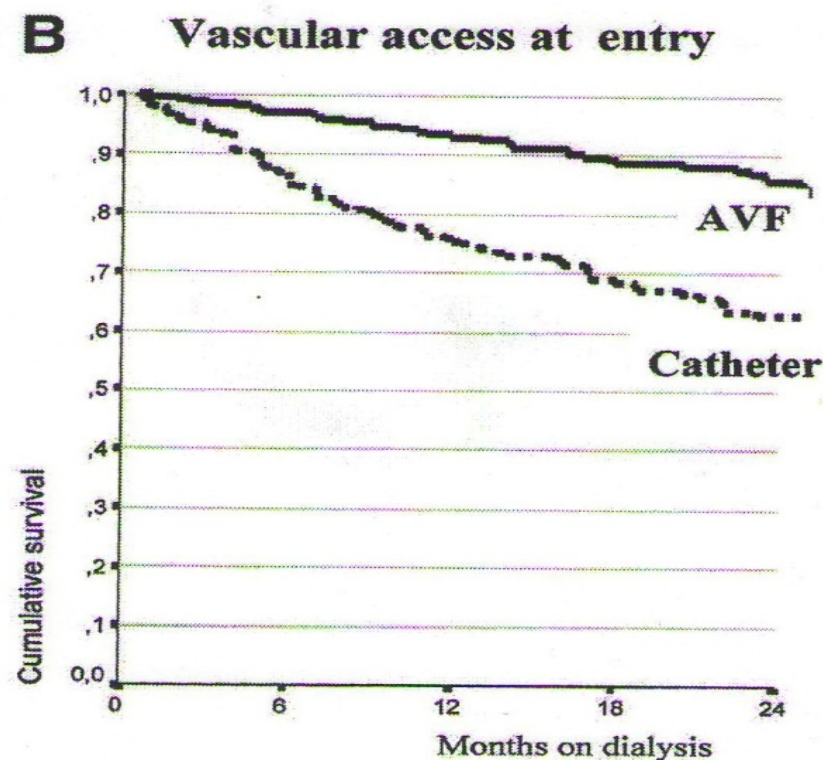
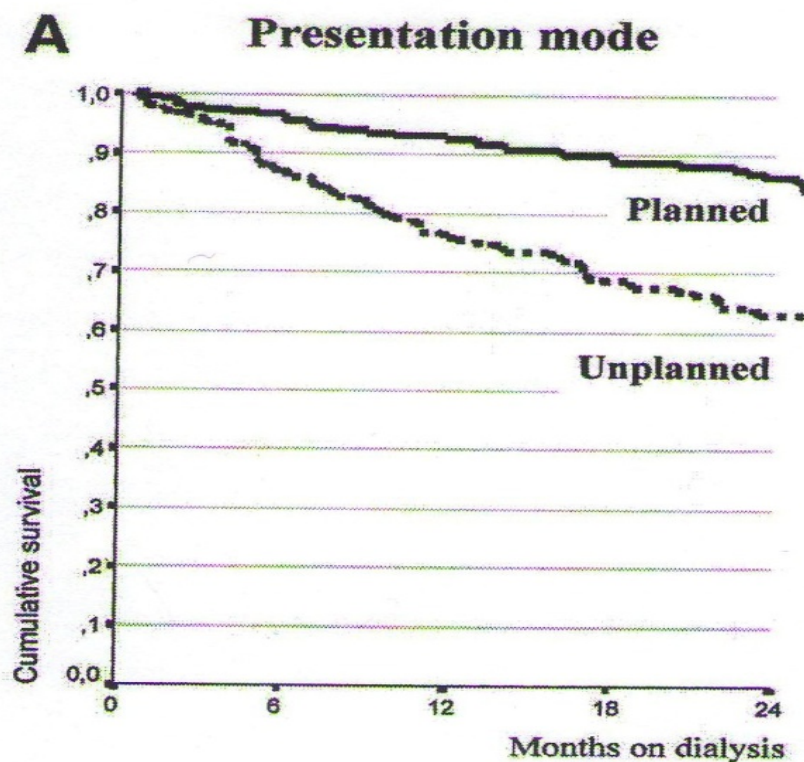
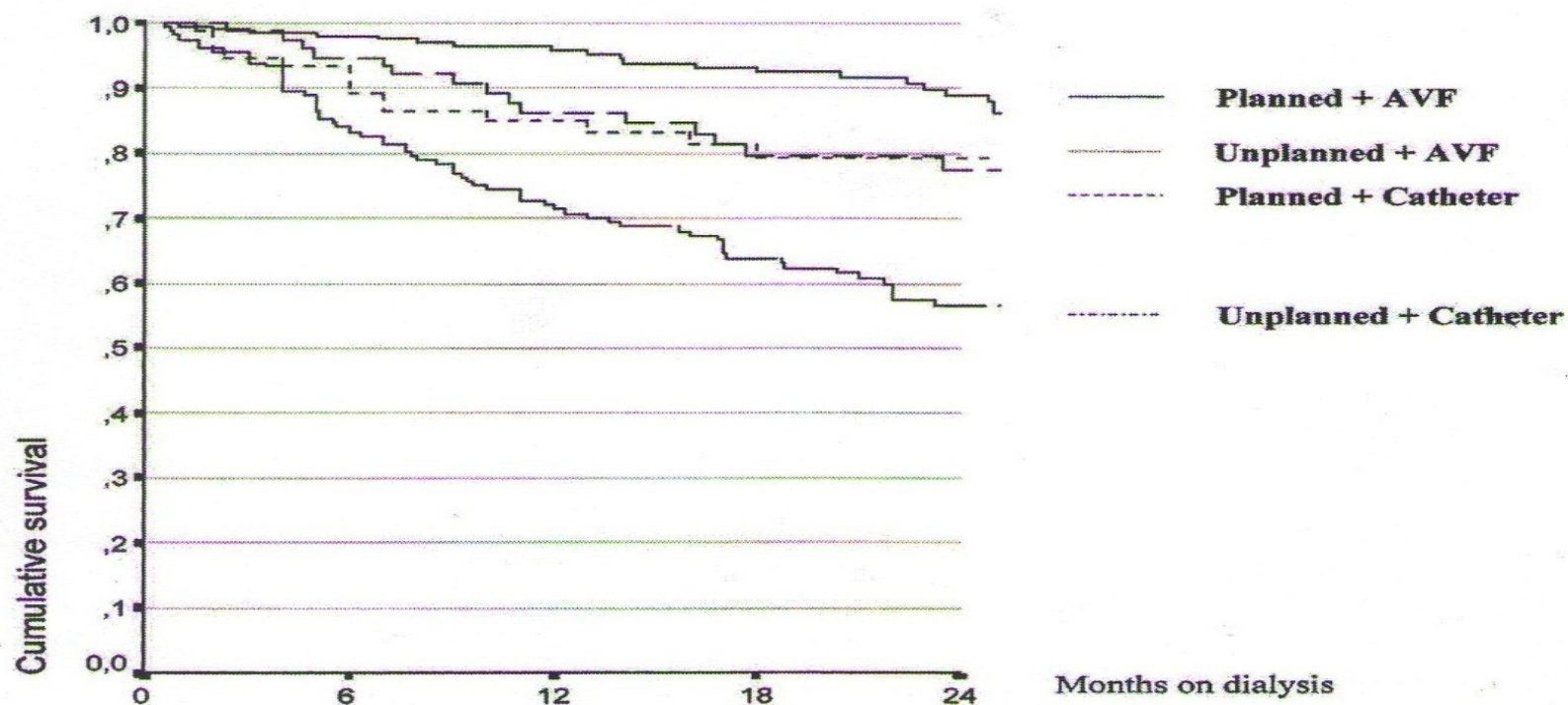


Fig 1. Kaplan-Meier survival curves: effect of (A) presentation mode (planned versus unplanned) and (B) vascular access (AVF versus catheter) on survival. Numbers at the bottom refer to patients entering each 12-month interval.



Planned + AVF	206	156	102
Planned + Catheter	75	55	31
Unplanned + AVF	78	57	40
Unplanned + Catheter	179	112	66

Fig 2. Kaplan-Meier survival curves in the 4 groups. Numbers at the bottom refer to patients entering each 12-month interval.



Start of Renal Replacement Therapy in a Spanish Department

Castellano et al Nefrologia 26.4.445-450 2006

I. CASTELLANO et al.

Table I. Clinical and demographical characteristics of the patients at the beginning RRT

	Group P (N = 65)	Group NP (N= 52)	P
Age, years (mean $\pm$ SD)	63.5 $\pm$ 13.6	64.4 $\pm$ 17.2	NS
Sex: female	27 (41.5%)	20 (35%)	NS
male	38 (58.5%)	32 (65%)	
SBP (mmHg)	145.8 $\pm$ 24.3	156.1 $\pm$ 29.2	< 0.05
DBP (mmHg)	80 $\pm$ 14.8	77.1 $\pm$ 14.8	NS
Type of initial dialysis: HD	53 (81.5%)	52 (100%)	< 0.001
PD	12 (18.5%)	0 (0%)	< 0.001
Waiting time for performance of vasc/perit access (days)	28.1 $\pm$ 20.3	28.2 $\pm$ 18.8	NS
Useful access	54 (83.1%)	2 (3.8%)	< 0.001
Origin: ACRD clinic	54 (83.1%)	7 (13.5%)	< 0.001
nephrology clinic	6 (9.2%)	16 (30.8%)	< 0.001
trasplant	3 (4.6%)	1 (1.9%)	NS
unknown	2 (3.1%)	28 (53.8%)	< 0.001
Treatment with IV Fe	33 (50.8%)	7 (13.5%)	< 0.001
Treatment with erythropoietic agents	44 (67.7%)	8 (15.4%)	< 0.001
Mortality at 6 months	3 (4.6%)	6 (11.5%)	NS

SBP: systolic blood pressure; DBP: diastolic blood pressure; HD: hemodialysis; PD: peritoneal dialysis; ACRD: advanced chronic renal disease.



Impact of ESRD care in planned dialysis start and type of renal replacement therapy

Marron et al NDT 21 supp2 51-55 2006

Table 1. Main findings of the study

	Total population	Planned dialysis start	Non-planned dialysis start	Planned vs non-planned (<i>P</i>)
Patients (%)	1.504	809 (54%)	695 (46%)	
Age	60.7 ± 15.6	60.1 ± 15.4	61.5 ± 16	0.03
Gender (M/F,%)	61/39	61.6/38.4	61.2/38.8	NS
Weight (kg)	70.4 ± 14.5	70.6 ± 14.7	68.6 ± 14.8	0.001
Cause of ESRD (%)				0.001
Vascular	15.6	16.7	14.8	—
Diabetes	23.7	21.3	26.9	—
Tubulointerstitial	8.3	10.9	5.6	—
Glomerular	17.3	19.5	14.6	—
Genetic	7	9.9	3.5	—
Others	28.1	21.7	34.6	—
First dialysis access (%)				<0.001
Fistulae	40.3	64.8	11.8	
Central permanent access	10.5	6.7	15.0	
Vascular graft	0.8	1.3	0.6	
Temporal catheter	32.2	0	69.5	
Peritoneal catheter	16.2	27.2	3.4	
Type of RRT (HD/PD,%)	82/18	73/27	92/8	<0.001



Local experience





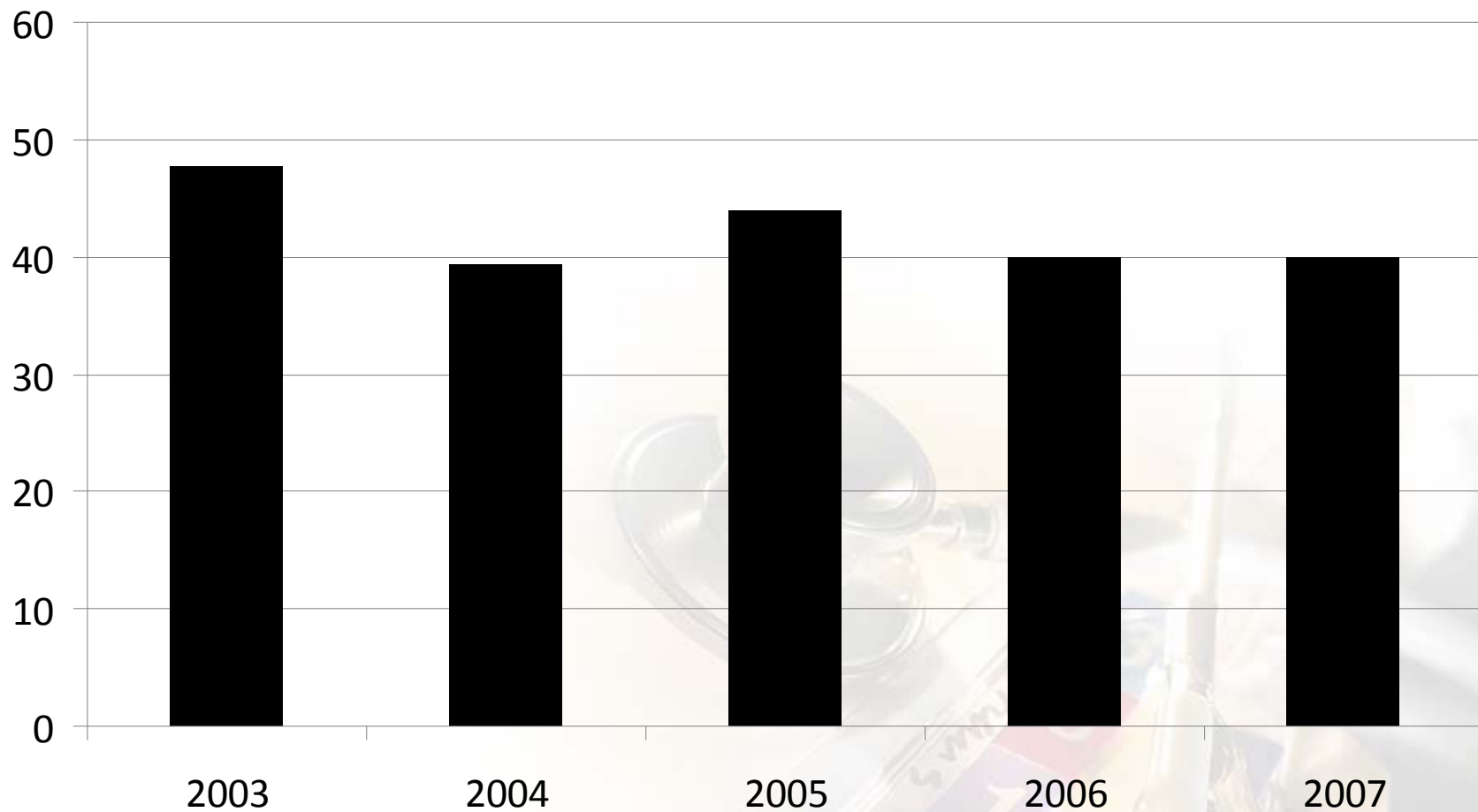
Local experience in Unplanned (Parachute) starts

- CORR data review 5 years 2003-2007
- All patients starting RRT in SHR
- Division into non planned (parachute) vs. planned
- Parachute “not seen by nephrologist within 90 days of RRT initiation
- Demographics and biochemistry reviewed at first RRT session





Yearly % Parachute Starts



P=ns



Demographics

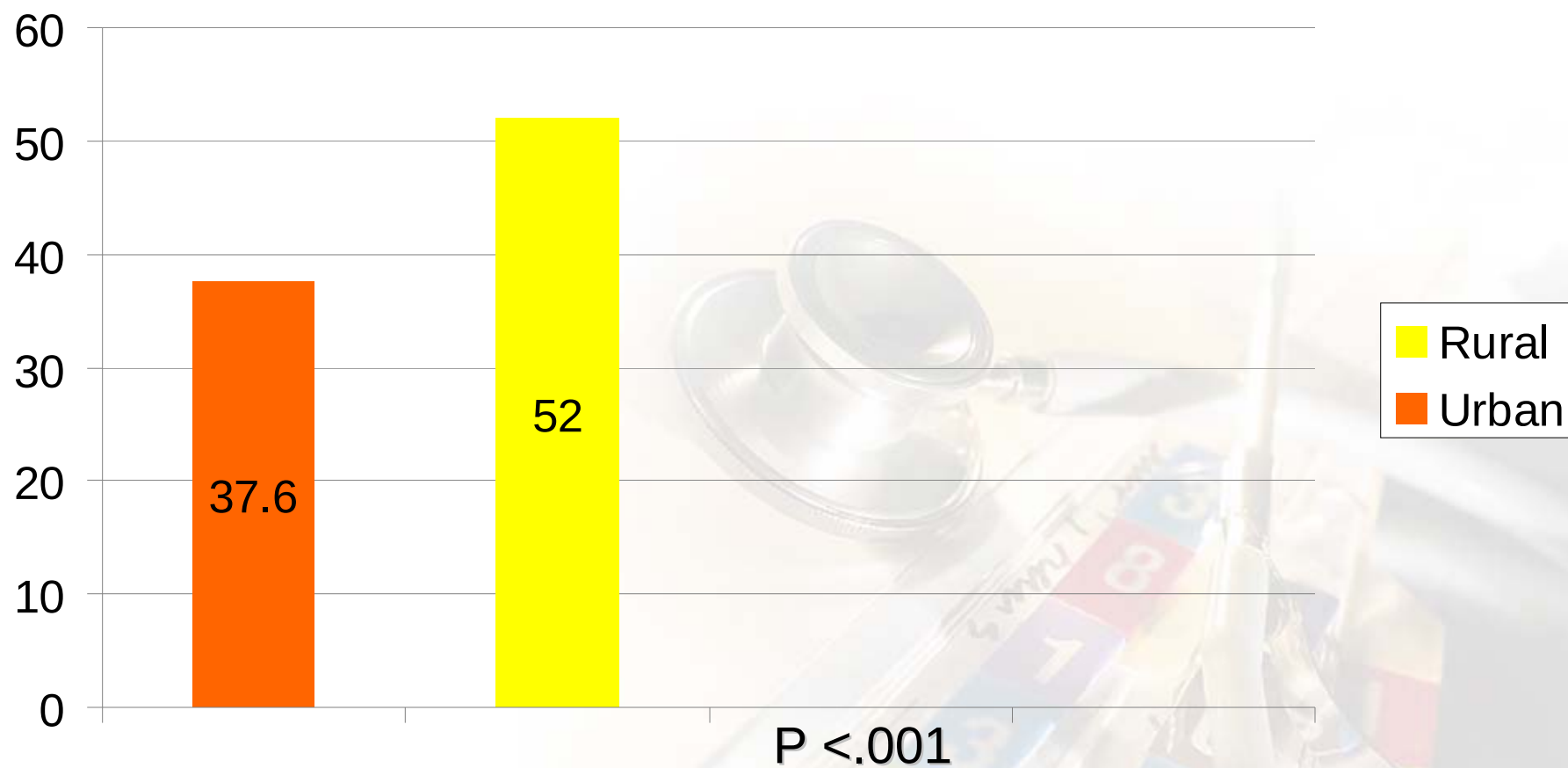
- Location
- Age
- Gender
- Ethnicity
- Diagnosis





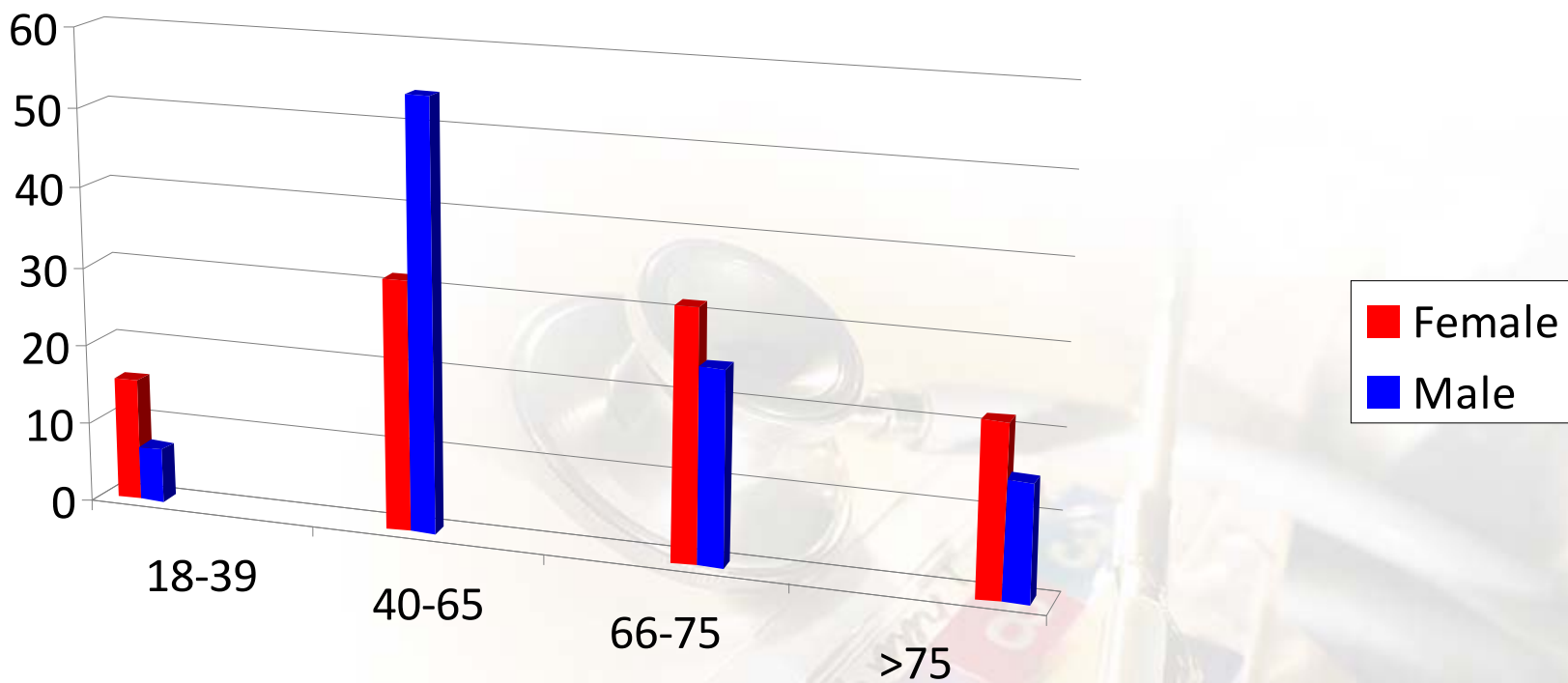
Location

% Parachute



Age

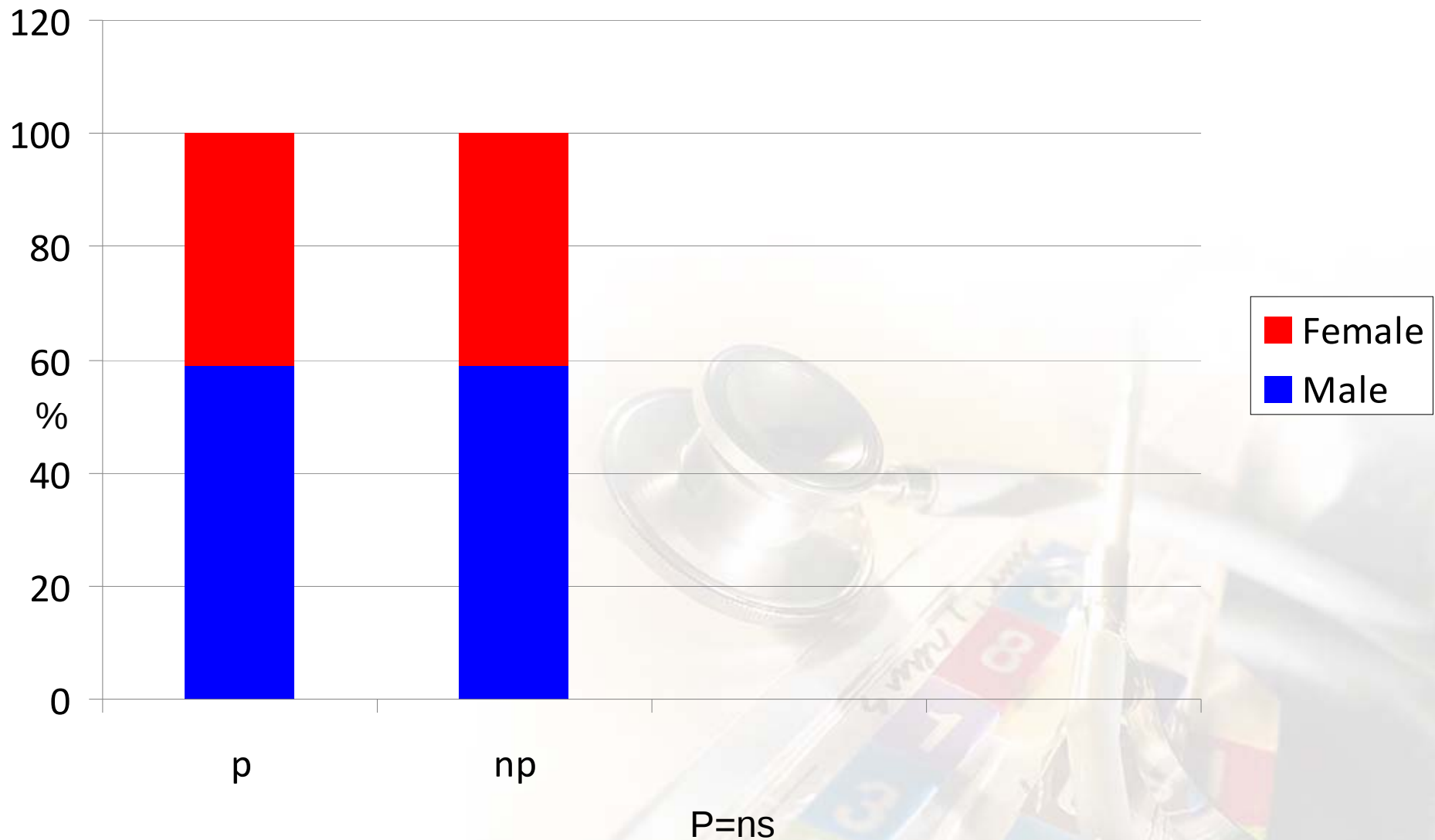
% Parachute



$P < .002$



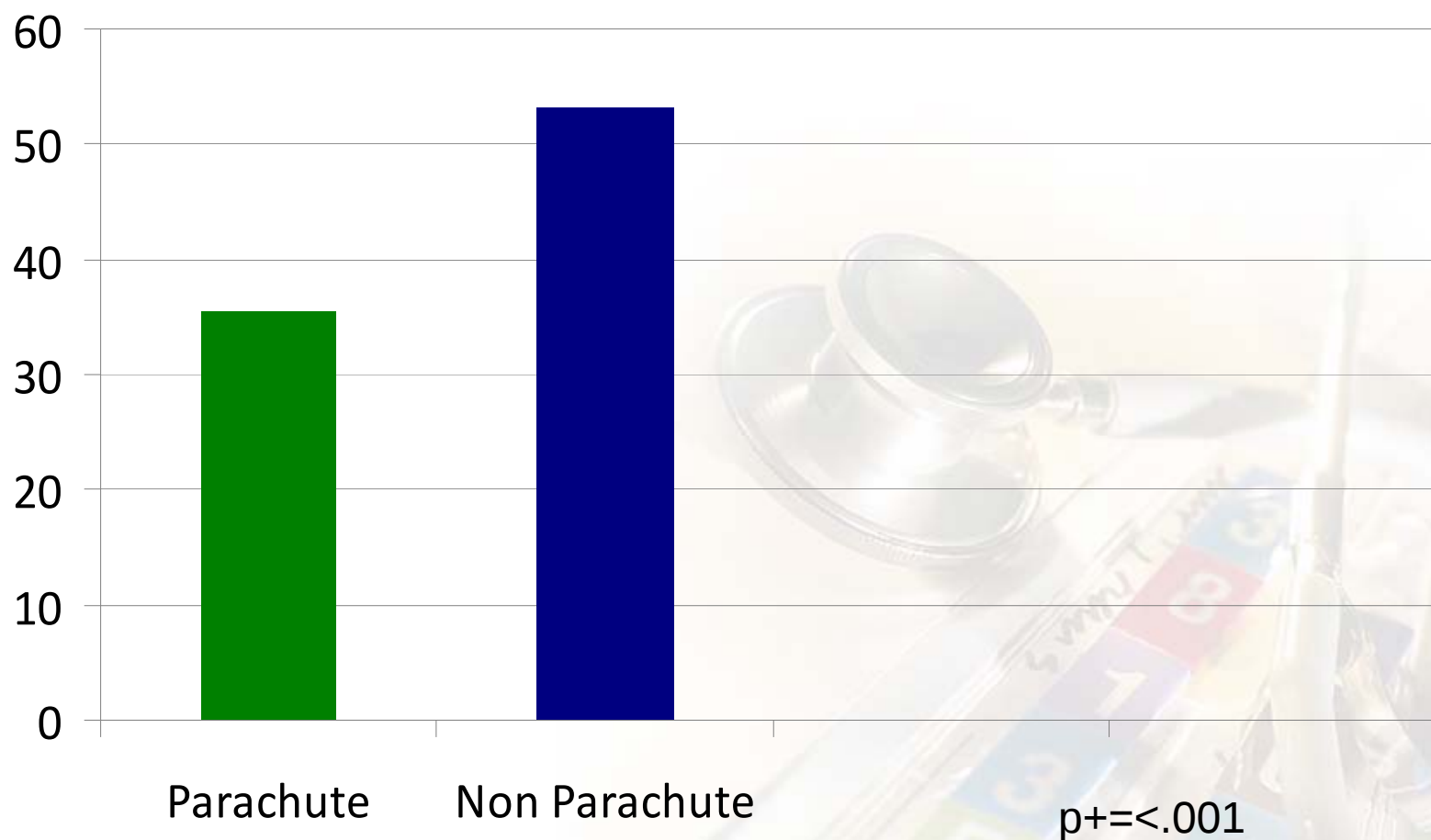
Gender was not a parachute determinant



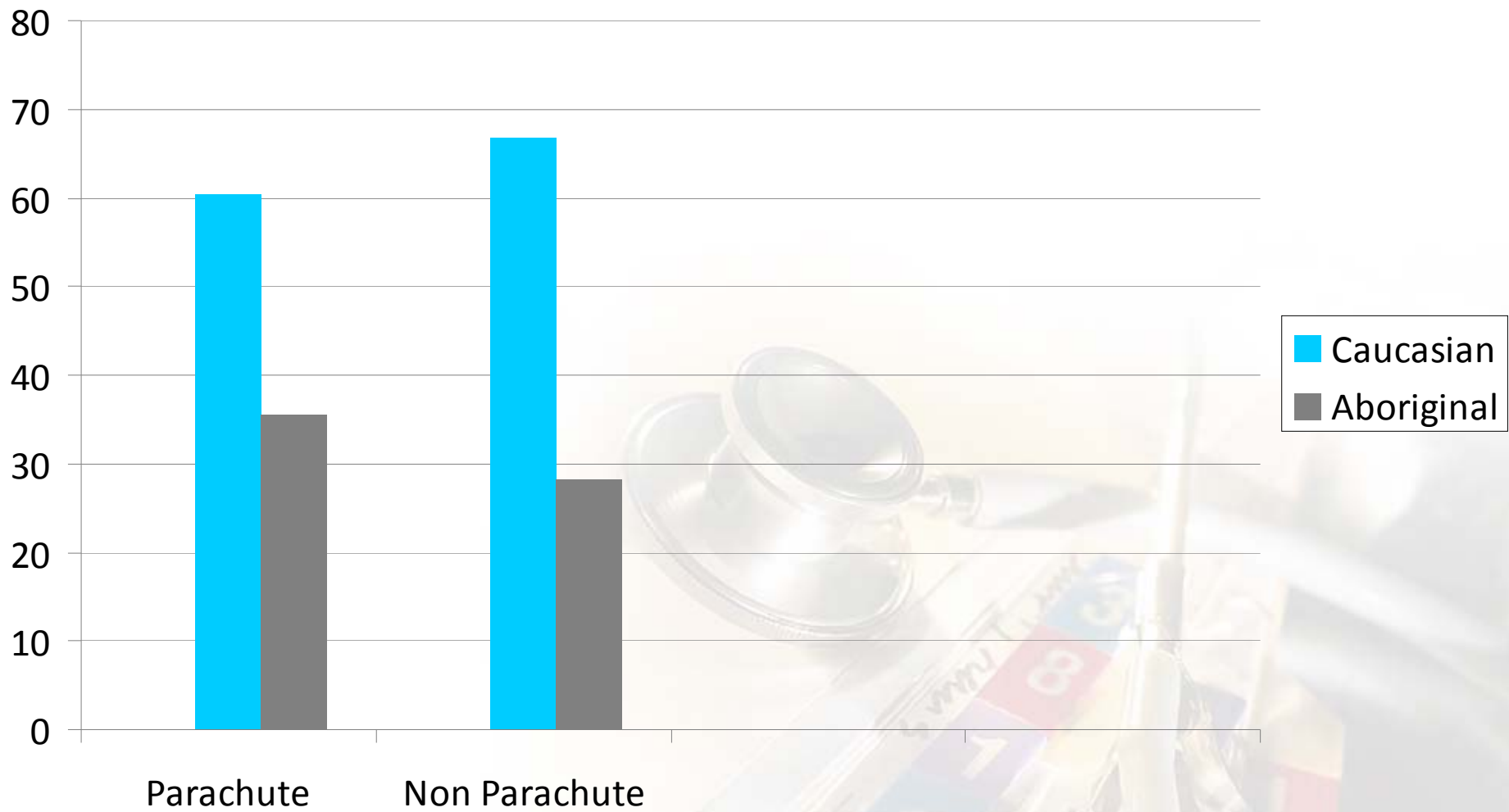


Diabetes

% Parachute



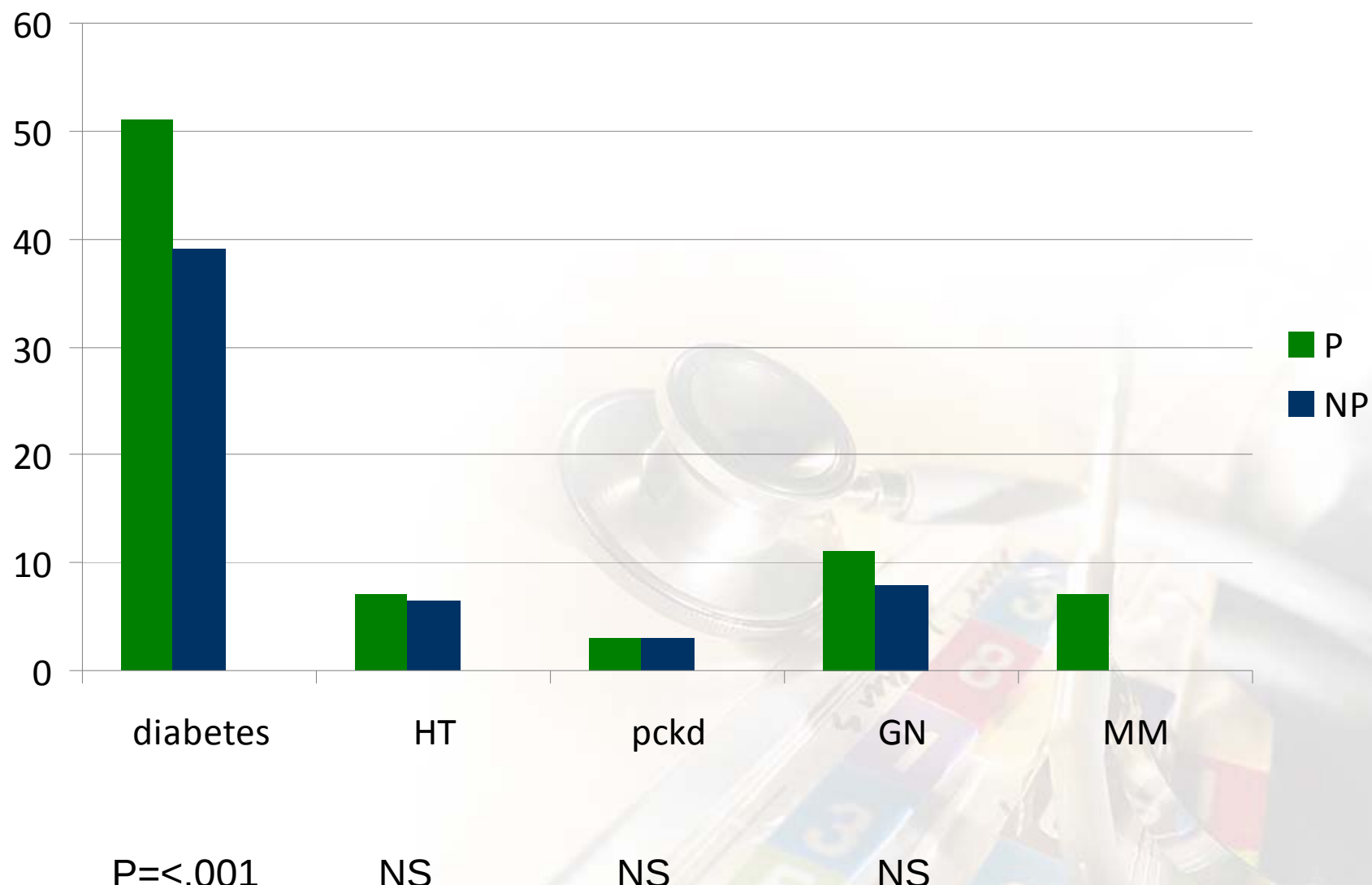
Ethnicity



P=NS

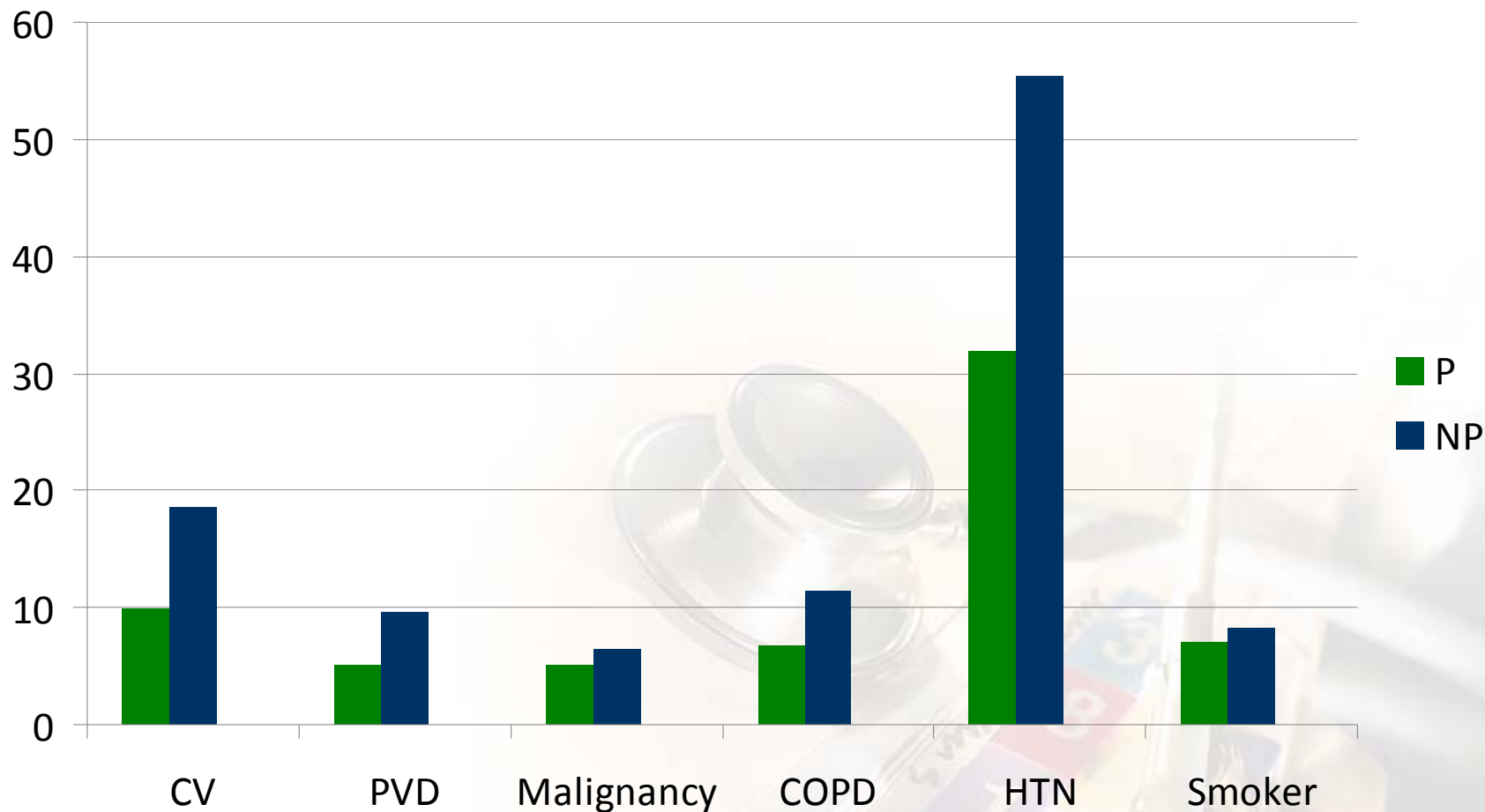


Diagnosis in P vs NP groups





Comorbidities

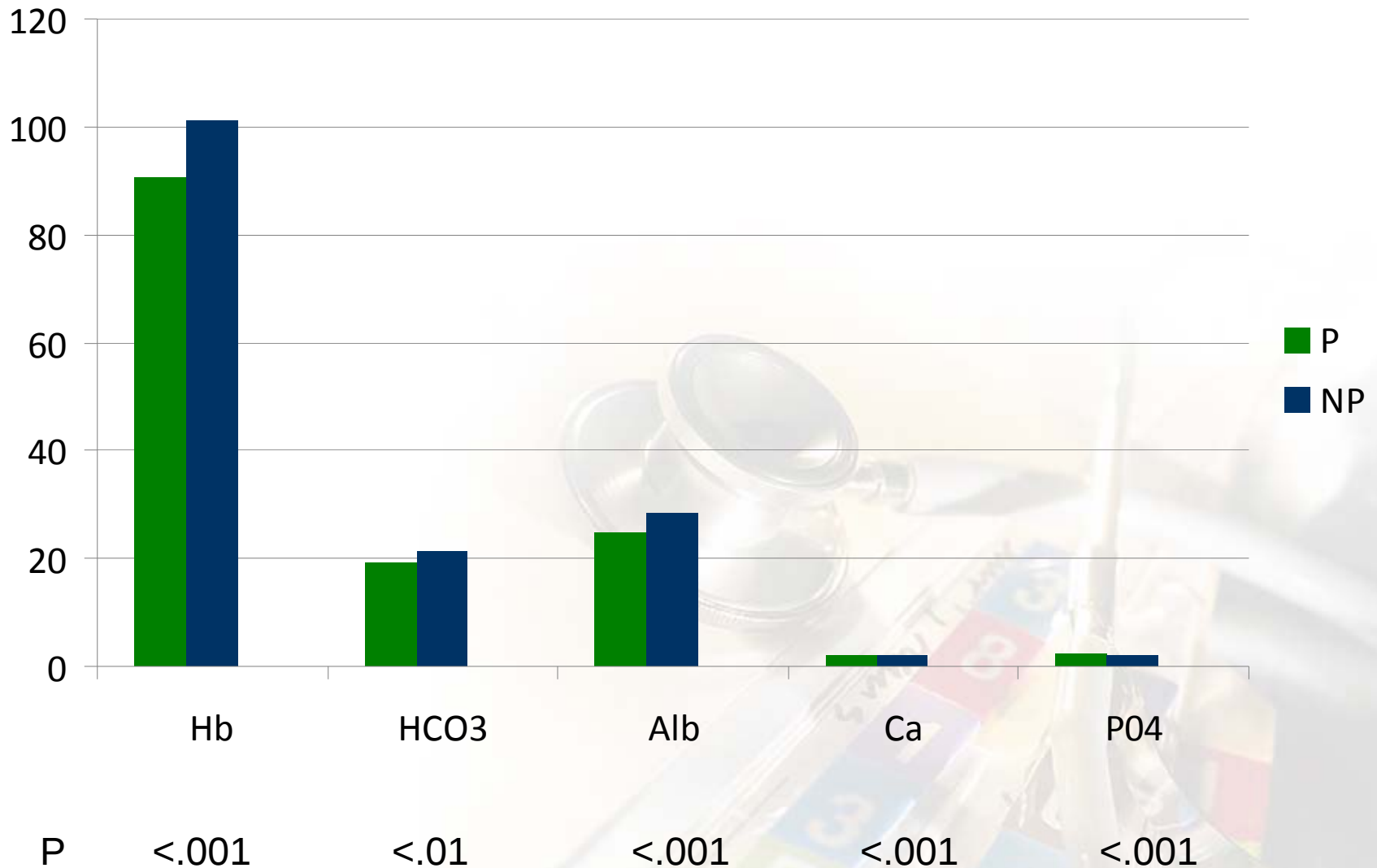


$P < .001$



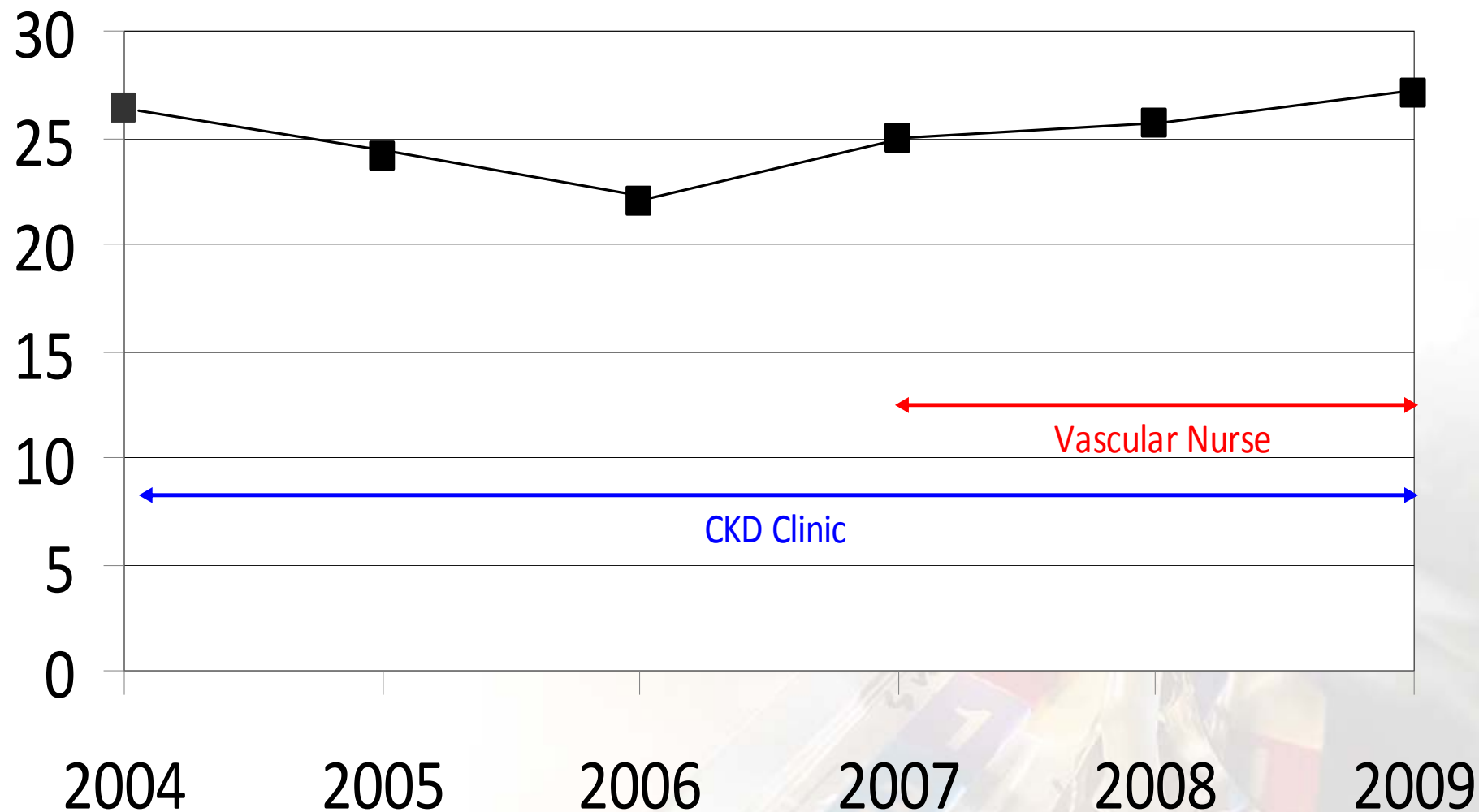
Biochemical parameters

Actual values





PD Prevalence





Conclusions

- Parachute (non-planned) dialysis is a significant mortality and morbidity issue
- Choice of RRT modality is affected by Parachute patients
- Age, location, and renal diagnosis influence Parachute dialysis
- Strategies to decrease Parachute patients are needed if we want to increase PD penetration in new patients

