

香港兒童醫院 - 初生嬰兒篩查化驗室
乾血標本採集方法

Hong Kong Children's Hospital – Newborn Screening Laboratory
Instructions for Collection of Dried Blood Spots

1. 請準備乾血標本採集卡及一般抽血用品。切勿觸摸採集卡上圓點。

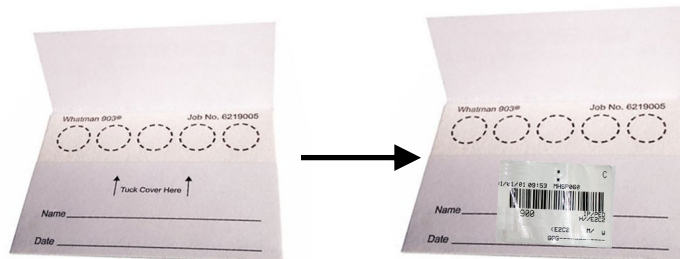
Prepare the dried blood spots collection card and blood collection accessories. Do not touch the circles.

2. 樣本於病人出現代謝失調徵狀時採樣最具代表性；否則標本最好於餐前或至少餐後兩小時採樣。至於初生嬰兒，則須在出生後及吃奶後最少 24 小時採集。

Critical samples collected during metabolic decompensation or symptomatic phase are usually more informative. Otherwise, blood samples should be collected preferably before meal or 2 hours after meal and at least 24 hours after birth for newborns with normal commencement of milk feeding.

3. 在採集卡上貼上病人的 GUM 標籤。

Stick the GUM label of the patient on the DBS card.



4. **A. 手背採集：**確保手背暖和，血液循環良好。用酒精棉花擦拭手背，待乾透後，在靜脈位置刺入消毒針頭。待一滴血形成足夠份量，**直接**滴在卡紙一面，確保血液滴滿整個圓點，以及滲透卡紙背面。重複直至所有圓圈填滿。

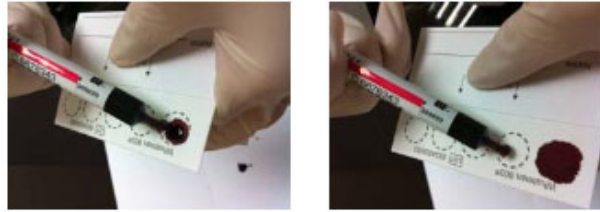
A. From Back of Hand. Ensure the hand is warm with good circulation. Swab the hand with alcohol pad and allow air-dry. Make the venipuncture with a sterile needle. Allow a drop of blood to form that will be large enough to fill the circle. Collect the blood on one side of the card **directly**. Make sure that the blood fills the circle completely and saturates the cards. Repeat to fill all circles one by one



B. 針筒採集：如果有其他標本同時採集，用針筒抽取血液後，移除針咀，把血液**直接**滴在卡紙一面，重複直至所有圓圈填滿，確保血液滲透卡紙背面，再繼續填滿其他標本試管。

B. Syringe. If other specimens are to be collected at the same time, collect the blood with a

syringe. Remove the needle and collect the blood on one side of the card **directly**. Repeat to fill all circles one by one. Make sure that the blood fills the circle completely and saturates the card. Continue to fill other specimen tubes.



C. 腳板採集：確保腳板暖和，血液循環良好。用酒精棉花擦拭腳板，待乾透後，在下圖所示虛線位置用消毒刺針刺出不深於兩毫米的針口。用消毒紗布輕輕抹走第一滴血。切勿用力擠壓，待下一滴血形成足夠份量，**直接**滴在卡紙一面，確保血液滴滿整個圓圈，以及滲透卡紙背面。重複直至所有圓圈填滿。

C. Heelprick. Ensure the heel is warm with good circulation. Swab the heel with alcohol pad and allow air-dry. Within the shaded area as shown below, make the puncture with a sterile lancet to a depth not greater than 2 mm. Gently wipe away the first drop of blood with sterile gauze. Do not squeeze the foot. Allow a drop of blood to form that will be large enough to fill the circle. Collect the blood on one side of the card **directly**. Make sure that the blood fills the circle completely and saturates the paper. Repeat to fill all circles one by one.



5. 將完成的採集卡**平放**陰乾至少三個小時。避免堆疊、接觸其他表面、陽光直射或直接加熱。將**完全乾透**的採集卡放入樣本膠袋，送往香港兒童醫院 A 座 7 樓初生嬰兒篩查化驗室。
Place the DBS card horizontally and allow air-dry for at least three hours. Avoid stacking, touching other surfaces, direct sunlight or direct heating. Put the dried DBS card into a specimen bag and send to Newborn Screening Laboratory, 7/F, Tower A, Hong Kong Children's Hospital.



Examples of valid and invalid specimen:

Valid specimens:



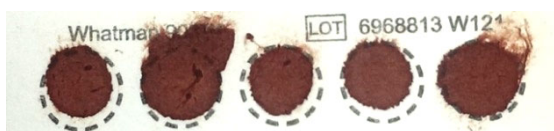
(both sides of the spot should look the same)

Invalid specimens:

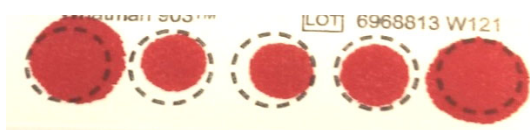
(1) Specimen quantity insufficient for testing



(2) Specimen appears scratched or abraded



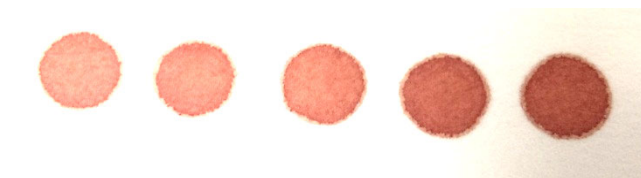
(3) Specimen not dried before mailing



(4) Specimen appears diluted, discolored or contaminated




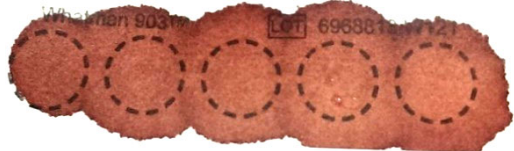



(5) Specimen exhibits serum rings



(6) Specimen appears layered



(7) Specimen appears clotted


<p>(8) Specimen appears super saturated</p> 
<p>(9) Specimen diffuses to the cover of the dried blood spot card</p> 
<p>(10) No blood</p> 
<p>(11) Specimen appears multispotted</p> 

Causes of invalid specimen:

Examples of invalid samples	Causes/ 原因
1. Specimen quantity insufficient for testing	<ul style="list-style-type: none"> ● Too early removal of card from blood 過早將採集卡移開
2. Specimen appears scratched or abraded	<ul style="list-style-type: none"> ● Damage during collection using capillary tube 以細管採集時刮損
3. Specimen not dried before mailing	<ul style="list-style-type: none"> ● Insufficient or inappropriate drying 採集卡未乾透，或非自然陰乾
4. Specimen appears diluted, discolored or contaminated	<ul style="list-style-type: none"> ● Contamination by hand or glove etc. 手或手套之類污染 ● Direct heating or sunlight exposure

	<p>直接烘乾或曬乾採集卡</p> <ul style="list-style-type: none"> ● Excessive squeezing surrounding the puncture site or alcohol contamination 用力擠壓針口或受酒精污染
5. Specimen exhibits serum rings	<ul style="list-style-type: none"> ● Excessive squeezing surrounding the puncture site or alcohol contamination 用力擠壓針口或受酒精污染 ● Contamination by hand or glove etc. 手或手套之類污染 ● Insufficient or inappropriate drying 採集卡未乾透，或非自然陰乾
6. Specimen appears layered	<ul style="list-style-type: none"> ● Applying blood onto both sides of card 在採集卡兩面反複滴血 ● Repeatedly applying blood to same position 同一位置重複滴血
7. Specimen appears clotted	<ul style="list-style-type: none"> ● Applying blood onto both sides of card 在採集卡兩面反複滴血 ● Repeatedly applying blood to same position 同一位置重複滴血
8. Specimen appears super saturated	<ul style="list-style-type: none"> ● Applying blood onto both sides of card 在採集卡兩面反複滴血 ● Repeatedly applying blood to same position 同一位置重複滴血
9. Specimen diffuses to the cover of the dried blood spot card	<ul style="list-style-type: none"> ● The flap of the cover overlap with the surface of sampling card during sample collection 採血時卡蓋疊著採集卡 ● Insufficient or inappropriate drying 採集卡未乾透，或非自然陰乾
10. No Blood	<ul style="list-style-type: none"> ● Failure to collect blood 取血失敗
11. Specimen appears multispotted	<ul style="list-style-type: none"> ● Expel the blood from capillary tube in multiple action. 利用採血幼管重複滴血