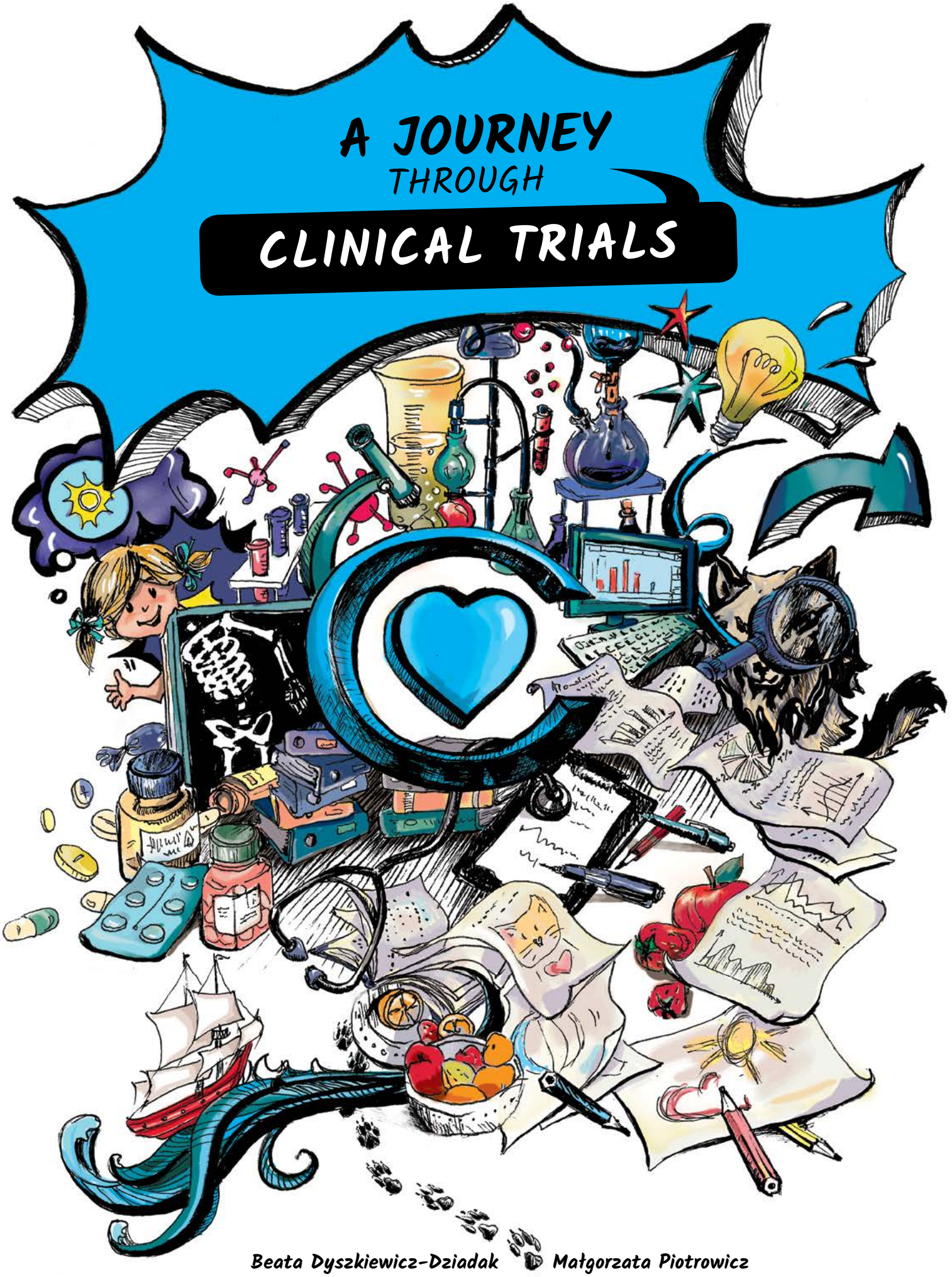
A JOURNEY THROUGH CLINICAL TRIALS



Beata Dyszkiewicz-Dziadak Małgorzata Piotrowicz

A journey through clinical trials

THE CHILDREN'S MEMORIAL HEALTH INSTITUTE

SCIENTIFIC RESEARCH AND INTERNATIONAL COOPERATION DIVISION

Małgorzata Piotrowicz
Screenplay, text and editing
Copyright © Małgorzata Piotrowicz

Beata Dyszkiewicz-Dziadak
Illustrations, typesetting and graphic design, cover design
Copyright © Beata Dyszkiewicz-Dziadak

Project coordination Mariusz Piotrowicz
Scientific and medical consultation Aleksander Wiśniewski, RN, MSc, PhD
Translation Alicja Gągała
Printing and binding LUNO Łukasz Nowak, Józefów

printed version ISBN 978-83-965384-1-3
PDF version, colour ISBN 978-83-965384-2-0
PDF version, black and white ISBN 978-83-965384-3-7

Electronic version available at:
https://nauka.czd.pl/en/clinical-trials/

Warsaw 2022

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No 777389.
The Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.
Publication financed by the project
conect4children - COllaborative Network for European Clinical Trials for Children


IT IS NIGHT TIME.
CENTRUM ZDROWIA DZIECKA
THE INSTITUTE THAT IS NORMALLY FULL OF LIFE IS QUIET.
ONLY IN ONE ROOM SOMEONE IS STILL WORKING...
OH, IT'S YOU! IT IS GOOD THAT YOU'RE HERE, I'VE JUST FINISHED MY WORK.
DO YOU WANT TO ASK ME SOMETHING?
HOW DO YOU KNOW WHICH MEDICINES ARE GOOD TO GIVE TO KIDS AND HOW TO GIVE THE MEDICINES TO THEM?
IT IS ALL WORKED OUT WITH SOMETHING CALLED A CLINICAL TRIAL.
WHAT DO YOU MEAN?


IT'S A LONG STORY...
I AM KEEN TO KNOW!
WE NEED TO GO BACK IN TIME - THE STORY BEGINS IN THE YEAR 1747, ON A SHIP HMS SALISBURY.
THIS IS THE SHIP'S DOCTOR, DOCTOR JAMES LIND.
FOR SOME TIME HE'S BEEN WORKING ON A WAY TO TREAT A DISEASE THAT AFFECTS MANY SAILORS DURING LONG VOYAGES.
SCURVY! WHAT A DREADFUL DISEASE, THE TEETH FALLING-OUT, THE WEAKNESS.
HE PREPARED A LIST OF ALL THE MEDICINES THAT WERE USED BACK THEN.
SO, DURING THE VOYAGE, HE PAIRED UP THE SAILORS AND GAVE THEM DIFFERENT MEDICINES, TO FIND OUT WHICH MEDICINE WOULD BE THE MOST EFFECTIVE.
YOU AND YOU!! YOU AND YOU!!
EVERY PAIR GOT A DIFFERENT 'MEDICINE' TO HAVE WITH THEIR DINNER.
OTHER MEDICINES INCLUDED SEA WATER, SULFURIC ACID SOLUTION AND VINEGAR.
What did you get?
I have cider. I've got two oranges and a lemon.
This tastes like mustard with horseradish.
AFTER SOME TIME ALMOST ALL OF THE SAILORS WHO WERE PARTICIPATING IN THE EXPERIMENT WERE STILL ILL.

THE ONE EXCEPTION WAS THE PAIR WHO WERE GIVEN ORANGES AND LEMONS AS THEIR MEDICINE...

It seems that you really are not sick.

THE NOTE ABOUT THE EXPERIMENT WAS INCLUDED IN THE CAPTAIN'S LOG FROM 20TH MAY 1747.

1747 DZIENNIK POKŁADOWY HMS Salisbury

TO COMMEMORATE THIS EVENT, 20TH MAY IS THE DAY WE CELEBRATE THE INTERNATIONAL CLINICAL TRIALS DAY.

MAJ 20 DZIEŃ BADAŃ KLINICZNYCH

HISTORIANS HAVE CONCLUDED THAT IT WAS THE FIRST DESCRIBED CLINICAL TRIAL.

BUT NOWADAYS WE DON'T FEED ORANGES AND LEMONS TO KIDS TO PREVENT THEM FROM GETTING SCURVY!

NO, BUT WE KNOW NOW WHY A BALANCED DIET, RICH IN VITAMIN C IS SO IMPORTANT.

THEN, DURING A CLINICAL TRIAL, WE PAIR PEOPLE UP AND...

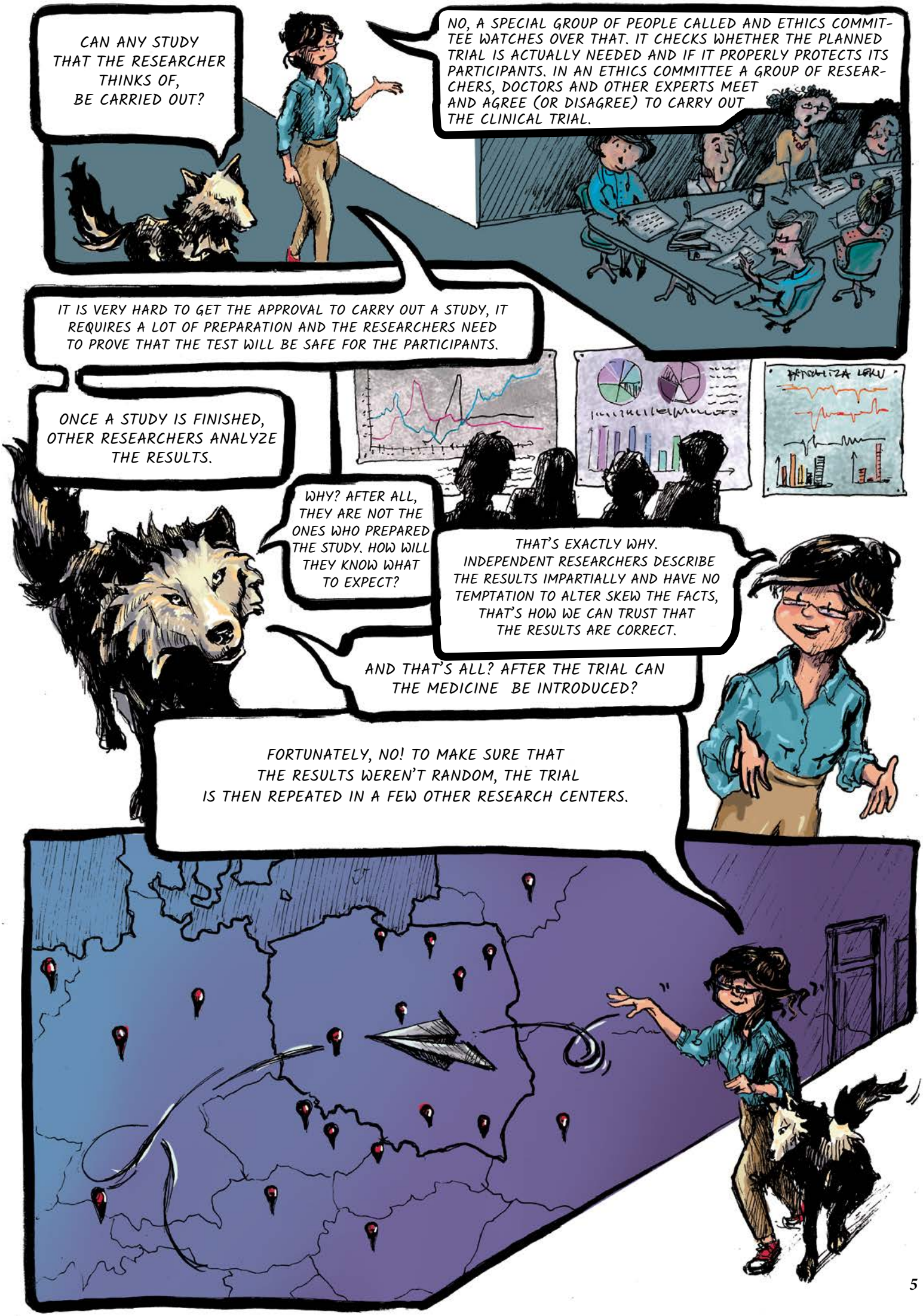
NOT EXACTLY.

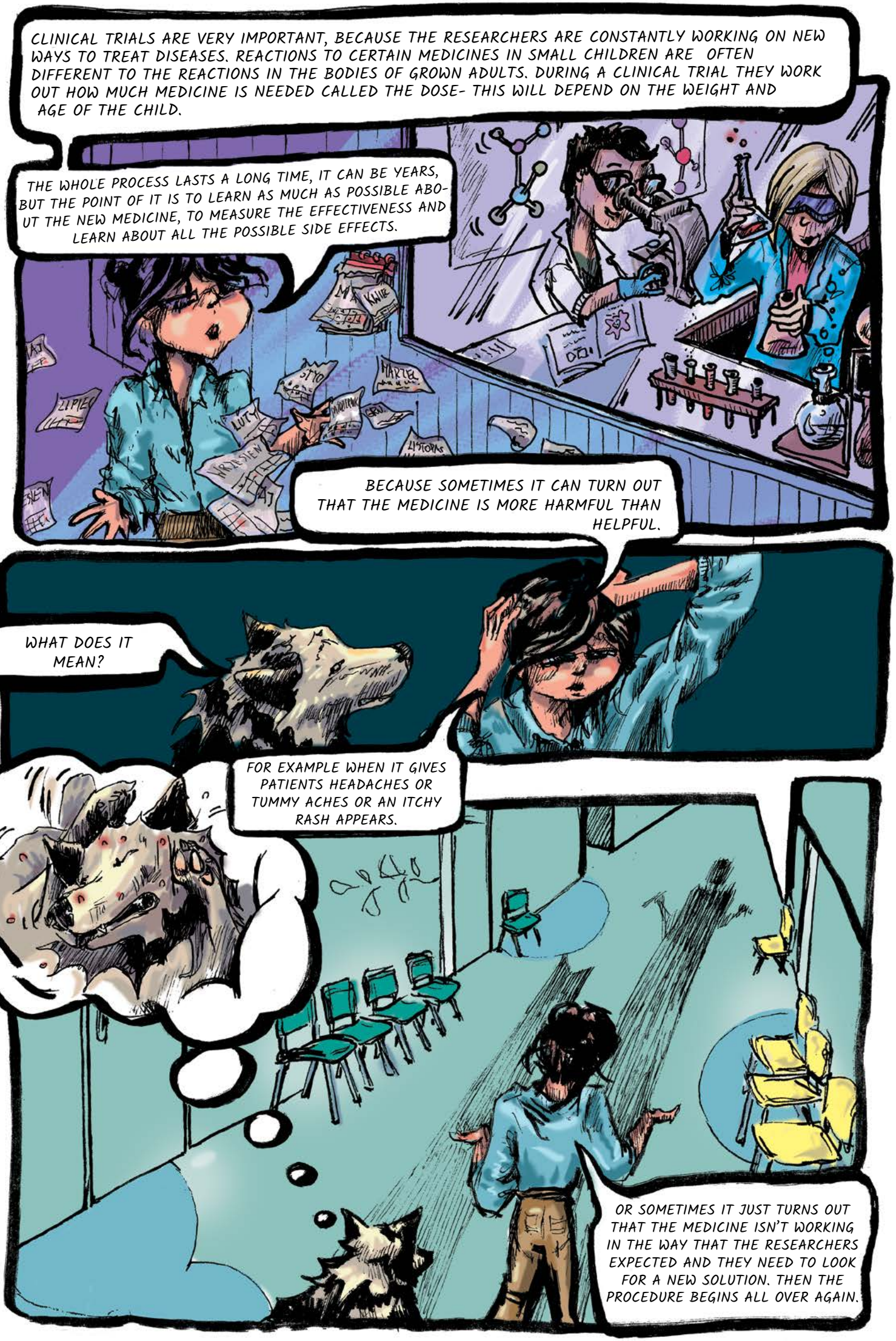
PEOPLE TAKING PART IN A CLINICAL TRIAL ARE DIVIDED INTO TWO GROUPS.

MOST OFTEN, IF WE ARE INVESTIGATING A NEW DRUG, THEN ONE GROUP IS TREATED WITH THIS MEDICINE AND THE OTHER (WHICH WE CALL THE CONTROL GROUP), GETS A DIFFERENT MEDICINE THAT IS ALREADY AVAILABLE OR A PLACEBO.

A PLACEBO IS LIKE WATER, IT DOES NOT TREAT OR HARM THE PARTICIPANTS.


THE CONTROL GROUP GETS THE BEST MEDICINES THAT CAN BE GIVEN TO CHILDREN. WE NEED TO MAKE SURE, NOT TO HARM THE HEALTH OF THE PARTICIPANTS OF THE CLINICAL TRIAL.
NR 1
NA RYNKU
AND DO THESE PEOPLE KNOW IF THEY'RE TAKING THE MEDICINE OR THE GAZEBO?
NOT A GAZEBO! PLACEBO!
NO, THE PARTICIPANTS DON'T KNOW WHAT KIND OF SUBSTANCE THEY'RE TAKING.
THE GROUPS ARE ASSIGNED COMPLETELY AT RANDOM - WE CALL THIS RANDOMISATION. BUT THAT'S NOT ALL!
USUALLY EVEN THE RESEARCHERS HAVE NO IDEA WHO IS GETTING WHICH KIND OF SUBSTANCE - THE POINT IS TO TREAT EVERY PARTICIPANT EQUALLY.
AND BECAUSE NEITHER PARTICIPANTS NOR RESEARCHERS KNOW THE DETAILS, WE CALL IT THE DOUBLE-BLIND TRIAL
ARE THEY BLIND -FOLDED?
TRACH
BACH!
NO, THERE'S NO NEED FOR THAT, THERE ARE OTHER WAYS.


CAN ANY STUDY THAT THE RESEARCHER THINKS OF, BE CARRIED OUT?
NO, A SPECIAL GROUP OF PEOPLE CALLED AND ETHICS COMMITTEE WATCHES OVER THAT. IT CHECKS WHETHER THE PLANNED TRIAL IS ACTUALLY NEEDED AND IF IT PROPERLY PROTECTS ITS PARTICIPANTS. IN AN ETHICS COMMITTEE A GROUP OF RESEARCHERS, DOCTORS AND OTHER EXPERTS MEET AND AGREE (OR DISAGREE) TO CARRY OUT THE CLINICAL TRIAL.
IT IS VERY HARD TO GET THE APPROVAL TO CARRY OUT A STUDY, IT REQUIRES A LOT OF PREPARATION AND THE RESEARCHERS NEED TO PROVE THAT THE TEST WILL BE SAFE FOR THE PARTICIPANTS.
ONCE A STUDY IS FINISHED, OTHER RESEARCHERS ANALYZE THE RESULTS.
WHY? AFTER ALL, THEY ARE NOT THE ONES WHO PREPARED THE STUDY. HOW WILL THEY KNOW WHAT TO EXPECT?
THAT'S EXACTLY WHY. INDEPENDENT RESEARCHERS DESCRIBE THE RESULTS IMPARTIALLY AND HAVE NO TEMPTATION TO ALTER SKEW THE FACTS, THAT'S HOW WE CAN TRUST THAT THE RESULTS ARE CORRECT.
AND THAT'S ALL? AFTER THE TRIAL CAN THE MEDICINE BE INTRODUCED?
FORTUNATELY, NO! TO MAKE SURE THAT THE RESULTS WEREN'T RANDOM, THE TRIAL IS THEN REPEATED IN A FEW OTHER RESEARCH CENTERS.


CLINICAL TRIALS ARE VERY IMPORTANT, BECAUSE THE RESEARCHERS ARE CONSTANTLY WORKING ON NEW WAYS TO TREAT DISEASES. REACTIONS TO CERTAIN MEDICINES IN SMALL CHILDREN ARE OFTEN DIFFERENT TO THE REACTIONS IN THE BODIES OF GROWN ADULTS. DURING A CLINICAL TRIAL THEY WORK OUT HOW MUCH MEDICINE IS NEEDED CALLED THE DOSE- THIS WILL DEPEND ON THE WEIGHT AND AGE OF THE CHILD.
THE WHOLE PROCESS LASTS A LONG TIME, IT CAN BE YEARS, BUT THE POINT OF IT IS TO LEARN AS MUCH AS POSSIBLE ABOUT THE NEW MEDICINE, TO MEASURE THE EFFECTIVENESS AND LEARN ABOUT ALL THE POSSIBLE SIDE EFFECTS.
BECAUSE SOMETIMES IT CAN TURN OUT THAT THE MEDICINE IS MORE HARMFUL THAN HELPFUL.
WHAT DOES IT MEAN?
FOR EXAMPLE WHEN IT GIVES PATIENTS HEADACHES OR TUMMY ACHES OR AN ITCHY RASH APPEARS.
OR SOMETIMES IT JUST TURNS OUT THAT THE MEDICINE ISN'T WORKING IN THE WAY THAT THE RESEARCHERS EXPECTED AND THEY NEED TO LOOK FOR A NEW SOLUTION. THEN THE PROCEDURE BEGINS ALL OVER AGAIN.


BUT IF THE MEDICINE TURNS OUT TO BE WORKING, CAN WE GIVE IT TO THE KIDS?
YES, BUT ONLY IF THE FINAL RESULTS ALLOW IT.
AND THE DOCTORS, NURSES AND PARENTS WATCH OVER THE DOSING OF THE MEDICINE.
I HOPE I'VE ANSWERED YOUR QUESTIONS AND NOW YOU UNDERSTAND WHY CLINICAL TRIALS ARE SO IMPORTANT.
THEY HELP TO FIND NEW METHODS OF TREATING PATIENTS.
MY GUTS TOLD ME FROM THE BEGINNING THAT IT IS AN IMPORTANT AND GOOD TOPIC. THANK YOU!
WHAT A FASCINATING JOURNEY! FROM AN 18TH CENTURY SHIP UP TO MODERN LABORATORIES.
AND ALL THIS TO MAKE CHILDREN FEEL BETTER WITH THEIR DISEASE OR MAKE THEM HEALTHY AGAIN.

DIFFICULT WORDS AND THINGS THE WOLF DID NOT UNDERSTAND

ACTIVE COMPARATOR DRUG – *a currently known drug used in a given disease. It may be given to control subjects if the purpose of the study is to determine whether the investigational substance may be a better drug than those currently available.*

INVESTIGATOR – *a scientist, usually a doctor, responsible for the proper conduct of a clinical trial. He or she is concerned about the safety of each participant in the study.*

CLINICAL TRIAL – *a scientific study that we carry out to find out whether an investigational product will be effective, safe and a better medicine than those we already know and use.*

DOUBLE-BLIND STUDY - *a situation in which neither the investigators nor the participants know who is receiving the investigational medicine.*

INFORMED CONSENT FORM - *a document in which the participant (or the person responsible for them), agrees to take part in a study. Informed consent means that he or she has been informed in advance about what the experiment will provide and the risks involved.*

CONTROL GROUP – *a group of patients who receive a placebo or other best medicine for the disease in question.*

BIOETHICS COMMITTEE – *a group of experts, i.e. clever people who check whether the idea for a clinical trial is legal and whether conducting it is necessary and will contribute to improving the quality of treatment.*

INCLUSION/EXCLUSION CRITERIA – *important information to determine whether a person can participate in a clinical trial (e.g. is he or she of the right age, does he or she have certain medical symptoms, does he or she agree to participate).*

TRIAL SITE – *the place where the clinical trial is conducted.*

PLACEBO – *a substance that neither harms nor helps. can be given to control subjects if a cure for the disease is not yet known.*

PROCEDURE – *a list of tasks to be performed with each participant during a clinical trial.*

CLINICAL TRIAL PROTOCOL – *a very important and detailed document that describes step by step how the trial will be conducted.*

RANDOMISATION – *dividing patients into two groups (study and control) by random allocation.*

SIDE EFFECTS – *unwanted effects of a drug, e.g. abdominal pain, fever, which may occur while taking it.*

STUDY PARTICIPANT – *a person taking part in a study.*

I am delighted that this comic book was created. I believe that this form will allow children to understand the importance of clinical trials.

Marek Migdal, MD, PhD
General Director of Children's Memorial Health Institute

I come from a generation raised on comics and believe that they can explain even difficult issues to children well. We want children, including our patients, to have a good understanding of clinical research. It is the advances in medical science that give many of them an opportunity for life and for health that they would not have had decades ago. This is what the wolf learns in the nightly talks - he will from now on be our hero and partner in our daily work with young patients.

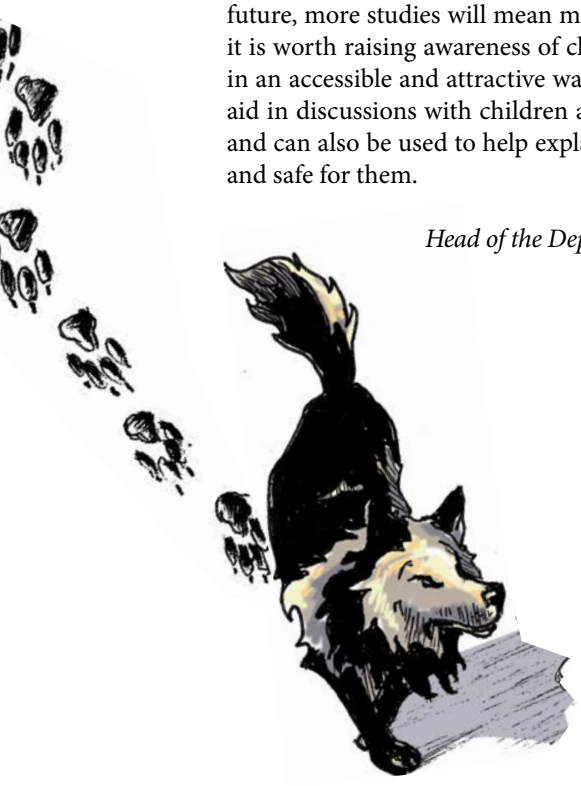
Professor Piotr Socha, MD, PhD
Deputy Director of Science, Children's Memorial Health Institute

The comic book on the key issues of clinical trials is an excellent tool to help inform and educate broad populations of children and adolescents about the difficult subject of clinical trials. Any young person who has a disease may face the possibility of taking part in a clinical trial, and it is vital that they understand what this means for them, make an informed decision and feel that they are an important part of the clinical trial.

Antoni Jędrzejewski, PhD
President of the GCP.pl Association

In paediatrics, very many medicines are used outside the scope of their official registration indications. This is primarily due to the relatively small number of clinical trials conducted with paediatric patients. In future, more studies will mean more available, well-studied and safe therapies for the youngest patients, so it is worth raising awareness of clinical trials. The comic book „A journey through clinical trials" explains in an accessible and attractive way why and how clinical trials are conducted. It can become an invaluable aid in discussions with children and young people who are being offered the chance to take part in trials, and can also be used to help explain to children and young people how we know which drugs are effective and safe for them.

Professor Katarzyna Kotulska- Jóźwiak, MD, PhD
Head of the Department of Neurology and Epileptology, Children's Memorial Health Institute



THE CHILDREN'S MEMORIAL HEALTH INSTITUTE

POLPEDNET
Polish Paediatric Clinical Trials Network

printed version	ISBN 978-83-965384-1-3
PDF version, colour	ISBN 978-83-965384-2-0
PDF version, black and white	ISBN 978-83-965384-3-7