



Time to Join Antibiotic Stewardship

Boditech **ichroma™ PCT Plus**

POC solution for using antibiotic in pediatric
And other biomarkers for children health care

Find out more on www.boditech.co.kr

The Challenge

Fever is one of the most frequent reasons for pediatric emergency consultations and requires special attention. In the group the source of the febrile syndrome is often unidentified, and it is not always possible to differentiate between invasive and noninvasive bacterial infections with information provided by medical history and physical examination. [1]

“ Pediatric Departments are faced with a need to provide early diagnosis of these potentially severe or invasive infections in daily clinical practice.



Antibiotics are commonly prescribed in hospital. It has been reported that the average proportion of children in hospital who received at least one antibiotic is between 33% and 78%. Many children receive antibiotic prescription indicating an incorrect total daily dosage or fractioning or for a significantly longer period of time than needed. [2]

Antibiotic abuse and misuse is leading to

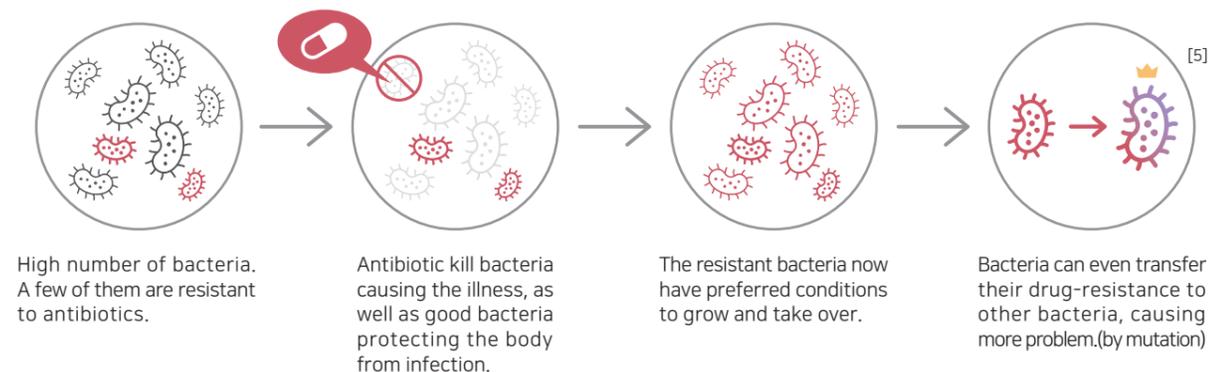
- Multidrug resistant bacterial
- Antibiotic-related adverse events
- Increased patient mortality
- Increased healthcare costs
- Negative impact on microbiota
- Undertreatment risk

⚠ WARNING

CDC estimates that U.S. doctor's offices and departments prescribe about 47 million antibiotic courses each year for infections that don't need antibiotics. [3]

How does antibiotic resistance occur?

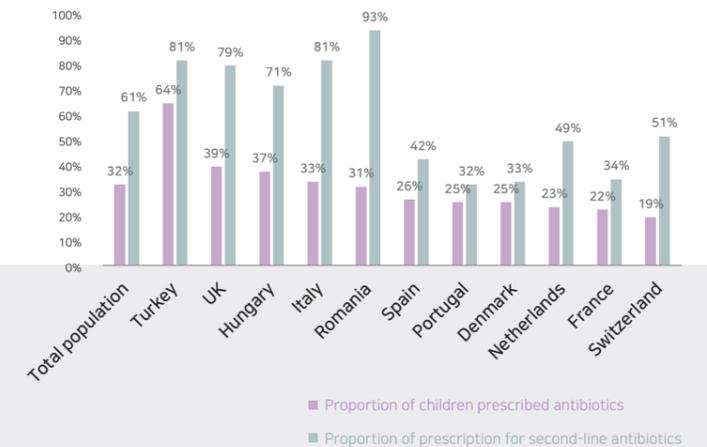
- Germ always look for ways to survive and resist new drugs.
- The duration of resistance bacterial incidence is getting shorter.
- Experts say that by 2050 it could be a bigger killer than cancer, with 10 million deaths predicted. [4]



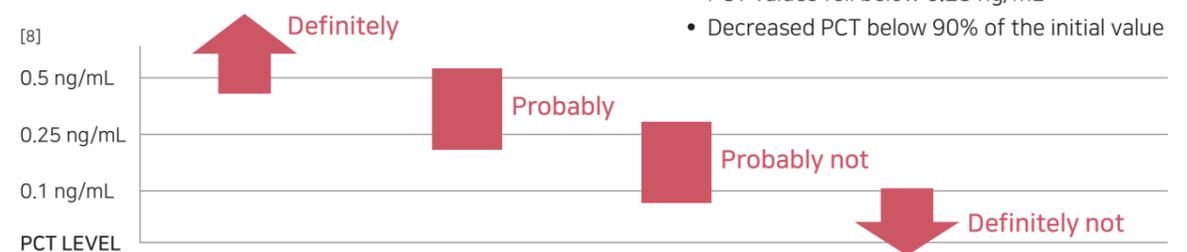
Children in danger

- Identification of viral or bacterial infection is more complicated in children than in adults.
- Children receive more unnecessary antibiotics.
- Children have a higher risk of antibiotic-related adverse events than adults. [6]

There is significant different of antibiotic use rate among countries and hospitals [7]



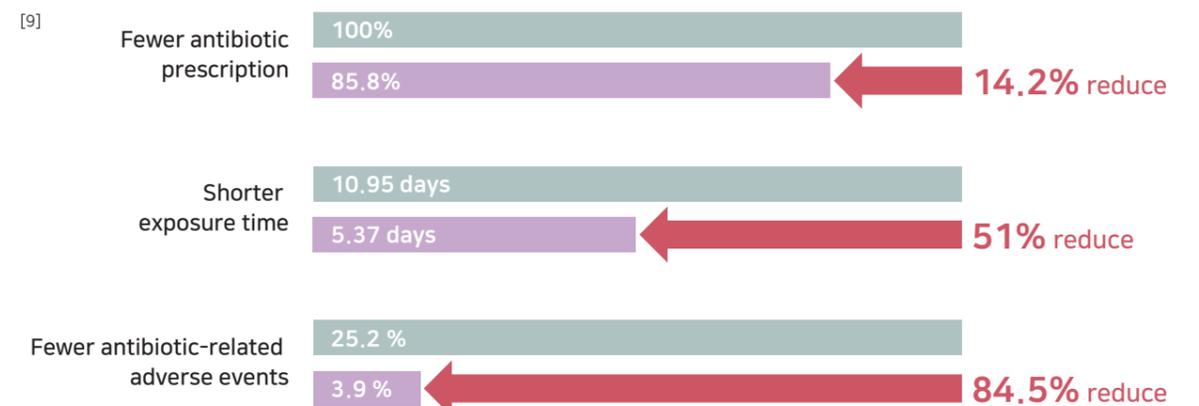
PCT guidance for antibiotic



Stop Antibiotic when

- PCT values fell below 0.25 ng/mL
- Decreased PCT below 90% of the initial value

PCT reduces antibiotic exposure



It's time to Join Antibiotic Stewardship with Boditech Med PCT Plus

NO MORE SUFFERING!



High sensitivity for detecting local bacterial infection

Boditech Med PCT Plus Improve sensitivity

High sensitivity fluorescence technology can detect **0.02-50 ng/mL** range of PCT level, ideal for detecting local bacterial infection to prescribe children antibiotics.

NO MORE CRYING!

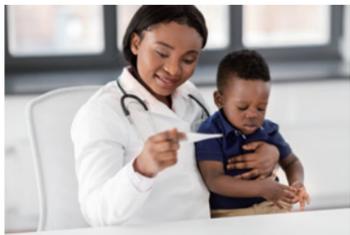


Simple and safe blood collection with a drop of finger blood

Boditech Med PCT Plus innovate technological advance

PCT measurement in small amount **whole blood** without sample pretreatment can help reduce children phobia of blood collection.

NO MORE WAITING!



Test result within 12 minutes in site

Boditech Med PCT Plus - point of care system

Compact automated device **show result directly in site**. Doctor can write prescription without delay with reliable test result.

NO MORE WASTING!



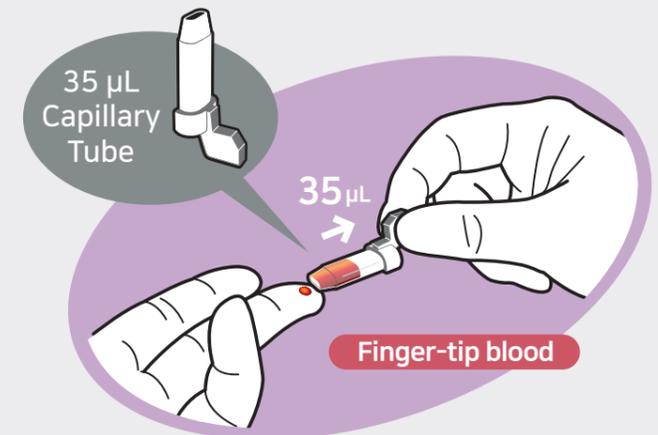
No extra cost and calibration loss

Boditech Med PCT Plus save cost

Test cartridge system can help calibration **without daily cartridge loss**. No extra cost for accessories or other options.

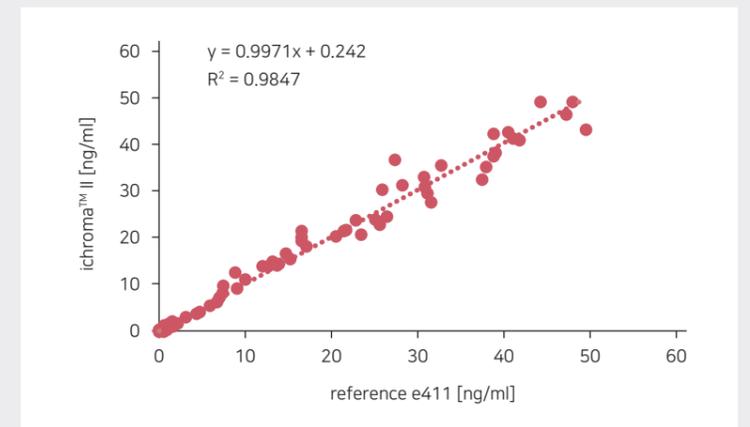
35 µL capillary blood from finger

ichroma™ PCT Plus is simple and user-friendly test with small volume (35 µL) of whole blood from finger or heel to help quick and easy decision without blood loss.



Reliable result

ichrom™ PCT Plus show reliable test result as laboratory method.



Specification

ichroma™ PCT Plus	
Sample type	WB/S/P
Sample volume	35 µL
Assay time	12 min
Working range	0.02-50 ng/mL
Storage	2-8°C DB / 4-30°C for cartridge
Shelf time	24 months
Accuracy	Y=0.9971x + 0.242 / R2=0.9847



ichroma™ PEDIATRIC test items

-  Whole blood
-  Feces
-  Nasal swab



Infection

Virus infection & Bacterial infection

-  Rota
-  Noro
-  Adeno
-  Influenza A+B
-  RSV
-  Anti-HBs
-  HBsAg
-  Anti-HCV
-  Influenza + RSV combo
-  Rota/Adeno combo
-  Mycoplasma
-  Toxoplasma



Inflammation

Antibiotic prescription
SIRS sepsis
Neonatal sepsis
LRTI (Lower Respiratory tract Infection)
Pneumonia

-  PCT
-  IL-6
-  CRP



Cardiac

Cardiac disease & surgery
Acute myocarditis
Cardiomyopathy

-  TnT
-  NT-proBNP
-  BNP
-  CK-MB
-  D-Dimer
-  Myoglobin
-  hsCRP
-  ST2
-  Cardiac Triple (TnI, CK-MB, Myoglobin)



Vitamin D

Children's immune system & bone health

Vitamin D (S/P)



Autoimmune

Juvenile Idopathic Arthritis & allergic disease

-  Anti-CCP Plus
-  Total IgE



iCHROMA-II

A compact and easy-to-use, fluorescence based POCT immunoassay analyzer

- High performance with reliability
- Small, compact & light
- Multi test function
- LIS/HIS compatible



iCHROMA-III

High-throughput immuno-analyzer that enables simultaneous testing for various parameters

- Random access for various parameters
- Continuous testing
- Flexible temperature control
- Patient ID handwriting & HL7 compatible



iCHROMA™-50

World First Automated Dry Immunoassay System

- Whole blood, finger prick blood (C-tip), serum, plasma and stool samples
- Up to 80 tests/hour
- Universal blood collection tube
- 50 blood tube
- No consumable



iCHROMA M2&M3

Mini size fluorescence immuno-analyzer

- Simple: Mix, drop and insert
- Portable system
- Small but powerful: Immunofluorescence system in your palm
- Economical diagnostic platform



References

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- 2) Nicola Principi and Susanna Esposito, Antimicrobial stewardship in paediatrics, *BMC Infectious Diseases*, (2016) 16:424
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- 4) Antimicrobial Resistance : Implication and Costs, 2019, Porooshat Dadgostar
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<https://www.sgul.ac.uk/research/our-impact/transformation-stories/tackling-the-challenge-of-antimicrobial-resistance-in-children-and-babies>
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- 8) Gurli Baer, et al, Procalcitonin Guidance to Reduce Antibiotic Treatment of Lower Respiratory Tract Infection in Children and Adolescents (ProPAED) : A Randomized Controlled Trial, *PLoS One* 8(9):e68419
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- 12) Rizky Abdulah, Antibiotic Abuse in Developing Countries, *Pharmaceutical Regulatory Affair*, 2013, 1:2