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Assessment of agreement between invasive and non-invasive blood pressure measurements in critically ill patients

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APPENDIX 2

ASSESSMENT OF AGREEMENT BETWEEN INVASIC AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

DATA COLLECTION QUESTIONNAIRE FOR PATIENTS

1.0 PATIENT DATA

1.1 Research Code Number

1.2 Age

< 20	20 - 29	30 - 39	40 - 49

1.3 Gender

Male	Female

1.4 Date of Admission to ICU

1.5 Reason for ICU admission to ICU

Medical	elective surgery	emergency surgery

1.6 Severity of illness APACHE II Score

12-19	20-25	26-30	31-35	36-40

1.7 Co-morbidity

Yes	No

If yes, specify

1.8 Time of data collection hours after admission to ICU

<12	>12-24	>24-36	>36-48

APPENDIX 2

2.0 PATIENT BASELINE ASSESSMENT

2.1 Heart Rate	
2.2 Temperature	

2.3 Direct Blood Pressure

SBP	DBP	MBP

2.4 Indirect Blood Pressure

SBP	DBP	MBP

2.5 Mode of ventilation	PC	SIMV	SIMV/PS	PS

2.6 Peak Inspiratory Pressure	
2.7 Pause Inspiratory Pressure	
2.8 PEEP Level	

2.9 Analgesia	YES	NO
if yes, specify type and dosage		
2.10 Sedation	YES	NO
If yes, specify type and dosage		
2.11 Paralysing agents	YES	NO
If yes, specify type and dosage		
2.12 Inotropic / vasopressor support	YES	NO
If yes, specify type and dosage		

APPENDIX 2

3.0 BLOOD PRESSURE MEASUREMENTS

3.1 INVASIVE BLOOD PRESSURE MEASUREMENTS (IBP)

	Baseline	IBP
Systolic		
Diastolic		
Mean		

3.2 NON-INVASIVE BLOOD PRESSURE MEASUREMENTS (NIBP)

	Baseline	NIBP
Systolic		
Diastolic		
Mean		

3.3 DIFFERENCE BETWEEN BLOOD PRESSURE MEASUREMENTS

	Baseline	IBP	NIBP	Difference
Systolic				
Diastolic				
Mean				

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

DATA COLLECTION QUESTIONNAIRE CLINICAL PRACTITIONERS

1.0 CLINICAL PRACTITIONER DATA

1.1 Indicate you professional status in the ICU — **Nurse** | **Doctor**

1.2 List your academic qualifications

1.3 How long have you worked in the ICU

2.0 DATA COLLECTION

2.1 Which blood pressure measurement do you generally believe is more accurate while monitoring patients in the ICU setting — **IBP** | **NIBP** | **Other**

If other specify

2.2 Based on the response given in 2.1 give you reasons why you believe this method to be the most accurate

2.3 Which blood pressure method do you generally find easiest to use — **IBP** | **NIBP**

Specify why ?

APPENDIX D

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

INFORMATION LETTER CLINICAL PRACTITIONER

Dear _____
(name of potential participant)

My name is Jadot Ninziza, I am an intensive care nursing student, and I am currently registered for a MSc (Nursing) degree at the University of the Witwatersrand, Department of Nursing Education. I intend to describe and compare the limits of agreement between invasive and non-invasive blood pressure measurements in critically ill patients. May I ask you to consider participating in this study? As an intensive care practitioner, I would be interested in your viewpoints as an 'expert' or experienced intensive care nurse or nurse manager.

The aim of the study is to compare invasive and non-invasive blood pressure measurements in the intensive care units in order to determine the limits of agreement between the two blood pressure techniques. Should you agree to participate, I will ask you to complete a questionnaire that would reflect aspects of your biographical data and choice of preference, in terms of accuracy and ease of use, between the invasive and non – invasive blood pressure measurements. I will schedule an appointment at a date and time convenient to you. The required procedure should take no longer than 5 minutes to complete.

Participation in the study is entirely voluntary. You may choose not to participate or withdraw from the study at any time. Anonymity and confidentiality is guaranteed as research codes will be used

I appreciate that you will derive no direct benefits from participating. However, I hope that the completed study will clarify the discrepancies between invasive and non-invasive blood pressure measurements in critically ill patients by determining the level of agreement between the two readings.

I have applied to the Faculty of medicine Post Graduate Committee and to the Ethics Committee of the University of the Witwatersrand to conduct the study. In addition, I have also applied to the management of Johannesburg Hospital for permission to conduct the study.

Thank you for taking the time to read this information letter. Should you have any further questions regarding the study or your relative's right as a participant in the study, I can be contacted on cell number 082 83 27 653 or e-mail at njadot@absamail.co.za

APPENDIX D

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

CONSENT CLINICAL PRACTITIONER

I , _____ (please print name) give permission to be included in the study.

I have read with understanding the content of the information sheet and I have been given the opportunity to ask questions I might have regarding the procedure and my consent to my being included in the study.

_____ _____

Date Signature

_____ (witness)

APPENDIX E

Jadot Ninziza
University of the Witwatersrand
Department of Nursing Education
7 York Road, Parktown 2193
Johannesburg

Mr S. Pillay
Chief Executive Officer
Johannesburg Hospital
Private Bag X39
Johannesburg 2000

Dear Mr Pillay,

Re: Research at Johannesburg Hospital

I am a student registered for a Master of Science (Nursing) degree at the Faculty of Health Science, University of the Witwatersrand. As part of the course requirement, I am expected to conduct clinical research under supervision. The title of my research is: **"***Assessment of agreement between invasive and non-invasive blood pressure measurements in critically ill patients"*.

I hope to conduct this study this research project in order to investigate the limits of agreement between invasive and non-invasive blood pressure measurements in critically ill patients. These findings will be contrasted with the reasons given by clinical practitioners for choice of blood pressure monitoring techniques and to make recommendations based on an assessment/analysis of accuracy for clinical practice and education of intensive care nurses.

I believe that a little has been done in ensuring and maximizing the adequacy and accuracy in intensive care unit, pertaining to invasive and non-invasive blood pressure monitoring. Current studies indicate that there is a discrepancy between the two readings. This study aims to clarify the current controversy as to whether these blood pressure measurements can be used interchangeably in the clinical setting to guide intensive care nurses decision-making.

I want to assure you that the name of the institution, the personnel, and patients involved in the study will not be divulged in the report. Informed written consent will be obtained from all the research participants. A copy of the report will be available if so requested.

I hereby wish to apply for permission to undertake research at Johannesburg Hospital, intensive care units, once my proposal has been approved by the committee for research on Human Subjects of the University of the Witwatersrand.

Yours sincerely,

_____

Jadot Ninziza
MSc Nursing Student

APPENDIX F

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

INFORMATION SHEET

Dear _____
(name of potential patient's relative)

My name is Jadot Ninziza, and I am currently studying for an advanced nursing degree in the Department of Nursing Education, at the University of the Witwatersrand. I hope to conduct a research project and would like to ask you to consent to my including your family member in my sample of patients that I hope to study whilst they are in the intensive care unit.

The aim of the study is to compare invasive and non-invasive blood pressure measurements in the intensive care units in order to determine the limits of agreement between the two blood pressure techniques. Should you agree to participate, I will ask that you allow me to access the patient's records and charts and take a single reading of both the invasive and non-invasive blood pressure within 48 hours of the patient's admission to the intensive care unit. I will collect information about the patient's level of illness, management and cardiovascular and respiratory monitoring parameters.

Participation in the study is entirely voluntary. There are no risks to the patient as blood pressure measurements are routine observations in the intensive care unit. You may choose not to participate or withdraw from the study at any time, which will have no effects on the services that you or your relative may receive from the institution or the health care providers. I will also contact your relative in the recovery period to give permission for the information obtained to be included in the study. Your relative has the right not to participate or to withdraw from the study at any time, should they feel the need to. This will not affect their treatment in anyway.

I appreciate that you or your relative will derive no direct benefits from participating in the study. However, I hope that the completed study will clarify the limits of agreement relationship between invasive and non-invasive blood pressure techniques. No reports in this study will identify you or your relative in any way. Results of the study will be given to you should you so wish.

The appropriate people and research committee of the University of the Witwatersrand, and Johannesburg Hospital have approved the study and its procedures.

Thank you for taking the time to read this information letter. Should you have any further questions regarding the study or your relative's right as a participant in the study, I can be contacted on cell number 082 83 27 653 or e-mail at njadot@absamail.co.za

APPENDIX F

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

CONSENT FORM (PATIENT'S RELATIVE)

I_____ (name) the _____ (relationship) of the

patient give permission to be included in the study.

I have read and understood the content of the information sheet and I have been given the opportunity to ask any questions regarding the procedure and my consent to my relative being included in the study.

_____ _____

Date Signature

_____ (witness)

APPENDIX G

ETHICAL CLEARANCE CERTIFICATE

Private bag X39, Johannesburg 2000, South Africa
Tel: +27 (0) 11 488 4911, Fax: +27 (0) 11 643 1612
www.johannesburghospital.org

Gauteng Department of Health

Enquiries: Ms L. Mvumvu
Office of the CEO
Tel: (011) 488-3792
Fax: (011) 488-3753

29 September 2004

Mr Jadot Ninziza
Department of Nursing Education
University of the Witwatersrand
Parktown
2193

Dear J. Ninziza

Permission is granted to conduct your research on the ***Assessment of agreement between invasive and non-invasive blood pressure measurements in critically ill patients.*** It should be emphasised that this is provided there:

i. Has no cost implication to the institution.
ii. Confidentiality of information provided is maintained at all cost.
iii. Prior arrangements are made with the unit manager and that service delivery is not compromised.

Yours sincerely

DR. M. MOFOKENG
Acting CEO

APPENDIX I

APPROVAL LETTER FROM POST GRADUATE COMMITTEE

APPENDIX J

ASSESSMENT OF AGREEMENT BETWEEN INVASIVE AND NON-INVASIVE BLOOD PRESSURE MEASUREMENTS IN CRITICALLY ILL PATIENTS

RETROSPECTIVE PATIENT'S CONSENT

I _____ (name of the patient) understand that my relative _____

_____(name of relative), has given consent to my being included in the study and hereby consent for the information obtained to be used in the study.

I have read and understood the content of the information sheet, and I have been given the opportunity to ask questions I might have regarding the procedure, data collected and my consent to my being included in the study.

_____ _____

Date Signature

_____ (witness)