



PHARMACEUTICAL SERVICES DIVISION  
Ministry of Health Malaysia



RESPIRATORY MEDICATION  
THERAPY ADHERENCE CLINIC  
PROTOCOL:  
**ASTHMA/COPD**  
(Adult & Paediatric)

2<sup>nd</sup> Edition 2015

**Second Edition, 2015**

Pharmaceutical Services Division  
Ministry of Health Malaysia  
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## PREFACE



Based on the Global Initiative for Asthma (GINA) 2015, an estimated 300 million individuals worldwide were affected with Asthma in 2010 whilst, Chronic Obstructive Pulmonary Disorder (COPD) affects almost 329 million people or nearly 5% of the world population. Prevalence of Asthma and COPD is increasing in many developing countries and in Malaysia, Asthma is considered to be one of the most common chronic diseases seen in primary health care facilities. According to Malaysian Health Facts 2014, diseases of the respiratory system are the second highest principal cause of hospitalization (11.5%) and cause of death in Ministry of Health (MOH) Hospitals (22.75%) in 2013. Hence, there is cause for concern in ensuring optimal management of respiratory diseases; in order to reduce the incidence of morbidity and mortality.

Medication Therapy Adherence Clinic (MTAC) was first introduced in Malaysia in 2004 as part of the clinical pharmacy services to improve the quality, safety and cost-effectiveness of patient care through better medicines management. Respiratory Medication Therapy Adherence Clinic (RMTAC) has been introduced as part of the effort by pharmacists to work together with other healthcare professionals to effectively control the patient's Asthma or COPD by enhancing the patient's knowledge on the use of prescribed medications, monitoring adherence, and identifying and resolving drug-related problems. Through this approach, pharmacists and other health care professionals are able to empower the patients to have better knowledge on the management of their disease and medications through RMTAC service.

Taking into account changes in current practice and the introduction of newer medicines and devices used in the management of Asthmatic and COPD patients, it is timely to review and publish this second edition of

RMTAC Protocol. This protocol will also help to ensure the standardisation of practice and contribute towards the expansion of RMTAC service throughout MOH facilities; both in primary and secondary care settings.

I would like to express my sincere gratitude to the Clinical Pharmacy Working Committee (Respiratory and Paediatric Subspecialty) under the auspices of the Pharmacy Practice and Development Division, Ministry of Health Malaysia, for their contribution and effort in producing this document; which I believe will serve as a very useful reference for all pharmacists practicing in this field.

Thank you.

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## A. INTRODUCTION

This **Respiratory Medication Therapy Adherence Clinic (RMTAC)** protocol is produced by the Clinical Pharmacy Working Committee (Respiratory and Paediatric Subspecialty), Pharmaceutical Services Division, Ministry of Health (PSD, MOH) Malaysia. It elaborates on the clinical duties of the pharmacists in helping Asthmatic and Chronic Obstructive Pulmonary Disease (COPD) patients to better manage their medications, in order to achieve optimal control of the illnesses.

Respiratory Medication Therapy Adherence Clinic (RMTAC) is an ambulatory care service conducted by pharmacists in collaboration with physicians and other healthcare providers with the aim of helping patients in managing their Asthma and COPD. This protocol serves as a guide to establish and ensure standardised practices in RMTAC services in all MOH Hospitals/Health Clinics.

During RMTAC operation, pharmacists are stationed at the clinic to review patient's medication history, understanding of the medications and compliance towards medications. Patient's technique of handling inhaler devices will also be assessed by the pharmacist at the RMTAC. Relevant findings, pharmaceutical care interventions and recommendations will be recorded in the relevant RMTAC forms. Pharmacists are also trained in performing peak flow meter and interpretation of peak expiratory flow and spirometry readings, which help in the better management of Asthma and COPD. The procedures for running RMTAC are explained in details, in the following modules.

## B. OBJECTIVES

1. To maximise the benefits of medication therapy in Asthma/COPD patients.
2. To increase patient's adherence towards Asthma/COPD medications.
3. To educate and encourage patients/caregivers on the appropriate use of Asthma/COPD medications and self-care inhalers/devices.
4. To minimise adverse effects or complications resulting from the Asthma/COPD medications and/or multiple drug regimens.
5. To reduce the frequency of emergency room visits and thus, reduce the total health care costs in treating Asthma/COPD.
6. To collaborate with consultative services physicians and other health care professionals on Asthma/COPD medication related issues.

## C. SCOPE OF SERVICE

1. The RMTAC service will operate in the clinic area during clinic day(s). Subsequent visits shall be carried out in the Pharmacy/Clinic area.
2. RMTAC pharmacist will carry out activities such as assessing patients for pharmaceutical care issues, providing appropriate education to patients and caregivers, completing follow-up sessions and documenting actions and plans in relevant RMTAC forms.

## D. MANPOWER REQUIREMENT

A minimum of one pharmacist should be stationed at the clinic. All pharmacists involved in the RMTAC are required to be trained based on the RMTAC training module.

## E. APPOINTMENT

1. All appointments shall be scheduled by the pharmacist using the **Respiratory MTAC Appointment Book (Appendix 1)**.
2. All recruited patients need to complete a minimum of three (3) follow-up sessions (Pre: Post = 1: 3). More follow-up sessions will be scheduled, depending on individual patient's requirement.
3. Definition of pre and post visit :
  - \*Pre – First visit with the consent of enrollment into RMTAC.
  - \*Post – Subsequent RMTAC follow-up sessions i.e. visit 2, 3, 4 and so on. It is compulsory for patients to undergo a minimum of three (3) follow-up sessions.

## F. PROCEDURES

### 1. Patient Selection

Patients diagnosed with Asthma/COPD, who fulfill at least **ONE** of the following criteria, should be offered to be recruited into the RMTAC:

- 1.1 Patients with Childhood Asthma Control Test (C-ACT) or Asthma Control Test (ACT) score of  $\leq 19$ .
- 1.2 Patients with uncontrolled Asthma according to latest GINA Guidelines.
- 1.3 Patients with frequent Asthma/COPD exacerbation according to latest GINA/GOLD Guidelines.
- 1.4 Patients with poor inhaler technique.
- 1.5 Patients with low adherence to medications

## 2. Module

Activities at the RMTAC clinic should follow the suggested workflow **(Appendix 2 & 3)**.

### 2.1 Enrolment (Pre)

2.1.1 The pharmacist will introduce him/herself and ask for patient's consent to be enrolled in the RMTAC **(Appendix 4)**.

2.1.2 The initial visit entails the following:

- a) Inform the objectives of RMTAC.
- b) Educate overview of the disease **(using Module RMTAC Asthma/COPD flipchart)**.
- c) Conduct a baseline assessment using the **RMTAC Pharmacy Assessment Form (Adult) (Appendix 5a) or RMTAC Pharmacy Assessment Form (Paediatric) (Appendix 5b)**, which consists of:
  - Past medical history;
  - Exacerbation history;
  - Peak expiratory flow rate (PEFR);
  - Spirometry measurement (if applicable);
  - Asthma symptoms: using C-ACT, ACT or Asthma Symptom Control (GINA);
  - COPD symptoms: using COPD Assessment Test (CAT) or Modified Medical Research Council (mMRC) Dyspnea Scale;
  - Past medication history and medication adherence; and
  - Inhaler/device technique.

2.1.3 Medication counselling and patient education shall be undertaken whenever appropriate.

## 2.2 Follow-Up (Post)

2.2.1 Follow-up sessions should be scheduled based on the patient's next clinic or pharmacist's appointment date.

2.2.2 The pharmacist will counsel and educate patient or caregiver on the following issues:

- a) General therapeutic goals:
  - e.g. in Asthmatic patients:
    - i. Control of the symptoms based on:
      - **C-ACT or ACT score  $\geq$  20 or**
      - **Asthma Symptom Control (GINA) as controlled.**
    - ii. Inform patients on their:
      - **Expected Peak Expiratory Flow Rate (PEFR) (to use Respiratory Function Table (Adult) (Appendix 6a) or Respiratory Function Table (Paediatric) (Appendix 6b) and**
      - **Personal best PEFR.**
- b) Provide specific drug therapy (prescribed by the doctor), related to the patient's need and goals.
- c) Provide drug information on Asthma/COPD medications.
  - Anticipated benefits and recognizing side effects of medications.
- d) Provide counselling on technique of inhalers and inhaler devices.
- e) The importance of medication adherence.

**The patient's caregiver/relatives are strongly encouraged to attend RMTAC sessions together.**

## 2.3 RMTAC Discharge Criteria

2.3.1 An **Asthma** patient will be fit for discharge if patient fulfills **ALL** the following criteria, for **at least TWO(2) visits**:

- No change in treatment regime.
- Inhaler/device technique assessment = 6/6.
- Good adherence to medication.
- C-ACT or ACT score =  $\geq 20$  or Asthma Symptom Control (latest GINA Guideline) as controlled.
- No history of exacerbations in 1 year.
- PEFR =  $\geq 80\%$  from personal best (applicable for adults only).

2.3.2 A **COPD** patient will be fit for discharge if patient fulfills **ALL** the following criteria, **for at least TWO(2) visits**:

- No change in treatment regime.
- Inhaler/device technique assessment = 6/6.

2.3.3 Patients to be discharged from the RMTAC programme **IF** one of the following applies :

- Default two consecutive appointments despite of being contacted (effort must be made to contact patient by telephone call).
- Patient requests to be discharged from the programme.
- Patient is transferred out to other facilities.

2.3.4 Re-enrollment of discharged RMTAC patients will be considered as new RMTAC patient.

2.3.5 The assessment data of any discharged patient will be considered as outpatient counselling data.

### 3. Missed Appointment

Patients shall be contacted within 14 working days if he/she missed any RMTAC appointment to reschedule the appointment. New appointment date shall be recorded in the **Respiratory MTAC Appointment Book (Appendix 1)**.

### 4. Documentation

- 4.1 All assessment, intervention or drug-related issues made during the interview session of RMTAC should be documented in patient's case notes in the clinic, either be written (directly) in the patient's case notes (**as suggested in Appendix 7a**) **OR** to fill up either **RMTAC Patient's Progress Note (Adult) (Appendix 7b)** form or **RMTAC Patient's Progress Note (Paediatric) (Appendix 7c)** form and attach the form in the patient's case note.
- 4.2 In addition, all assessment, intervention or drug-related issues made during the interview session of RMTAC must also be documented in **RMTAC Pharmacy Assessment Form (Adult) (Appendix 5a)** form or **RMTAC Pharmacy Assessment Form (Paediatric) (Appendix 5b)** form. The record should be kept in patient's file in the pharmacy department.
- 4.3 The **RMTAC Pharmacy Assessment Form (Adult) (Appendix 5a)** or **RMTAC Pharmacy Assessment Form (Paediatric) (Appendix 5b)** should be used as references for future MTAC follow-up sessions.
- 4.4 Patient's details are recorded in the **Respiratory MTAC Record Book (Appendix 8)** as reference.

## G. REFERENCES

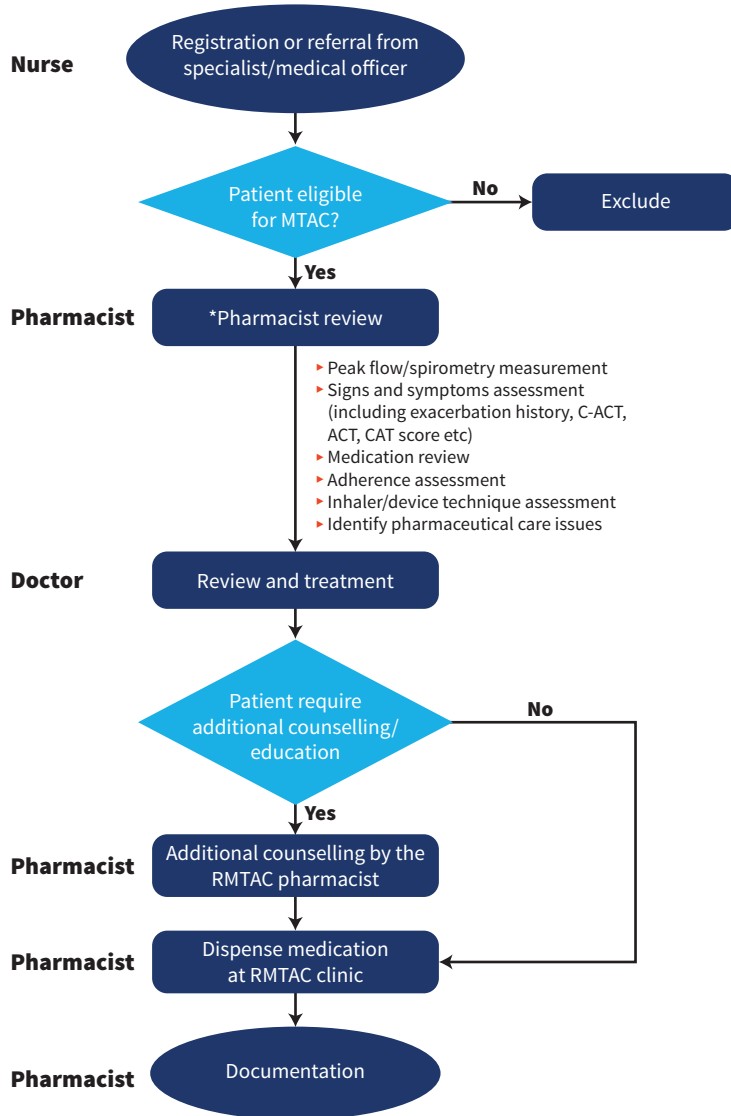
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# APPENDICES

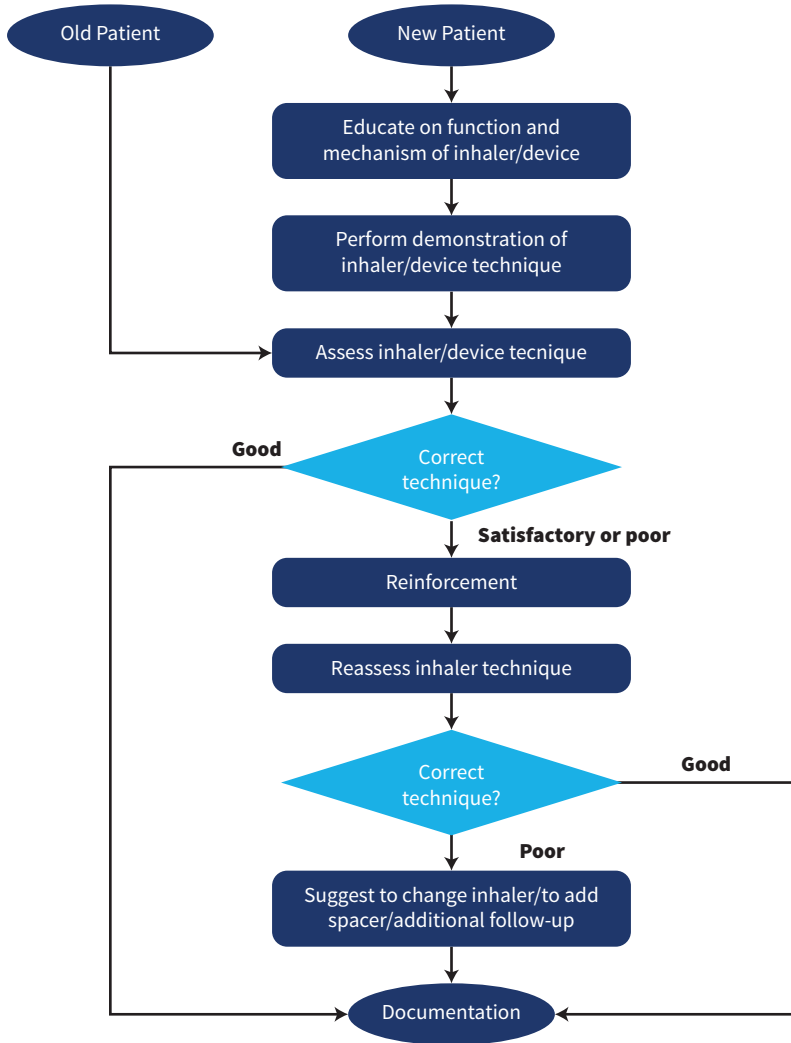


## Appendix 2: Respiratory MTAC Workflow



*\*Pharmacist's review can be done after doctor's review, depending on the clinic's workflow and manpower.*

### Appendix 3: Inhaler/Device Technique Assessment Workflow



**Appendix 4: Patient Consent Form**

*(To be kept in pharmacy)*



**RESPIRATORY MEDICATION THERAPY ADHERENCE CLINIC (RMTAC)  
JABATAN FARMASI**

**\*HOSPITAL/KLINIK KESIHATAN .....**

**PERAKUAN PENYERTAAN**

Saya, ..... (No. K/P.....) bersetuju untuk menyertai program Respiratory Medication Therapy Adherence Clinic (RMTAC) yang dianjurkan oleh Jabatan Farmasi, \*Hospital/Klinik Kesihatan..... Saya juga berjanji akan memberi kerjasama sepenuhnya dengan menghadiri semua temujanji yang diadakan oleh Pegawai Farmasi RMTAC yang bertujuan untuk membantu mengawal penyakit \*asma/COPD \*saya/pesakit dengan lebih baik.

.....  
(Tandatangan)

Nama Pesakit/Penjaga:  
Tarikh:  
No. Telefon:

.....  
(Tandatangan)

Nama Peg. Farmasi:  
Tarikh:

***\*potong perkara yang tidak berkenaan***

**Appendix 5a: RMTAC Pharmacy Assessment Form (Adult)**

(To be kept in pharmacy)

RMTAC PHARMACY ASSESSMENT FORM (ADULT)					
PATIENT DEMOGRAPHICS					
<b>Name</b>					
<b>Gender</b>	Male		<b>IC Number</b>		
	Female		<b>Age (years)</b>		
<b>Ethnic Group</b>	Malay		<b>Year of diagnosis of Asthma/ COPD</b>		
	Chinese				
	Indian				
	Others ( <i>please specify</i> ):		<b>Allergy/ ADR</b>		
			<b>Occupation</b>		
ASTHMA HISTORY			CONCURRENT DISEASES		
<b>Family history</b>	Yes		<b>Concurrent diseases</b>	Allergic Rhinitis	
	No			GERD	
<b>Possible Asthma Trigger Factors</b>	Respiratory Tract Infection			Eczema	
	Dust			Anxiety	
	Weather			Depression	
	Food/drink			PTB	
	Pets			Obstructive Sleep Apnea	
	Smoke			Others ( <i>please specify</i> ):	
	Others ( <i>please specify</i> ):				

LABORATORY MONITORING								
<i>(Record the data at each visit, if applicable)</i>								
Item	Visit/Date							
	1	2	3	4	5	6	7	8
Weight (kg)								
Height (cm)								
Smoking status 1 : Smoker 2 : Ex-smoker 3 : Second hand smoke 4 : Non-smoker								
Personal best PEFR (L/min)								
Expected PEFR (L/min)								
Current PEFR (L/min)								
FEV <sub>1</sub> (L)								
FVC (L)								
FEV <sub>1</sub> /FVC (%)								
FeNO (ppb)								
IgE (units/mL)								

**Appendix 5a: RMTAC Pharmacy Assessment Form (Adult)**

(To be kept in pharmacy)

i. For Asthma patient: to choose either **a) Asthma Control Test (ACT) form AND/OR b) Asthma Symptom Control form**

**a) Asthma Control Test (ACT) Age ≥ 12 years old**

<b>ASTHMA CONTROL TEST (ACT)</b> (Record the Total ACT Score at each visit)																		
Item									Visit/Date									
									1	2	3	4	5	6	7	8		
1. In the past <b>4 weeks</b> , how much of the time did your Asthma keep you from getting as much done at work, school or at home?																		
All of the time	<b>1</b>	Most of the time	<b>2</b>	Some of the time	<b>3</b>	A little of the time	<b>4</b>	None of the time	<b>5</b>									
2. During the past <b>4 weeks</b> , how often have you had shortness of breath?																		
More than once a day	<b>1</b>	Once a day	<b>2</b>	3 to 6 times a week	<b>3</b>	Once or twice a week	<b>4</b>	Not at all	<b>5</b>									
3. During the past <b>4 weeks</b> , how often did your Asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?																		
4 or more nights a week	<b>1</b>	2 to 3 nights a week	<b>2</b>	Once a week	<b>3</b>	Once or twice	<b>4</b>	Not at all	<b>5</b>									
4. During the past <b>4 weeks</b> , how often have you used your rescue inhaler or nebulizer medication (such as salbutamol/albuterol)?																		
3 or more times per day	<b>1</b>	1 to 2 times per day	<b>2</b>	2 to 3 times per week	<b>3</b>	Once a week or less	<b>4</b>	Not at all	<b>5</b>									
5. How would you rate your Asthma control during the past <b>4 weeks</b> ?																		
Not controlled at all	<b>1</b>	Poorly controlled	<b>2</b>	Somewhat controlled	<b>3</b>	Well controlled	<b>4</b>	Completely controlled	<b>5</b>									
<b>*ACT score indicator:</b> (25) Congratulations! (20 – 24) On Target; (≤ 19) Off Target					<b>*TOTAL SCORE</b>													

Adapted from Nathan R.A. et al. (2004). Development of the asthma control test: A survey for assessing asthma control. *J. Allergy Clin Immunol.* 113:59-65.

**b) Asthma Symptom Control ≥ 6 years old**

ASTHMA SYMPTOM CONTROL								
<i>[Record the Level of Asthma Symptom Control Scale at each visit. In the past 4 weeks, has the patient had ( Please (✓) for Yes; (X) for No)]</i>								
Item	Visit/Date							
	1	2	3	4	5	6	7	8
1. Daytime symptoms more than twice/week?								
2. Any night waking due to Asthma?								
3. Reliever needed* more than twice/week?								
4. Any activity limitation due to Asthma?								
<b>#Level of Asthma Symptom Control scale indicator:    #SCALE</b> <b>(1) Controlled: None of these items;</b> <b>(2) Partly Controlled: 1-2 of these items;</b> <b>(3) Uncontrolled: 3-4 of these items</b>								
RISK FACTORS FOR POOR ASTHMA OUTCOMES								
<ul style="list-style-type: none"> <li>• Assess risk factors at diagnosis and periodically, particularly for patients experiencing exacerbations.</li> <li>• Measure FEV<sub>1</sub> at start of treatment, after 3 – 6 months of controller treatment to record the patient's personal best lung function, then periodically for ongoing risk assessment.</li> </ul> <p><b>ASSESS PATIENT'S RISK FACTORS FOR :</b></p> <ul style="list-style-type: none"> <li>• Exacerbations</li> <li>• Developing fixed airflow limitation</li> <li>• Medication side-effects (systemic and local)</li> </ul>								

\*Excludes reliever taken before exercise

*Adapted from Global Initiative for Asthma (GINA): For Adult and Children Older Than 5 Years 2015 guidelines.*

**Appendix 5a: RMTAC Pharmacy Assessment Form (Adult)**

(To be kept in pharmacy)

ii. For COPD patient: to choose either **a) COPD Assessment Test (CAT) form AND/OR b) Modified Medical Research Council (mMRC) Dyspnea Scale form**

**a) COPD Assessment Test (CAT)**

COPD ASSESSMENT TEST (CAT)																				
(Record the Total CAT Score at each visit)																				
Item	Visit/Date																			
	1	2	3	4	5	6	7	8												
1. I never cough.	0	1	2	3	4	5	I cough all the time.													
2. I have no phlegm (mucus) in my chest at all.	0	1	2	3	4	5	My chest is completely full of phlegm (mucus).													
3. My chest does not feel tight at all.	0	1	2	3	4	5	My chest feels very tight.													
4. When I walk up a hill or one flight of stairs I am not breathless.	0	1	2	3	4	5	When I walk up a hill or one flight of stairs I am very breathless.													
5. I am not limited doing any activities at home.	0	1	2	3	4	5	I am very limited doing activities at home.													
6. I am confident leaving my home despite my lung condition.	0	1	2	3	4	5	I am not at all confident leaving my home because of my lung condition.													
7. I sleep soundly.	0	1	2	3	4	5	I don't sleep soundly because of my lung condition.													
8. I have lots of energy.	0	1	2	3	4	5	I have no energy at all.													
<b>*CAT score indicator :</b>								<b>*TOTAL SCORE</b>												
(<10) Low Impact; (10-20) Medium Impact;																				
(> 20) High Impact; (> 30) Very High Impact.																				

Adapted from [www.CATestonline.org/english/indexEN.htm](http://www.CATestonline.org/english/indexEN.htm).

**b) Modified Medical Research Council (mMRC) Dyspnea Scale**

MODIFIED MEDICAL RESEARCH COUNCIL (mMRC) DYSPNEA SCALE								
<i>(Record the grade at each visit)</i>								
Item	Grade	Visit/Date						
		1	2	3	4	5	6	7
1. I only get breathless with strenuous exercise.	0							
2. I get short of breath when hurrying on the level or walking up a slight hill.	1							
3. I walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking on my own pace on the level.	2							
4. I stop for breath after walking about 100 meters or after a few minutes on the level.	3							
5. I am too breathless to leave the house or I am breathless when dressing or undressing.	4							

*Adapted with permission from Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2015 guidelines.*



## Appendix 5a: RMTAC Pharmacy Assessment Form (Adult) (To be kept in pharmacy)

[\*Technique score rating: (6) Good; (4 – 5) Satisfactory; (0 – 3) Poor]

INHALER TECHNIQUE CHECKLIST (Indicate YES (1) or NO (0) if step was performed in proper sequence; if critical step (**) falls under NO (0), overall technique is poor)									
MDI	Visit	EASYPHALER®	Visit	MDI AND AEROCHAMBER®	Visit	MDI AND TUBE	Visit	MDI AND OPTICHAMBER®	Visit
1. Hold the inhaler in an upright position. Remove the mouthpiece cover. Shake inhaler in an up-down motion 3-5 times.	1 5	1. Remove the dust cap and shake easypHALER in an up-down motion 3-5 times.	1 5	1. Remove the mouthpiece cover of the MDI. <b>Aerochamber® with mouthpiece:</b> Remove the mouthpiece cover of the chamber.	1 5	1. Remove the mouthpiece cover of the MDI.	1 5	1. Remove the mouthpiece cover of the MDI and Optichamber®.	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
2. Exhale slowly and completely through your mouth, away from the mouthpiece. Remain standing or seated upright.	1 5	2. Hold the device in upright position.  Press easypHALER <b>ONCE</b> until a "CLICK" sound is heard.	1 5	2. Shake the MDI in an up-down motion 3-5 times, immediately before each use.	1 5	2. Attach the large end of the tube to the mouthpiece of the MDI and shake the MDI in an up-down motion 3-5 times before use.	1 5	2. Connect the MDI mouthpiece into the rubber-sealed end of Optichamber®. If mask is needed, connect mask to the Optichamber®.	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
3. Place the mouthpiece at the lips. Make sure lips cover the mouthpiece tightly while the head slightly tilted.	1 5	3. Breathe out completely, away from the mouthpiece.	1 5	3. Insert the MDI into the backpiece of the chamber.	1 5	3. Breathe out completely through your mouth, away from the mouthpiece.	1 5	3. Shake the MDI and Optichamber® in an up-down motion for 3-5 times.	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
4. Press the MDI canister <b>ONCE</b> and inhale slowly and deeply through the mouth**.	1 5	4. Place mouthpiece between lips. Make sure lips cover the mouthpiece tightly.  Inhale forcefully and deeply through the mouth**.	1 5	4. <b>Aerochamber® with mouthpiece:</b> Put mouthpiece into mouth and close lips around it to ensure an effective seal.  <b>OR</b> <b>Aerochamber® with mask:</b> Apply mask to face and ensure an effective seal, i.e. cover the nose and mouth. Ensure a good seal.  Press the MDI canister <b>ONCE</b> .	1 5	4. Place mouthpiece of the tube at the lips. Make sure lips cover the mouthpiece tightly.  Press the MDI canister <b>ONCE</b> .	1 5	4. <b>Optichamber® with mouthpiece:</b> Place mouthpiece at the lips. Make sure lips cover the mouthpiece tightly.  <b>OR</b> <b>Optichamber® with mask:</b> Apply mask to face i.e. cover nose and mouth. Ensure a good seal.  Press the MDI canister <b>ONCE</b> .	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
5. Hold breath for 4-10 seconds. Remove inhaler from mouth and exhale slowly.	1 5	5. Remove the inhaler from the mouth and hold breath for 5-10 seconds, and then breathe out slowly.	1 5	5. <b>Aerochamber® with mouthpiece:</b> Breathe out gently and press the MDI at the beginning of a slow inhalation.  Breathe in slowly and deeply through the mouth. Hold breath for 5-10 seconds, if possible. Otherwise, keep lips tight on the mouthpiece breathing normally 2-3 times through the chamber after the MDI is pressed**.  <b>OR</b> <b>Aerochamber® with mask:</b> Breathe out gently and press the MDI at the beginning of a slow inhalation as the Flow-Vu® IFI moves towards patient. Maintain seal for 5-6 breaths after the MDI is pressed**.	1 5	5. Inhale slowly and deeply through the mouth and hold breath for 4-10 seconds**.	1 5	5. <b>Optichamber® with mouthpiece:</b> Breathe in deeply through the mouth and hold breath for 8 seconds then remove the mouthpiece**.  <b>OR</b> <b>Optichamber® with mask:</b> Breathe normally for 3-6 breaths then remove the mask**.	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
6. Repeat steps 1-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1 5	6. Repeat steps 1-5 if more than one dose is required.	1 5	6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1 5	6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1 5	6. Repeat steps 3-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
<b>TOTAL</b>	1 5	<b>TOTAL</b>	1 5	<b>TOTAL</b>	1 5	<b>TOTAL</b>	1 5	<b>TOTAL</b>	1 5
	2 6		2 6		2 6		2 6		
	3 7		3 7		3 7		3 7		
	4 8		4 8		4 8		4 8		
<b>VISIT</b>	1	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	2	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	3	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	4	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	5	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	6	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	7	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	8	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor

Adapted and modified from Protocol Medication Therapy Adherence Clinic: Respiratory First Edition 2010 & Handling of Inhaler Devices A Practical Guide for Pharmacist First Edition 2010.

**Appendix 5a: RMTAC Pharmacy Assessment Form (Adult) (To be kept in pharmacy)**

[\*Technique score rating: (6) Good; (4 – 5) Satisfactory; (0 – 3) Poor]

INHALER TECHNIQUE CHECKLIST (Indicate YES (1) or NO (0) if step was performed in proper sequence; if critical step (**) falls under NO (0), overall technique is poor)															
TURBUHALER*		Visit	ACCUHALER*		Visit	HANDIHALER*		Visit	BREEZHALER*		Visit	RESPIMAT*		Visit	
1. Unscrew and lift the cover.	1	5	1. Place thumb on the thumb grip of Accuhaler* to slide open the cover until the "CLICK" sound is heard.	1	5	1. Open the dust cap by pressing the green piercing button. Pull the dust cap upwards, to expose the mouthpiece. Open the mouthpiece by pulling it upwards.	1	5	1. Pull off the cap. Hold the base of the inhaler firmly and tilt the mouthpiece. This opens the Breezhaler*.	1	5	1. Hold the RespiMAT* upright with the cap closed.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
2. Hold the Turbuhaler* upright. Turn the grip as far as it will go in one direction and turn it back again until the "CLICK" sound is heard.	1	5	2. Hold the Accuhaler* horizontally. Slide the lever as far as it will go, until another "CLICK" sound is heard.	1	5	2. Remove the capsule from the blister pack. Place the capsule in the centre of the chamber. Close the mouthpiece firmly until a "CLICK" sound is heard.	1	5	2. Remove one capsule from the blister and place it into the capsule chamber. Close the Breezhaler* until a "CLICK" sound is heard.	1	5	2. Turn the clear base in the direction of the red arrows on the label until it "CLICKS" (half a turn). Open the green cap until it snaps fully open.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
3. Breathe out completely, away from the mouthpiece.	1	5	3. Breathe out completely, away from the mouthpiece.	1	5	3. Hold the HandiHaler* device with the mouthpiece pointed upright. Press the green piercing button completely <b>ONCE</b> , before releasing it.	1	5	3. Hold the Breezhaler* upright with the mouthpiece pointing up. Pierce the capsule by firmly pressing together both side buttons at the same time until a "CLICK" sound is heard. Do this only <b>ONCE</b> . Release the side buttons fully.	1	5	3. Breathe out slowly and fully, and close lips around the end of the mouthpiece without covering the air vent. Point inhaler to the back of throat.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
4. Place mouthpiece gently between the lips. Make sure lips cover the mouthpiece tightly. Breathe in forcefully and deeply through the mouth**.	1	5	4. Close lips around the mouthpiece and breathe in forcefully and deeply through the mouth**.	1	5	4. Breathe out completely, away from the mouthpiece.	1	5	4. Breathe out fully, away from the mouthpiece.	1	5	4. While taking in a slow and deep breath through the mouth, press the dose release button and continue to breath in slowly and hold your breath for 10 seconds, or as long as comfortable**.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
5. Remove the Turbuhaler* from the mouth. Hold breath for 4-10 seconds (optional), and then breathe out slowly.	1	5	5. Remove the Accuhaler* from the mouth. Hold breath for 10 seconds or as long as possible, and then breathe out slowly.	1	5	5. Place the HandiHaler* horizontally to the mouth and close lips tightly over the mouthpiece. Breathe in slowly and deeply through the mouth at a rate sufficient to hear the <b>CAPSULE VIBRATES</b> . Remove device from the mouth and hold breath for 5-10 seconds** and then, resume normal breathing.	1	5	5. Place the mouthpiece in mouth and close lips firmly around it. Breathe in rapidly steadily through the mouth, until <b>WHIRRING</b> sound is heard. Hold breath for 5-10 seconds while taking the inhaler out from mouth** and then, breathe out slowly.	1	5	5. Take out the RespiMAT* from the mouth and resume normal breathing. Close the cap of the RespiMAT*.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
6. Repeat steps 2-5 if more than one dose is required.	1	5	6. Close the device by sliding the thumb grip back to the original position until a "CLICK" sound is heard.	1	5	6. Repeat steps 4-5 if needed. Open the mouthpiece and dispose the empty capsule into rubbish bin. Close the mouthpiece and dust cap for storage.	1	5	6. Repeat step 5 if needed to empty the capsule completely and dispose off the empty capsule.	1	5	6. Repeat steps 1-5, if more than one dose is required.	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5	
	2	6		2	6		2	6		2	6				
	3	7		3	7		3	7		3	7				
	4	8		4	8		4	8		4	8				
<b>VISIT</b>	1	*Good / Satisfactory / Poor		1	*Good / Satisfactory / Poor		1	*Good / Satisfactory / Poor		1	*Good / Satisfactory / Poor		1	*Good / Satisfactory / Poor	
	2	*Good / Satisfactory / Poor		2	*Good / Satisfactory / Poor		2	*Good / Satisfactory / Poor		2	*Good / Satisfactory / Poor		2	*Good / Satisfactory / Poor	
	3	*Good / Satisfactory / Poor		3	*Good / Satisfactory / Poor		3	*Good / Satisfactory / Poor		3	*Good / Satisfactory / Poor		3	*Good / Satisfactory / Poor	
	4	*Good / Satisfactory / Poor		4	*Good / Satisfactory / Poor		4	*Good / Satisfactory / Poor		4	*Good / Satisfactory / Poor		4	*Good / Satisfactory / Poor	
	5	*Good / Satisfactory / Poor		5	*Good / Satisfactory / Poor		5	*Good / Satisfactory / Poor		5	*Good / Satisfactory / Poor		5	*Good / Satisfactory / Poor	
	6	*Good / Satisfactory / Poor		6	*Good / Satisfactory / Poor		6	*Good / Satisfactory / Poor		6	*Good / Satisfactory / Poor		6	*Good / Satisfactory / Poor	
	7	*Good / Satisfactory / Poor		7	*Good / Satisfactory / Poor		7	*Good / Satisfactory / Poor		7	*Good / Satisfactory / Poor		7	*Good / Satisfactory / Poor	
	8	*Good / Satisfactory / Poor		8	*Good / Satisfactory / Poor		8	*Good / Satisfactory / Poor		8	*Good / Satisfactory / Poor		8	*Good / Satisfactory / Poor	

Adapted and modified from Protocol Medication Therapy Adherence Clinic : Respiratory First Edition 2010 & Handling of Inhaler Devices A Practical Guide for Pharmacist First Edition 2015.

**Appendix 5a: RMTAC Pharmacy Assessment Form (Adult)**

*(To be kept in pharmacy)*

DATE	PHARMACEUTICAL CARE ISSUES & INTERVENTION	OUTCOME	PHARMACIST SIGN & STAMP

## Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric)

(To be kept in pharmacy)

RMTAC PHARMACY ASSESSMENT FORM (PAEDIATRIC)					
PATIENT DEMOGRAPHICS					
<b>Name</b>					
<b>Gender</b>	Male		<b>IC Number</b>		
	Female		<b>Age (years)</b>		
<b>Ethnic Group</b>	Malay		<b>Year of diagnosis of Asthma/ COPD</b>		
	Chinese				
	Indian				
	Others ( <i>please specify</i> ):		<b>Allergy/ ADR</b>		
			<b>Occupation</b>		
ASTHMA HISTORY			CONCURRENT DISEASES		
<b>Family history</b>	Yes		<b>Concurrent diseases</b>	Allergic Rhinitis	
	No			GERD	
<b>Possible Asthma Trigger Factors</b>	Respiratory Tract Infection			Eczema	
	Dust			Anxiety	
	Weather			Depression	
	Food/drink			PTB	
	Pets			Obstructive Sleep Apnea	
	Smoke			Others ( <i>please specify</i> ):	
	Others ( <i>please specify</i> ):				

<b>LABORATORY MONITORING</b> <i>(Record the data at each visit, if applicable)</i>								
Item	Visit/Date							
	1	2	3	4	5	6	7	8
Weight (kg)								
Height (cm)								
Smoking status 1 : Smoker 2 : Ex-smoker 3 : Second hand smoke 4 : Non-smoker								
Personal best PEFR (L/min)								
Expected PEFR (L/min)								
Current PEFR (L/min)								
FEV <sub>1</sub> (L)								
FVC (L)								
FEV <sub>1</sub> /FVC (%)								
FeNO (ppb)								
IgE (units/mL)								

**Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric)** (To be kept in pharmacy)

- i. To choose either **a) Childhood Asthma Control Test C-ACT form OR b) Asthma Control Test (ACT) form AND/OR c) Asthma Symptom Control for ≤ 5 years old form OR d) Asthma Symptom Control ≥ 6 years old form**

**a) CHILDHOOD ASTHMA CONTROL TEST (C-ACT) for age 4 - 11 years old**

<b>CHILDHOOD ASTHMA CONTROL TEST (C-ACT)</b>											
(Record the Total C-ACT Score at each visit)											
Item	Visit/Date										
	1	2	3	4	5	6	7	8			
<i>Have your child complete these questions (1-4)</i>											
1. How is your Asthma today?											
Very bad	0	Bad	1	Good	2	Very good	3				
2. How much of a problem is your Asthma when you run, exercise or play sports?											
It's a big problem, I can't do what I want to do	0	It's a problem and I don't like it	1	It's a little problem but it's okay	2	It's not a problem	3				
3. Do you cough because of your Asthma?											
Yes, all of the time	0	Yes, most of the time	1	Yes, some of the time	2	No, none of the time	3				
4. Do you wake up during the night because of your Asthma?											
Yes, all of the time	0	Yes, most of the time	1	Yes, some of the time	2	No, none of the time	3				
<i>Please complete the following questions (5-7) on your own</i>											
5. During the <b>last 4 weeks</b> , on average, how many days per month did your child have any daytime Asthma symptoms?											
Not at all	5	1-3 days/month	4	4-10 days/month	3	11-18 days/month	2	19-24 days/month	1	Everyday	0
6. During the <b>last 4 weeks</b> , on average, how many days per month did your child wheeze during the day because of Asthma?											
Not at all	5	1-3 days/month	4	4-10 days/month	3	11-18 days/month	2	19-24 days/month	1	Everyday	0
7. During the <b>last 4 weeks</b> , on average, how many days per month did your child wake up during the night because of Asthma?											
Not at all	5	1-3 days/month	4	4-10 days/month	3	11-18 days/month	2	19-24 days/month	1	Everyday	0
<b>*C-ACT score indicator:</b> (20 – 27) May be under control; (19 or less) May not be controlled								<b>*TOTAL SCORE</b>			

Adapted from The GlaxoSmithKline Group of Companies 2005.

**b) ASTHMA CONTROL TEST (ACT) for age ≥ 12 years old**

<b>ASTHMA CONTROL TEST (ACT)</b> (Record the Total ACT Score at each visit)							<b>Visit/Date</b>							
<b>Item</b>							<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
							1. In the <b>past 4 weeks</b> , how much of the time did your Asthma keep you from getting as much done at work, school or at home?							
All of the time	<b>1</b>	Most of the time	<b>2</b>	Some of the time	<b>3</b>	A little of the time	<b>4</b>	None of the time	<b>5</b>					
2. During the <b>past 4 weeks</b> , how often have you had shortness of breath?														
More than once a day	<b>1</b>	Once a day	<b>2</b>	3 to 6 times a week	<b>3</b>	Once or twice a week	<b>4</b>	Not at all	<b>5</b>					
3. During the <b>past 4 weeks</b> , how often did your Asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?														
4 or more nights a week	<b>1</b>	2 to 3 nights a week	<b>2</b>	Once a week	<b>3</b>	Once or twice	<b>4</b>	Not at all	<b>5</b>					
4. During the <b>past 4 weeks</b> , how often have you used your rescue inhaler or nebulizer medication (such as salbutamol/albuterol)?														
3 or more times per day	<b>1</b>	1 to 2 times per day	<b>2</b>	2 to 3 times per week	<b>3</b>	Once a week or less	<b>4</b>	Not at all	<b>5</b>					
5. How would you rate your Asthma control during the <b>past 4 weeks</b> ?														
Not controlled at all	<b>1</b>	Poorly controlled	<b>2</b>	Somewhat controlled	<b>3</b>	Well controlled	<b>4</b>	Completely controlled	<b>5</b>					
<b>*ACT score indicator:</b>							<b>*TOTAL SCORE</b>							
<b>(25) Congratulations!;</b>														
<b>(20 – 24) On Target;</b>														
<b>(≤ 19) Off Target</b>														

*Adapted from Nathan R.A. et al. (2004). Development of the asthma control test: A survey for assessing asthma control. J. Allergy Clin Immunol. 113:59-65.*

**Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric)**

(To be kept in pharmacy)

**c) Asthma Symptom Control ≤ 5 years old**

ASTHMA SYMPTOM CONTROL								
<i>[Record the Level of Asthma Symptom Control Scale at each visit. In the past 4 weeks, has the child had (Please (√) for Yes; (X) for No)]</i>								
Item	Visit/Date							
	1	2	3	4	5	6	7	8
1. Daytime symptoms for more than few minutes, more than once a week?								
2. Any activity limitation due to Asthma? (runs/plays less than other children, tires easily during walks/ playing)								
3. Reliever needed* more than once a week?								
4. Any night waking or night coughing due to Asthma?								
<b>#Level of Asthma Symptom Control scale indicator:</b> <b>(1) Well Controlled: None of these items;</b> <b>(2) Partly Controlled: 1-2 of these items;</b> <b>(3) Uncontrolled: 3-4 of these items</b>	<b>#SCALE</b>							
RISK FACTORS FOR POOR ASTHMA OUTCOMES IN YOUNG CHILDREN								
<b>ASSESS CHILD’S RISK FACTORS FOR :</b> <ul style="list-style-type: none"> <li>• Flare ups (exacerbations) in the next few months</li> <li>• Fixed airflow limitation</li> <li>• Medication side-effects (systemic and local)</li> </ul>								

\*Excludes reliever taken before exercise

*Adapted from Global Initiative for Asthma (GINA): For Children 5 Years and Younger 2015 guidelines.*

**d) Asthma Symptom Control ≥ 6 years old**

<b>ASTHMA SYMPTOM CONTROL</b>								
<i>[Record the Level of Asthma Symptom Control Scale at each visit. In the past 4 weeks, has the patient had (Please (√) for Yes; (X) for No)]</i>								
Item	Visit/Date							
	1	2	3	4	5	6	7	8
1. Daytime symptoms more than twice/week?								
2. Any night waking due to Asthma?								
3. Reliever needed* more than twice/week?								
4. Any activity limitation due to Asthma?								
<b>#Level of Asthma Symptom Control scale indicator:</b> <b>(1) Controlled: None of these items;</b> <b>(2) Partly Controlled: 1-2 of these items;</b> <b>(3) Uncontrolled: 3-4 of these items</b>								
<b>RISK FACTORS FOR POOR ASTHMA OUTCOMES</b>								
<ul style="list-style-type: none"> <li>• Assess risk factors at diagnosis and periodically, particularly for patients experiencing exacerbations.</li> <li>• Measure FEV<sub>1</sub> at start of treatment, after 3 – 6 months of controller treatment to record the patient’s personal best lung function, then periodically for ongoing risk assessment.</li> </ul> <p><b>ASSESS PATIENT’S RISK FACTORS FOR:</b></p> <ul style="list-style-type: none"> <li>• Exacerbations;</li> <li>• Developing fixed airflow limitation;</li> <li>• Medication side-effects (systemic and local).</li> </ul>								

\*Excludes reliever taken before exercise

*Adapted from Global Initiative for Asthma (GINA): For Adult and Children Older Than 5 Years 2015 guidelines*



## Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric) (To be kept in pharmacy)

[\*Technique score rating: (6) Good; (4 – 5) Satisfactory; (0 – 3) Poor]

INHALER TECHNIQUE CHECKLIST (Indicate YES (1) or NO (0) if step was performed in proper sequence; if critical step (**) falls under NO (0), overall technique is poor)							
MDI	Visit	MDI AND AEROCAMBER*	Visit	MDI AND TUBE	Visit	MDI AND OPTICAMBER*	Visit
1. Hold the inhaler in an upright position. Remove the mouthpiece cover. Shake inhaler in an up-down motion 3-5 times.	1	1. Remove the mouthpiece cover of the MDI.  <b>Aerochamber* with mouthpiece:</b> Remove the mouthpiece cover of the chamber.	1	1. Remove the mouthpiece cover of the MDI.	1	1. Remove the mouthpiece cover of the MDI and Optichamber*.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
2. Exhale slowly and completely through your mouth, away from the mouthpiece. Remain standing or seated upright.	1	2. Shake the MDI in an up-down motion 3-5 times, immediately before each use.	1	2. Attach the large end of the tube to the mouthpiece of the MDI and shake the MDI in an up-down motion 3-5 times before use.	1	2. Connect the MDI mouthpiece into the rubber-sealed end of Optichamber*. If mask is needed, connect mask to the Optichamber*.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
3. Place the mouthpiece at the lips. Make sure lips cover the mouthpiece tightly while the head slightly tilted.	1	3. Insert the MDI into the backpiece of the chamber.	1	3. Breathe out completely through your mouth, away from the mouthpiece.	1	3. Shake the MDI and Optichamber* in an up-down motion for 3-5 times.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
4. Press the MDI canister ONCE and inhale slowly and deeply through the mouth**.	1	4. <b>Aerochamber* with mouthpiece:</b> Put mouthpiece into mouth and close lips around it to ensure an effective seal.  <b>OR</b> <b>Aerochamber* with mask:</b> Apply mask to face and ensure an effective seal, i.e. cover the nose and mouth. Ensure a good seal.  Press the MDI canister ONCE.	1	4. Place mouthpiece of the tube at the lips. Make sure lips cover the mouthpiece tightly.  Press the MDI canister ONCE.	1	4. <b>Optichamber* with mouthpiece:</b> Place mouthpiece at the lips. Make sure lips cover the mouthpiece tightly.  <b>OR</b> <b>Optichamber* with mask:</b> Apply mask to face i.e. cover the nose and mouth. Ensure a good seal.  Press the MDI canister ONCE.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
5. Hold breath for 4-10 seconds. Remove inhaler from mouth and exhale slowly.	1	5. <b>Aerochamber* with mouthpiece:</b> Breathe out gently and press the MDI at the beginning of a slow inhalation.  Breathe in slowly and deeply through the mouth. Hold breath for 5-10 seconds, if possible. Otherwise, keep lips tight on the mouthpiece breathing normally 2-3 times through the chamber after the MDI is pressed**.  <b>OR</b> <b>Aerochamber* with mask :</b> Breathe out gently and press the MDI at the beginning of a slow inhalation as the Flow-Vu® IFTI moves towards patient. Maintain seal for 5-6 breaths after the MDI is pressed*.	1	5. Inhale slowly and deeply through the mouth and hold breath for 4-10 seconds**.	1	5. <b>Optichamber* with mouthpiece:</b> Breathe in deeply through the mouth and hold breath for 8 seconds then remove the mouthpiece**.  <b>OR</b> <b>Optichamber* with mask</b> Breathe normally for 3-6 breaths then remove the mask**.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
6. Repeat steps 1-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1	6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1	6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1	6. Repeat steps 3-5 if more than one dose is required. Wait 30-60 seconds before next puff.	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
<b>TOTAL</b>	1	<b>TOTAL</b>	1	<b>TOTAL</b>	1	<b>TOTAL</b>	1
	2		2		2		2
	3		3		3		3
	4		4		4		4
<b>VISIT</b>	1	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	2	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	3	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	4	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	5	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	6	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	7	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor
	8	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor	*Good / Satisfactory / Poor

Adapted and modified from Protocol Medication Therapy Adherence Clinic: Respiratory First Edition 2010 & Handling of Inhaler Devices A Practical Guide for Pharmacists First Edition 2010

## Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric)

(To be kept in pharmacy)

[\*Technique score rating: (6) Good; (4 – 5) Satisfactory; (0 – 3) Poor]

INHALER TECHNIQUE CHECKLIST												
<i>(Indicate YES (1) or NO (0) if step was performed in proper sequence; if critical step (**) falls under NO (0), overall technique is poor)</i>												
TURBUHALER®		Visit		ACCUHALER®		Visit		EASYHALER®		Visit		
1. Unscrew and lift the cover.	1	5	1. Place thumb on the thumb grip of Accuhaler® to slide open the cover until the “CLICK” sound is heard.	1	5	1. Remove the dust cap and shake easyhaler in an up-down motion 3-5 times.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
2. Hold the Turbuhaler® upright. Turn the grip as far as it will go in one direction and turn it back again until the “CLICK” sound is heard.	1	5	2. Hold the Accuhaler® horizontally. Slide the lever as far as it will go until another “CLICK” sound is heard.	1	5	2. Hold the device in upright position. Press easyhaler <b>ONCE</b> until a “CLICK” sound is heard.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
3. Breathe out completely, away from the mouthpiece.	1	5	3. Breathe out completely, away from the mouthpiece.	1	5	3. Breathe out completely, away from the mouthpiece.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
4. Place mouthpiece gently between the lips. Make sure lips cover the mouthpiece tightly. Breathe in forcefully and deeply through the mouth**.	1	5	4. Close lips around the mouthpiece and breathe in forcefully and deeply through the mouth**.	1	5	4. Place mouthpiece between lips. Make sure lips cover the mouthpiece tightly. Inhale forcefully and deeply through the mouth**.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
5. Remove the Turbuhaler® from the mouth. Hold breath for 4-10 seconds (optional), and then breathe out slowly.	1	5	5. Remove the Accuhaler® from the mouth. Hold breath for 10 seconds or as long as possible, and then breathe out slowly.	1	5	5. Remove the inhaler from the mouth and hold breath for 5-10 seconds, and then breathe out slowly.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
6. Repeat steps 2-5 if more than one dose is required.	1	5	6. Close the device by sliding the thumb grip back to the original position until a “CLICK” sound is heard.	1	5	6. Repeat steps 1-5 if more than one dose is required.	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5	<b>TOTAL</b>	1	5				
	2	6		2	6		2	6				
	3	7		3	7		3	7				
	4	8		4	8		4	8				
<b>VISIT</b>	1	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	2	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	3	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	4	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	5	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	6	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	7	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						
	8	<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>		<b>*Good / Satisfactory / Poor</b>						

Adapted and modified from Protocol Medication Therapy Adherence Clinic : Respiratory First Edition 2010 & Handling of Inhaler Devices A Practical Guide for Pharmacist First Edition 2010

**Appendix 5b: RMTAC Pharmacy Assessment Form (Paediatric)**

*(To be kept in pharmacy)*

DATE	PHARMACEUTICAL CARE ISSUES & INTERVENTION	OUTCOME	PHARMACIST SIGN & STAMP

**Appendix 6a: Respiratory Function Table (Adult)**

**RESPIRATORY FUNCTION TABLE  
(PREDICTED MEAN VALUES FOR HEALTHY ADULTS)**

**A) Male (Litre/minute)**

AGE (years) \ HEIGHT (cm)	145	150	155	160	165	170	175	180	185	190	195
12	304	326	349	372	396	422	447	474	501	-	-
14	330	352	375	398	423	448	474	500	527	-	-
16	362	384	407	431	455	480	506	533	560	-	-
18	401	423	446	470	494	519	545	571	599	-	-
20	319	340	361	383	406	430	454	479	505	531	558
25	308	329	351	373	396	419	444	469	495	521	548
30	297	318	339	362	385	408	433	458	483	510	537
35	285	306	327	350	373	396	420	445	471	498	525
40	272	293	314	337	360	383	407	432	458	485	512
45	258	279	301	323	346	369	394	419	444	471	498
50	244	264	286	308	331	355	379	404	430	456	483
55	228	249	270	293	315	339	363	388	414	441	468
60	212	232	254	276	299	323	347	372	398	424	451
65	194	215	237	259	282	305	330	355	380	407	434
70	176	197	219	241	264	287	312	337	362	389	416
75	157	178	200	222	245	268	293	318	343	370	397
80	137	158	180	202	225	248	273	298	324	350	377

**B) Female (Litre/minute)**

AGE (years) \ HEIGHT (cm)	145	150	155	160	165	170	175	180	185	190	195
12	309	325	342	360	378	397	416	436	456	-	-
14	329	346	363	380	398	417	436	456	477	-	-
16	341	358	375	392	411	429	449	468	489	-	-
18	345	362	379	396	415	433	453	472	493	-	-
20	270	287	305	323	341	361	380	401	422	443	465
25	264	281	298	316	335	354	374	395	416	437	459
30	257	274	291	309	328	347	367	388	408	430	452
35	249	266	283	301	320	339	359	379	400	422	444
40	240	257	274	292	311	330	350	370	391	413	435
45	230	246	264	282	301	320	340	360	381	403	425
50	218	235	253	271	290	309	329	349	370	392	414
55	206	223	241	259	278	297	317	337	358	380	402
60	194	210	228	246	265	284	304	324	345	367	389
65	180	197	214	232	251	270	290	310	331	353	375
70	165	182	199	217	236	255	275	295	316	338	360
75	149	166	183	201	220	239	259	280	301	322	344
80	132	149	166	185	203	223	242	263	284	305	327

*Adapted from Justin B. et al. (2006). Asthma Management Handbook 2006. National Asthma Council Australia.*

## Appendix 6b: Respiratory Function Table (Paediatric)

### MEAN PEF AND FEV<sub>1</sub> OF NORMAL MALAYSIAN CHILDREN

HEIGHT (cm)	PEAK EXPIRATORY FLOW RATE (PEFR) (L/min)		FORCE EXPIRATORY VOLUME IN 1 SECOND (FEV <sub>1</sub> ) (L)	
	BOYS <sup>a</sup>	GIRLS <sup>b</sup>	BOYS <sup>c</sup>	GIRLS <sup>d</sup>
110	180	165	0.94	0.78
112	187	172	0.98	0.83
114	194	179	1.03	0.87
116	201	186	1.08	0.92
118	209	194	1.13	0.97
120	216	201	1.18	1.02
122	224	209	1.23	1.07
124	232	217	1.28	1.13
126	240	225	1.33	1.18
128	249	234	1.39	1.24
130	257	242	1.44	1.30
132	266	251	1.50	1.36
134	274	259	1.56	1.43
136	283	268	1.62	1.49
138	292	277	1.68	1.56
140	301	287	1.75	1.63
142	311	296	1.81	1.70
144	320	306	1.88	1.78
146	330	316	1.95	1.86
148	340	326	2.02	1.93
150	350	336	2.09	2.01
152	360	346	2.16	2.10
154	370	357	2.24	2.18
156	380	367	2.31	2.27
158	391	378	2.39	2.36
160	402	389	2.47	2.45

a:  $7.33 \times 10^{-3} H^{2.15}$

b:  $3.49 \times 10^{-3} H^{2.29}$

c:  $5.0753 \times 10^{-6} H^{2.5802}$

d:  $4.5497 \times 10^{-7} H^{3.0542}$

Adapted from Azizi B.H.O. & Henry R.L. (1991). Peak expiratory flow rate of Malaysian children Med J Malaysia; 46:82-87 and Azizi B.H.O. & Henry R.L. (1994). Ethnic differences in normal spirometric lung function of Malaysian children. Respir Med; 88:349-356.

## Appendix 7a: Guideline on Writing in Patient's Case Note

**Please write in patient's case note as below:**

1. Date and time
2. MTAC visit number
3. Current medications
4. C-ACT/ACT/CAT score (compare with previous visit)
5. Exacerbation history
6. Personal best/Expected PEFr and current PEFr reading (compare with previous visit with date)
7. Trigger factors (Asthma patients) or risk factors (COPD patients)
8. Compliance evaluation (corrective actions if necessary)
9. Inhaler/device technique evaluation (corrective actions if necessary)
10. Suggestion on Asthma/COPD management and plan for next follow up
11. Signature and stamp

### Example of writing in patient's case note

5.3.2014 S/B Pharmacist: RMTAC visit number 2

- 9.30 a.m Patient's current medications:-
- MDI Salbutamol 200mcg PRN
  - Seretide Accuhaler 50/250mcg 1 puff BD
  - T. Theophylline SR 250mg ON

ACT score: 21/25 today vs. 15/25 (2.10.13)

Exacerbation history: No exacerbation for the past 1 year

Personal best PEFr: 294 L/min

PEFr: 250 L/min (85% of best PEFr) vs. 245 L/min (83% of best PEFr on 2.10.13)

Trigger factors: Dust, URTI

Compliance: 7.75 (medium adherence)

Intervention: Educate patient with care giver. Reassessed and corrected patient's technique – techniques of MDI and accuhaler after second attempt improved from poor to satisfactory.

Suggestion:

1. Continue current treatment as Asthma control improved despite satisfactory accuhaler technique.
2. Reassess technique after one month (5.4.14).

Thank you

.....  
Pharmacist Signature & Stamp

**Appendix 7b: RMTAC Patient’s Progress Note (Adult)**

(To be kept in patient’s case note)

Date: .....

RMTAC Visit: .....

**RMTAC PATIENT’S PROGRESS NOTE (ADULT)**

PATIENT DEMOGRAPHICS						
<b>Name</b>				<b>Diagnosis</b>	Asthma	
<b>Age (years)</b>		<b>Gender</b>	Male / Female		COPD	
<b>Smoking status</b>	<ul style="list-style-type: none"> <li>• Ex-smoker: Quit for ..... days/months/years</li> <li>• No</li> <li>• Yes: ..... sticks/day</li> <li>• Second hand smoke</li> </ul>					
<b>Allergy</b>	<ul style="list-style-type: none"> <li>• NKDA / No known food allergy</li> <li>• Yes (<i>please specify</i>)</li> </ul>					

*\*Choose either one (PEFR or Spirometry readings)*

PEFR (L/min)			SPIROMETRY READINGS			INHALER TECHNIQUE	
1	Expected		FVC		% pred.	<b>MDI</b>	
2	Personal best		FEV <sub>1</sub>		% pred.	<b>Turbuhaler</b>	
3	Previous		FEV <sub>1</sub> /FVC		% meas.	<b>HandiHaler</b>	
Best	% =		Interpretation: GOLD 1 / 2 / 3 / 4			<b>Accuhaler</b>	
						<b>MDI + Spacer</b>	
						<b>Others</b>	

*\*Choose either one (ACT or CAT)*

ACT score: <input type="text"/> / 25 (Previous: <input type="text"/> )			CAT score: <input type="text"/> / 40 (Previous: <input type="text"/> )		
Score	Indicate		Score	Impact level	
25	Congratulations!		>30	Very high	
20-24	On Target		>20	High	
≤19	Off Target		10-20	Medium	
			<10	Low	

CURRENT MEDICATIONS				COMPLIANCE	
<b>1</b>		<b>7</b>		(8) High adherence	
<b>2</b>		<b>8</b>		(6 to <8) Medium adherence	
<b>3</b>		<b>9</b>		(<6) Low adherence	
<b>4</b>		<b>10</b>			
<b>5</b>		<b>11</b>			
<b>6</b>		<b>12</b>			

PHARMACIST NOTES	
Exacerbation History	Last exacerbation date: Number of exacerbation for last 12 months:
Vaccination Date	Influenza: Pneumococcal:
Issues & Intervention	
Suggestion	

Pharmacist's Stamp & Signature: .....

**Appendix 7c: RMTAC Patient's Progress Note (Paediatric)**

(To be kept in patient's case note)

Date: .....

RMTAC Visit: .....

**RMTAC PATIENT'S PROGRESS NOTE (PAEDIATRIC)**

PATIENT DEMOGRAPHICS						
<b>Name</b>				<b>Diagnosis</b>	Asthma	
					Allergic rhinitis	
<b>Age (years)</b>		<b>Gender</b>	Male/Female		Eczema	
					Others:	
<b>Smoking status</b>	<ul style="list-style-type: none"> <li>• Ex-smoker: Quit for ..... days/months/years</li> <li>• No</li> <li>• Yes: _____ sticks/day</li> <li>• Second hand smoke</li> </ul>					
<b>Allergy</b>	<ul style="list-style-type: none"> <li>• NKDA / No known food allergy</li> <li>• Yes (<i>please specify</i>)</li> </ul>					

\*Choose either one (PEFR or Spirometry readings)

PEFR READINGS (L/min)		SPIROMETRY READINGS		CHILDHOOD ASTHMA CONTROL TEST (C-ACT)	
1	Expected	FVC	% pred.	<b>C-ACT score: / 27</b>	
2	Personal best	FEV <sub>1</sub>	% pred.	<b>(Previous C-ACT: /27)</b>	
3	Previous	FEV <sub>1</sub> /FVC	% meas.	≥ 20	Controlled
Best	% =			≤ 19	Uncontrolled

CURRENT MEDICATIONS			
1		4	
2		5	
3		6	

INHALER TECHNIQUE RATING			COMPLIANCE		
<b>MDI</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	(8) High adherence	
<b>Turbohaler</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	(6 to <8) Medium adherence	
<b>Accuhaler</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	(6 to <8) Medium adherence	
<b>Easyhaler</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	(6 to <8) Medium adherence	
<b>MDI + Spacer</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	<6) Low adherence	
<b>Others:</b>	<input type="checkbox"/> (6) Good	<input type="checkbox"/> (4-5) Satisfactory	<input type="checkbox"/> (0-3) Poor	<6) Low adherence	

<b>PHARMACIST NOTES</b>	
Exacerbation History	Last exacerbation date: Number of exacerbation for last 12 months:
Issues & Intervention	
Suggestion	

Pharmacist's Stamp & Signature: .....

## Appendix 7c : RMTAC Patient's Progress Note (Paediatric)

(To be kept in patient's case note) (to be used if applicable)

B = before counselling A = after counselling

INHALER TECHNIQUE CHECKLIST (Indicate YES (1) or NO (0) if step was performed in proper sequence; if critical step (**) fails under NO (0), overall technique is poor)											
MDI	B	A	MDI AND AEROCHAMBER*	B	A	MDI AND TUBE	B	A	MDI AND OPTICHAMBER*	B	A
	1. Hold the inhaler in an upright position. Remove the mouthpiece cover. Shake inhaler in an up-down motion 3-5 times.				1. Remove the mouthpiece cover of the MDI. <b>Aerochamber* with mouthpiece:</b> Remove the mouthpiece cover of the chamber.					1. Remove the mouthpiece cover of the MDI.	
2. Exhale slowly and completely through your mouth, away from the mouthpiece. Remain standing or seated upright.			2. Shake the MDI in an up-down motion 3-5 times, immediately before each use.			2. Attach the large end of the tube to the mouthpiece of the MDI and shake the MDI in an up-down motion 3-5 times before use.			2. Connect the MDI mouthpiece into the rubber-sealed end of Optichamber*. If mask is needed, connect mask to the Optichamber*.		
3. Place the mouthpiece at the lips. Make sure lips cover the mouthpiece tightly while the head slightly tilted.			3. Insert the MDI into the backpiece of the chamber.			3. Breathe out completely through your mouth, away from the mouthpiece.			3. Shake the MDI and Optichamber* in an up-down motion for 3-5 times		
4. Press the MDI canister <b>ONCE</b> and inhale slowly and deeply through the mouth**.			4. <b>Aerochamber* with mouthpiece:</b> Put mouthpiece into mouth and close lips around it to ensure an effective seal. <b>OR</b> <b>Aerochamber* with mask:</b> Apply mask to face and ensure an effective seal, i.e. cover the nose and mouth. Ensure a good seal. Press the MDI canister <b>ONCE</b> .			4. Place mouthpiece of the tube at the lips. Make sure lips cover the mouthpiece tightly. Press the MDI canister <b>ONCE</b> .			4. <b>Optichamber* with mouthpiece:</b> Place mouthpiece at the lips. Make sure lips cover the mouthpiece tightly. <b>OR</b> <b>Optichamber* with mask:</b> Apply mask to face i.e. cover nose and mouth. Ensure a good seal. Press the MDI canister <b>ONCE</b> .		
5. Hold breath for 4-10 seconds. Remove inhaler from mouth and exhale slowly.			5. <b>Aerochamber* with mouthpiece:</b> Breathe out gently and press the MDI at the beginning of a slow inhalation.  Breathe in slowly and deeply through the mouth. Hold breath for 5-10 seconds, if possible. Otherwise, keep lips tight on the mouthpiece breathing normally 2-3 times through the chamber after the MDI is pressed**. <b>OR</b> <b>Aerochamber* with mask:</b> Breathe out gently and press the MDI at the beginning of a slow inhalation as the Flow-Vu® IFI moves towards patient. Maintain seal for 5-6 breaths after the MDI is pressed**.			5. Inhale slowly and deeply through the mouth and hold breath for 4-10 seconds**.			5. <b>Optichamber* with mouthpiece:</b> Breathe in deeply through the mouth and hold breath for 8 seconds then remove the mouthpiece**. <b>OR</b> <b>Optichamber* with mask:</b> Breathe normally for 3-6 breaths then remove the mask**.		
6. Repeat steps 1-5 if more than one dose is required. Wait 30-60 seconds before next puff.			6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.			6. Repeat steps 2-5 if more than one dose is required. Wait 30-60 seconds before next puff.			6. Repeat steps 3-5 if more than one dose is required. Wait 30-60 seconds before next puff.		
<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>			<b>TOTAL</b>		
<b>B</b>	<b>*Good / Satisfactory / Poor</b>		<b>B</b>	<b>*Good / Satisfactory / Poor</b>		<b>B</b>	<b>*Good / Satisfactory / Poor</b>		<b>B</b>	<b>*Good / Satisfactory / Poor</b>	
<b>A</b>	<b>*Good / Satisfactory / Poor</b>		<b>A</b>	<b>*Good / Satisfactory / Poor</b>		<b>A</b>	<b>*Good / Satisfactory / Poor</b>		<b>A</b>	<b>*Good / Satisfactory / Poor</b>	

Adapted and modified from Protocol Medication Therapy Adherence Clinic: Respiratory First Edition 2010 & Handling of Inhaler Devices A Practical Guide for Pharmacist First Edition 2010

## Appendix 7c: RMTAC Patient's Progress Note (Paediatric)

(To be kept in patient's case note) (to be used if applicable)

B = before counselling A = after counselling

INHALER TECHNIQUE CHECKLIST											
<i>(Indicate YES (1) or NO (0) if step was performed in proper sequence. If critical step (***) falls under NO (0), overall technique is poor)</i>											
TURBUHALER®		B	A	ACCUHALER®		B	A	EASYHALER®		B	A
1. Unscrew and lift the cover.				1. Place thumb on the thumb grip of Accuhaler® to slide open the cover until the "CLICK" sound is heard.				1. Remove the dust cap and shake easyhaler in an up-down motion 3-5 times.			
2. Hold the Turbuhaler® upright. Turn the grip as far as it will go in one direction and turn it back again until the "CLICK" sound is heard.				2. Hold the Accuhaler® horizontally. Slide the lever as far as it will go until another "CLICK" sound is heard.				2. Hold the device in upright position. Press easyhaler <b>ONCE</b> until a "CLICK" sound is heard.			
3. Breathe out completely, away from the mouthpiece.				3. Breathe out completely, away from the mouthpiece.				3. Breathe out completely, away from the mouthpiece.			
4. Place mouthpiece gently between the lips. Make sure lips cover the mouthpiece tightly. Breathe in forcefully and deeply through the mouthpiece**.				4. Close lips around the mouthpiece and breathe in forcefully and deeply through the mouth**.				4. Place mouthpiece between lips. Make sure lips cover the mouthpiece tightly. Inhale forcefully and deeply through the mouth**.			
5. Remove the Turbuhaler® from the mouth. Hold breath for 4-10 seconds (optional), and then breathe out slowly.				5. Remove the Accuhaler® from the mouth. Hold breath for 10 seconds or as long as possible, and then breathe out slowly.				5. Remove the inhaler from the mouth and hold breath for 5-10 seconds, and then breathe out slowly.			
6. Repeat steps 2-5 if more than one dose is required.				6. Close the device by sliding the thumb grip back to the original position until a "CLICK" sound is heard.				6. Repeat steps 1-5 if more than one dose is required.			
<b>TOTAL</b>				<b>TOTAL</b>				<b>TOTAL</b>			
<b>B</b>	<b>*Good / Satisfactory / Poor</b>		<b>B</b>	<b>*Good / Satisfactory / Poor</b>		<b>B</b>	<b>*Good / Satisfactory / Poor</b>				
<b>A</b>	<b>*Good / Satisfactory / Poor</b>		<b>A</b>	<b>*Good / Satisfactory / Poor</b>		<b>A</b>	<b>*Good / Satisfactory / Poor</b>				

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## NOTES