APPENDIX A

SUBJECT DATA COLLECTION SHEET

Study: Low dose erythromycin in improving the outcome of HIV-infected children

DATA COLLECTION SHEET: Visit 1

1. PATIENT INFORMATION

Name
Hospital number
Study number
Date of admission DD/MM/YY
Gender male female
Age Months
Date of birth DD/MM/YY

2. PREVIOUS MEDICAL HISTORY

<table>
<thead>
<tr>
<th>a. HIV</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient previously tested</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>If Yes, previous result</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently: 1. Consent for ELISA</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>2. CD4 count</td>
<td>%</td>
<td>total</td>
</tr>
<tr>
<td>3. Viral load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antiretroviral treatment</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Specify: 1. Drugs</td>
<td>1.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>b. Previous admissions</td>
<td>Previously admitted to hospital</td>
<td>Y</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>c. Treatment</td>
<td>Did the patient receive antibiotics?</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>If yes specify:</td>
<td></td>
</tr>
<tr>
<td>c. Anthropometric Findings</td>
<td>Length</td>
<td>cm</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>kg</td>
</tr>
<tr>
<td>d. Examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Temperature on admission</td>
<td>°C</td>
</tr>
<tr>
<td>Generalized lymphadenopathy</td>
<td>(0.5 cm present in at least 2 sites, bilateral lymph nodes counting as one site)</td>
<td>Y</td>
</tr>
<tr>
<td>Clinically pale</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Oedema</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Jaundice</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Hepatomegaly</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Splenomegaly</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Oral thrush</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Parotomegaly</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Eczema</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>HIV encephalopathy</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Neurodevelopmentally normal</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Respiratory system</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory rate / min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart rate / min</td>
<td></td>
<td></td>
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<tr>
<td>Peripheral saturation</td>
<td></td>
<td></td>
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<tr>
<td>without oxygen %</td>
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<tr>
<td>with oxygen %</td>
<td></td>
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<tr>
<td>Recession Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>intercostal</td>
<td></td>
<td></td>
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<tr>
<td>Subcostal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>suprasternal</td>
<td></td>
<td></td>
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<tr>
<td>Flaring of alae nasi Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinically cyanosed Y N</td>
<td></td>
<td></td>
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<tr>
<td>Grunting Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AUSCULTATORY FINDINGS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focal abnormality Y N</td>
<td></td>
<td></td>
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<tr>
<td>Diffuse abnormality Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear chest Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperinflation Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crepitations Y N</td>
<td></td>
<td></td>
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<tr>
<td>Bronchial breathing Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheezing Y N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER SYSTEMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CVS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GIT</td>
<td></td>
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</tr>
<tr>
<td>CNS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## STUDY VISIT COMPLETION FORMS

**Study:** Low dose erythromycin in improving the outcome of HIV-infected children with bronchiectasis  
Pt #: ___ ___ ___ Init: ___ ___ ___

<table>
<thead>
<tr>
<th>Visit</th>
<th>CD4 count</th>
<th>Viral load</th>
<th>Sputum MCS</th>
<th>Cytokine assays (blood/ sputum)</th>
<th>Sputum resp virus/TB</th>
<th>Liver function test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Visit 2</td>
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<td>Visit 3</td>
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<tr>
<td>Visit 5</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 6</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Visit 7</td>
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<tr>
<td>Visit 8</td>
<td></td>
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<td>X</td>
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<tr>
<td>Visit 9</td>
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<td>X</td>
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<tr>
<td>Visit 10</td>
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<td>X</td>
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<tr>
<td>Visit 11</td>
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</tr>
<tr>
<td>Visit 12</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
### STUDY VISIT COMPLETION FORMS

**Study:** Low dose erythromycin in improving the outcome of HIV-infected children with bronchiectasis

<table>
<thead>
<tr>
<th>Pt #:</th>
<th>Init:</th>
<th>CXR</th>
<th>PET CT</th>
<th>Lung function test</th>
<th>Nitric oxide</th>
<th>Sweat test</th>
<th>Clinical exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Visit 2</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 3</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 4</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 5</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 6</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 7</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 8</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Visit 9</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 10</td>
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<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 11</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit 12</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

ETHICAL APPROVAL

The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federalwide Assurance. FWA 00002567, Approved dd 22 May 2002 and Expires 24 Jan 2009. RB 0000 2235 IORG0001762 Approved dd Jan 2006 and Expires 21 Nov 2008.

Date: 3/06/2008

<table>
<thead>
<tr>
<th>PROTOCOL NO.</th>
<th>100/2008-A</th>
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<tbody>
<tr>
<td>NEW TITLE</td>
<td>Low dose erythromycin in improving outcome of HIV-positive children with bronchiectasis</td>
</tr>
<tr>
<td>STUDY DEGREE</td>
<td>PhD</td>
</tr>
<tr>
<td>SPONSORS POSTAL ADDRESS</td>
<td>Level D3 New Steve Biko Academic Hospital, Malherbe Street, Capital Park</td>
</tr>
<tr>
<td>MEETING DATE OF THIS STUDY</td>
<td>28/05/2008</td>
</tr>
</tbody>
</table>

This Protocol and Informed Consent and all the attachments have been considered by the Faculty of Health Sciences Research Ethics Committee, University of Pretoria on 28/05/2008 and found to be acceptable.

Advocate AG Nienaber (female) BA (Hons) (Wits); LLB; LLM (UP); Dipl Datametrics (UNISA)
*Prof V.O.L. Karusseit MBChB; MFGP (SA); MMed (Chir); FCS (SA): Surgeon
*Prof M Kruger (female) MB ChB. (Pta); MMed. Pead. (Pret); PhD. (Leuven)
*Dr N K Likibi MB, BCh; Med Adviser (Gauteng Dept of Health)
*Snr Sr J. Phatoli (female) BCur (ElAl) Senior Nursing-Sister
*Dr L Schoeman (female) BP harm, BA Hons (Psy), PhD
*Dr R Sommers (female) MBChB; MMed (int); MPhar:Med;
Mr Y Sikweyija MPH; Master Level Fellowship in Research Ethics; BSC (Health Promotions)
*Prof TJP Swart BChD, MSc (Odont), MChD (Oral Path) Senior Specialist; Oral Pathology
*Dr A P van Der Walt BChD, DGA (Pret) Director: Clinical Services of the Pretoria Academic Hospital
*Prof C W van Staden MBChB; MMed (Psych); MD; FTCL; UPLM; Dept of Psychiatry

DR R SOMMERS: MBChB; MMed (int); MPhar:Med,
SECRETARIAT of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, Pretoria Academic Hospital

* Members attending the meeting.

HW Snyman Building(South) level 2-34 Private Bag X169 Pta. S.A. 0001 Tel:(012)354 1330. Fax:0866515924 012-354 1367 E-Mail manda@med.up.ac.za Web: http://www.healthethics-up.co.za
PROTOCOL NO. 100/2008-B
(Give reason for )

C hronic inflammatory lung disease in human immunodeficiency virus (HIV) infected children. Epidemiological considerations, aetiological determinants and the efficacy of low dose erythromycin in bronchiectasis.

Principal Investigator: Refiloe Masekela
R.J Green

DEPT: Paediatrics Phone: 012 354 5271 Fax: 012 354 5275
E-Mail: Refiloe.masekela@up.ac.za Cell: 079 489 0936

MEETING DATE OF THIS STUDY 19/11/2008

The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

* FWA 00002567, Approved dd 22 May 2002 and Expires 24 Jan 2009.

This Amendment has been considered by the Faculty of Health Sciences Research Ethics Committee, University of Pretoria on 19/11/2008 and found to be acceptable

* Members attended & Feedback at the meeting.

*Dr A Nienaber (female) BA (Hons) (Wits); LLB; LLM (UP); Dipl.Datametrics (UNISA)
*Prof V.O.L. Karusseit MBChB; MFGP (SA); MMed (Chir); FCS (SA)
*Prof M Kruger (female) MB.ChB. (Pta); MMed. Pead. (Pret); PhD. (Leuven)
*Dr N K Likibi MB.BCh; Med.Adviser (Gauteng Dept.of Health)
*Dr T S Marcus (female) BSc (LSE), PhD (University of Lodz, Poland)
*Mrs M C Nzeku (female) BSc (NUL); MSc Biochem (UCL, UK)
*Snr Sr J. Phatoli (female) BCur (Eet.A) BTec (Oncology Nursing Sience)Snr Nursing-Sister
*Dr L Schoeman (female) BP harm, BA Hons (PSy), PhD
*Dr R Sommers (female) MBChB; MMed (Int); MPharMed;
*Mr Y Sikweyiya MPH; Master Level Fellowship in Research Ethics; BSC (Health Promotion)
  Postgraduate Dip in Health Promotion
*Prof TJP Swart BChD, MSc (Odont), MChD (Oral Path), PGCHE
*Dr A P van Der Walt BChD, DGA (Pret) Director; Clinical Services of the Pretoria Academic Hospital
*Prof C W van Staden MBChB; MMed (Psych); MD; FCPsych; FTCL; UPLM;

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Dr R Sommers; MBChB; MMed (Int); MPhar.Med.
SECRETARIAT of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, Pretoria Academic Hospital
A. CONSENT FORM AND PATIENT INFORMATION SHEET

Study title: Low dose erythromycin therapy in improving outcome of HIV-positive children with bronchiectasis

Dear Parent / Guardian

Your child _____________________ is currently suffering from a problem of the chest and lungs that has come about because of HIV infection. This letter serves to request your permission to enrol your child in a study to investigate treatment options for children with this condition.

What is the purpose of the study?

This condition is usually treated with antibiotics when your child gets sick. We would like to test the effect of using a small quantity of a common antibiotic known as erythromycin on the disease process. Erythromycin is a medicine that reduces inflammation, and is often used in a number of other conditions and is generally tolerated well. It is possible that erythromycin may reduce the chances of your child getting sick and may have a good effect on improving his general condition and prevention infections in the lung. Your child may or may not get the antibiotic as we would like to see if will have any effect in the improvement of his/her lung status.

What is the duration of the study?

The duration of this study will be 12 months. Your child will need to give one tablet every evening for this whole time.

Procedures to be followed

Participating in this study would imply that your child would be treated with usual antibiotics in a standard way and the erythromycin as well. Your child’s condition and response to the treatment will be monitored monthly at the usual clinic you attend.

Simultaneously, a small volume of the blood, urine and sputum, that are routinely collected, will also be tested for specific cytokine responses to infection.
Cytokines are specific substances released by the fighting cells of the body during stress situations like infection. Some of these cytokines are pro-inflammatory, or causing inflammation, while others are anti-inflammatory, or regulating this immune response by opposing the inflammatory response. These two groups of agents are usually working in a balanced way, and should something like specific chest infections impair this balance, damage to the cells may occur. We will be following your child up very closely at monthly intervals. We will then collect the normal sputum samples and monitoring his/her progress as well as looking for complications that the medication can cause. After 12 months we will repeat the sputum, urine and blood testing for the cytokine levels as well as the chest x-rays and CT scans. This information will guide us in better understanding of the lung damage caused by chest infections in your child.

What will be done at each visit will be as follows:

Visit 1:
- Sputum samples
- Blood tests
- Lung function tests
- Nitric oxide measurements
- Chest x-ray
- PET CT scan
- Sweat test
- Clinical examination

Visit 2-11
- Lung function test
- Sputum sample
- Clinical examination

Visit 12 (study ends)
- Lung function test
- Nitric oxide measurement
- Chest x-ray
- PET CT chest
- Sputum sample
- Blood sample
- Clinical examination

**Risks and discomfort involved**

It is important to note that no additional discomfort will be caused to the usual blood tests and investigations performed on a child with this condition.

We do not expect side effects from short-term erythromycin use and the risk is very small. Erythromycin used for a long time may cause some nausea, vomiting or diarrhoea. It is also possible that this antibiotic may make the other bugs in your child’s lung resistant (stop responding) to some of the antibiotics we may need to use for pneumonia. In rare cases erythromycin can cause an allergic reaction and it may also cause damage to the liver which results in swelling of the liver and abdominal pains.

**Drug interactions**

Erythromycin can also interact with other medicines your child may be taking for example midazolam (Dormicum) by decreasing the level in the blood. Erythromycin can also increase the level of the following drugs in the blood: ebastine, carbamazepine (Tegretol), ciclosporin, ergotamine and warfarin. Should your child be taking any of these drugs the doctor will monitor the levels of these drugs closely and may not enrol your child in the study.

As mentioned previously, erythromycin is used in a number of other conditions and generally tolerated well. Should your child’s condition deteriorate or an adverse (bad) reaction happen with the medication you are to contact Dr Masekela immediately at any time of day or night on the number 079 489 0936/ 012 354 5271. The medication will be stopped in case of a severe reaction to the medication; that is an allergic reaction or evidence of liver damage form the medication.
HIV testing

This letter then further serves to ask your permission to do a HIV test on your child if it was not done before. A specific consent form in the ward will also be used. It is important that the doctor who presents this form to you explain the following to you:

- The reasons we want to test your child
- That HIV is virus or bug that attacks the fighting cells of your body and make the body weak so that it can’t fight infections as well as before
- How HIV is transmitted: through sexual contact, blood transfusions or dirty needles e.g. drug users or from mother to child. Transmission from mother to child can happen either during the pregnancy, the birth process or breastfeeding
- The stages of HIV in an adult and how it differs in children
- Currently there is no cure for HIV. We can however treat the infections the child gets because the body is weak. The doctor should also explain to you how anti-retroviral drugs can improve the quality of life and where they are available
- If your child’s test is positive, the probability that you are also positive is high, and you should yourself be tested as well. Advice regarding future pregnancies and the availability of any treatment should also be given.

It is important to know that the results may only be given to you and that post-test counselling will also be done. You may decline the HIV test and the treatment of your child will not be influenced by that decision.

Has the study received ethical approval

The study protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, and that committee has granted written approval.

The study has been structured in accordance with the Declaration of Helsinki, which deals with the recommendations guiding doctors in biomedical research involving humans.

Confidentiality

All information obtained during the course of this trial is strictly confidential, and personal information will remain confidential at all times. Data that may be reported
in scientific journals will not include any information, which identifies your child as a patient in this study.

**Source of additional information**
During your child’s stay in hospital she will be under the care of Dr Masekela on 012 354 5271/079 489 0936. If you have any questions, which were not fully explained by the doctor obtaining consent, please do not hesitate to ask him/her.

This letter serves to request your permission to enrol your child in this study group. You may refuse such permission and your child’s management will not be affected in any way.

**INFORMED CONSENT**
I, __________________________________________________
the parent/guardian of

_______________________________________________ (Name of patient)

_________________________________________________ (Hospital Number)

Have been informed about and understand the nature, benefits, risks and purpose of the trial, and all my questions have been answered. I hereby give permission that my child may participate in the above study.

I further have been fully informed regarding HIV and all my questions have been answered. I therefore give / do not give consent to perform an HIV test on my child

_________________________________________________

Signature of the parent/guardian                                          Date

I hereby confirm that the above parent / guardian have been fully informed about the nature, conduct and risks of the above trial.

_________________________________________________

Name of the investigator

_________________________________________________                ___________________
Signature of the investigator                                      Date

----------------------------------------

Name of witness                         

----------------------------------------

Signature of witness                    Date
B. ASSENT FORM

Name of study: Low dose erythromycin in improving outcome of HIV-positive children with bronchiectasis

I understand that I have been asked to participate in a study about my chest problem (bronchiectasis). I understand that I will use erythromycin (the new medicine), in addition to my normal medicines that I take for my chest.

I will be asked to have a check up of my chest by the doctor and I will be asked to blow in the two machines to check the size and the swelling of my lungs.

I will be asked to come for visits to the doctor regularly in order that the doctor can check how my chest is doing and a photograph will be taken of my chest to see how far my chest problem is. I will have to ask questions about my illness with every visit. I will also give my mucus to the doctor to check with every visit. I will be blowing into the machine with every visit so that the doctor can check my lungs. I will also have blood taken from me at the beginning of the study and after 12 visits (one year). A new photo of my chest will also be done after one year.

I understand that the medicine that the doctor wants to give me can make me feel sick. I can vomit or my stomach can work a lot from taking the medicine. This medicine may also give me a rash or bad reaction. The doctor will check me to see if it’s very bad in which case she will decide to stop it if I get too sick.

I understand that I do not have to participate. If I do participate, I can quit at any time. I also understand that I do not have to answer any questions I don’t want to answer or do anything I don’t want to do.

My parents, teachers or anyone else will not know what I have said or done in the study. No one but the researchers will know.

This study is being done by Dr Refiloe Masekela of Pretoria Academic hospital. Her phone number is 012-354 5271 or 079 4890936.

If I have any questions or concerns about the study, I can call and ask her about them. When I sign my name, this means that I agree to participate in the study and
that all of my questions have been answered. I have also been given a copy of this form.

Name: ______________________ Signature____________________

Name of Witness________________

Witness signature_____________________ Date________________
# APPENDIX D

## BHALLA SCORE

<table>
<thead>
<tr>
<th>Category</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severity of bronchiectasis</strong></td>
<td>Absent</td>
<td>Mild (luminal diameter slightly greater</td>
<td>Moderate (lumen 2-3 times the diameter of vessel)</td>
<td>Severe (lumen &gt;3 times diameter of vessel)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>than accompanying vessel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peribronchial thickening</strong></td>
<td>Absent</td>
<td>Mild (wall thickness equal to diameter</td>
<td>Moderate (wall thickness greater than and up to twice</td>
<td>Severe (wall thickness &gt;2 times the diameter of adjacent vessel)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of adjacent vessel)</td>
<td>the diameter of adjacent vessel)</td>
<td></td>
</tr>
<tr>
<td><strong>Extent of bronchiectasis</strong></td>
<td>Absent</td>
<td>1-5</td>
<td>6-9</td>
<td>&gt;9</td>
</tr>
<tr>
<td><strong>Extent of mucous plugging</strong></td>
<td>Absent</td>
<td>1-5</td>
<td>6-9</td>
<td>&gt;9</td>
</tr>
<tr>
<td><strong>Sacculations or abscesses</strong></td>
<td>Absent</td>
<td>1-5</td>
<td>6-9</td>
<td>&gt;9</td>
</tr>
<tr>
<td><strong>Generations of bronchial divisions</strong></td>
<td>Absent</td>
<td>Up to 4th generation</td>
<td>Up to the 5th generation</td>
<td>Up to 6th generation and distal</td>
</tr>
<tr>
<td>involved (bronchiectasis/plugging)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No of bullae</strong></td>
<td>Absent</td>
<td>Unilateral (not &gt;4)</td>
<td>Bilateral (not &gt;4)</td>
<td>&gt;4</td>
</tr>
<tr>
<td><strong>Emphysema</strong></td>
<td>Absent</td>
<td>1-5</td>
<td>&gt;5</td>
<td></td>
</tr>
<tr>
<td><strong>Collapse/consolidation</strong></td>
<td>Absent</td>
<td>Subsegmental</td>
<td>Segmental/lobar</td>
<td></td>
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</table>

No of bronchopulmonary segments affected: for the calculation of the CT score is subtracted from 25 [108]
REFERENCES


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intrapartum/newborn nevirapine and standard anti-retroviral therapy to reduce

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<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>ABPA</td>
<td>Allergic bronchopulmonary aspergillosis</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>CAP</td>
<td>Community acquired pneumonia</td>
</tr>
<tr>
<td>CCR3</td>
<td>CC chemokine receptor-3</td>
</tr>
<tr>
<td>CCR5</td>
<td>CC chemokine receptor-5</td>
</tr>
<tr>
<td>CDC</td>
<td>Centre for Disease Control</td>
</tr>
<tr>
<td>CF</td>
<td>Cystic fibrosis</td>
</tr>
<tr>
<td>CFTR</td>
<td>Cystic fibrosis transmembrane regulator</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CRF</td>
<td>Circulating recombinant forms</td>
</tr>
<tr>
<td>CXR</td>
<td>Chest x ray</td>
</tr>
<tr>
<td>DLCO</td>
<td>Pulmonary diffusion capacity for carbon monoxide</td>
</tr>
<tr>
<td>FEV$_1$</td>
<td>Forced expiratory volume in one second</td>
</tr>
<tr>
<td>FEF$_{25-75}$</td>
<td>Forced expiratory flow over 25-75% of expiration</td>
</tr>
<tr>
<td>FcR1</td>
<td>Human F epsilon R positive cells</td>
</tr>
<tr>
<td>FVC</td>
<td>Forced vital capacity</td>
</tr>
<tr>
<td>G-CSF</td>
<td>Granulocyte colony stimulating factor</td>
</tr>
<tr>
<td>GM-CSF</td>
<td>Granulocyte macrophage colony stimulating factor</td>
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<tr>
<td>HAART</td>
<td>Highly active anti-retroviral therapy</td>
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<tr>
<td>H. influenzae</td>
<td>Haemophilus influenzae</td>
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<td>HIV</td>
<td>Human immunodeficiency virus</td>
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<td>H. parainfluenzae</td>
<td>Haemophilus parainfluenzae</td>
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<tr>
<td>HRCT</td>
<td>High resolution chest tomography</td>
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<td>ICAM-1</td>
<td>Intracellular adhesion molecule-1</td>
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<tr>
<td>Ig</td>
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<td>IL</td>
<td>Interleukin</td>
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<td>Interferon gamma</td>
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<tr>
<td>IP-10</td>
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<tr>
<td>IPT</td>
<td>Isoniazid prophylaxis treatment</td>
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<tr>
<td>LRTI</td>
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<td>MCP-1</td>
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<td>Macrophage inflammatory protein-1</td>
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<td>MMP</td>
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<td>MRSA</td>
<td>Methicillin resistant staphylococcus aureus</td>
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<tr>
<td>NE</td>
<td>Neutrophil elastase</td>
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<tr>
<td>NFκβ</td>
<td>Nuclear factor kappa-beta</td>
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<tr>
<td>NTM</td>
<td>Non-tuberculous mycobacteria</td>
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<td>PA</td>
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<tr>
<td>PAMPs</td>
<td>Pathogen associated molecular patterns</td>
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<td>PRP</td>
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<td>RAST</td>
<td>Radio Allergo Sorbent Test</td>
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<td>Recombinant DNAse</td>
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<tr>
<td>RSV</td>
<td>Respiratory syncytial virus</td>
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<td>S. aureus</td>
<td>Staphylococcus aureus</td>
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<tr>
<td>sTNFR1</td>
<td>Soluble tumour necrosis factor receptor-1</td>
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<tr>
<td>sTREM</td>
<td>Soluble triggering receptor expressed on myeloid cells</td>
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<tr>
<td>Tat</td>
<td>HIV-trans-activating protein</td>
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<td>Th1</td>
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<td>Th2</td>
<td>T helper-2</td>
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<td>TLR</td>
<td>Toll-like receptors</td>
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<td>Unique recombinant forms</td>
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<td>Vascular cell adhesion molecule -1</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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</table>