

## **A Message from Amelia, Davit, Eden, Jesse, Layla, Mbarouk, Sadem and Sadie**

Lizzie (play specialist) Oh my goodness. Are you ready?

Layla (aged 12) : (breathes in, in preparation, and blows out) ....Okay.

Jesse (aged 3) : Yeah

Dr Mark : (breaths in) Breathing....

Mbarouk (aged 16) : Breathing is like..

(the sound of a sharp intake of breath)

(the sound of a deep breath in)

Dr Mark : Well, breathing is what I'm doing now - you can probably hear me doing it...

(a sharp breath in)

(a breath out)

Dr Helen : Breathing..

Mbarouk : ... is what's keeping you alive

Layla : It's when... the air or oxygen enters your body, and then into your lungs, your bloodstream..

Dr Mark : It keeps our heart beating and our brain working..

Sadem (aged 6) : What does that mean ?

Dr Mark : If we stopped breathing for too long. Like, if I stopped breathing for like a minute or two... or maybe three, depending how fit I am, my heart would stop.

Lizzie : (gasps) No !!!!

(the sound of a breath in)

Dr Mark : The main reason we breathe is to get oxygen. But we also breathe to get rid of CO<sub>2</sub>.

Layla : Mmm hmm

(the sound of a another breath in)

Dr Mark : CO<sub>2</sub> makes you want to breathe. The oxygen is the thing that keeps you alive.

(a sharp breath in)

(the sound of birdsong)

Dr Helen : The air is what we breathe, which is all around us...

(sound of wind)

Eden (aged 5) : ..the air in the sky and the air from the wind.

Sadem : It makes, like erm (the sound of trees rustling)...trees, you know, like move right ?

Layla : It's made out of gases.

Sadem : Yeah

Dr Helen : ...predominantly nitrogen..

Jesse : ..it is.

Layla : ...oxygen.

Liz (transport manager): Oxygen.....nitrogen.....erm..

Sadem : Ah no ! ...I don't know what !

(the sound of a big breath out)

Liz : .....(laughing) Carbon dioxide !!!

(the sound of a big breath out)

Layla : And you need it to live...

(the sound of a big breath in)

..Because you need to breathe it in.

(the sound of a big breath in)

Dr Helen : ...which keeps us alive.

Jesse : Ah !

(the sound of traffic)

Dr Helen : What we.. are all concerned about, particularly living in the centre of London, is what else is in that air. So... pollution and small particles.

Peter Panbulance team : Clean air to me is as vital to me as it is to everybody else. Clean air effectively ensures that we live as healthily as possible. Our children live as healthily as possible. And I think, given the work that we do here at Great Ormond Street, it's paramount that we're behind that.

(birdsong fades out)

Mbarouk : Erm.. (he clears his throat)..

Liz : Pollution is..

(a motorbike drives past)

Layla : ...when the oxygen in the air is polluted with, like bad gases that we don't really want it in our body.

Liz : ..chemicals that we find in the air.. that are harmful to the planet and people.

Sadem : Yeah

Liz : ....and animals. And trees. And buildings. Well... lots of things ! Where do you stop? Really?

Sadem : I don't know !

Mbarouk : That's a hard one, to be honest.

Layla : Erm...?

Dr Mark : I guess pollution is something that's say ...man made ?

Jesse : It is.

Dr Mark : ...something that's been created by humans, because otherwise we call it natural, wouldn't we?

Layla : Yeah.

Dr Mark : ...So let's say pollution is something man made that is dangerous.

Layla : Okay.

(Slowly building ominous music)

Dr Mark : The air used to, in some ways, be a lot worse in London. Because everybody kept their houses warm by burning coal.

Mbarouk : Psshhh. You just breathe it in, yeah.

Dr Mark : In the 50s or 60s, if I remember rightly, there was something called the Clean Air Act. And everybody was keen on that, because they could actually see the pollution in the air. And they could see the dead bodies.

Jesse : AHHH !

Dr Mark : The problem we've got now, is that there is still pollution in the air...

Eden : Er ...

Mubarouk : Yeah (coughs)

Dr Mark : Most of the time, we can't see it. Sometimes we can see it – on certain days when the wind's not blowing. But most of the time we can't see it. So that's made everybody believe it's not there. And it's safe. But that's not true.

Saddam : what ?!!

Dr Helen : What there's a multitude of harmful effects.

Layla : Oh no.

Dr Mark : Pollution is there, it's in the air. It's killing children. It's killing babies. It's killing adults. And perhaps, more importantly, it's making a lot of people chronically sick.

Eden : Uh ha

Mbarouk : Yeah.

Jesse's nanny Clare : Do you want to tell them about it?

Dr Mark : It causes dementia.

Layla : Gasps and blows out ...Okay

Dr Mark : If you live in London, you're gonna definitely be exposed to pollution.

Layla : It's quite busy.

Dr Mark : And if you live near a main road in London, you're even more exposed to pollution.

Mbarouk : Yeah

Sadem : Not very good.

Dr Helen : For children. We know that it does affect lung maturity and how your lungs develop.

Mbarouk : It does. To be honest.

Dr Mark : So the particularly vulnerable stages to air pollution are the foetus - the baby in the womb, before they're born. You can actually look at microscope slides taken from fetuses and see... charcoal basically - black dots in their bodies that have come in through the mother's lungs, through the placenta and into the baby. That makes babies born early or small or with all sorts of other complications, which fills up the neonatal intensive care unit. You're also vulnerable when you're a small child, particularly to car produced pollution..

Jesse : Beep beep !

Dr Mark : ..because you're just the right height for the exhaust pipe.

Jesse : BEEP BEEP !!!

Dr Mark : So the nitrogen dioxide that comes out of car exhausts, is gonna go straight into children's lungs.

Eden : mmm hmm

Dr Mark : And then everybody is vulnerable. But when you get older, you become more vulnerable.

(Layla gasps)

(Jesse roars)

Layla : I think about it.

Sadem : I don't know how to, you know like, tell you that..

Layla : Theres not going to be any clean air ... and people are gonna get sick.

(the sound of an ambulance reversing)

Dr Mark : I'm struggling to think these days of any disease, there hasn't been a good scientific paper proving can be caused or affected by pollution. Heart attacks are caused by

pollution. And probably about 30% of lung cancer is now caused by pollution. And so, reducing pollution is the cheapest, most effective way that you can help the health service But that requires everybody to work together and that's the problem.

I think the most important thing Great Ormond Street can do about pollution is to talk about it, support things that are making a difference and tell our families and children about it - because we can't do it ourselves. Fixing pollution is a team sport and everybody has to help

Eden : OK !!?

(a cough)

Layla : The air's mostly polluted in big cities like London..

Dr Mark : ..the source is mainly fires...cars...trucks... lorries - diesel engines in particular

Layla : aha

Dr Mark : ...and construction and industry.

Layla : yeah.

Dr Mark : The bottom line ..the answer to the question 'how do we get rid of air pollution ?' is - we stop burning things. Things we burn as individuals is fuel in our cars, gas in our heating systems (and sometimes our stoves) and wood.

Layla : Ok

Dr Mark : The one we can more easily do something about is, perhaps, cars.

Layla : Yes.

Lizzie : ..all their exhausts going into the air !

Dr Helen : Things you can do to keep the air clean...

Dr Mark : .. As a child probably the best thing you can do is say 'please don't drive me around. I want to walk cycle and run to school.'

Layla : That's fun.

(the sound of a bicycle riding past)

Dr Mark : That's probably the most important thing you can do.

(the bike rings it's bell)

Layla : Mmm hmm.

Dr Mark : A lot of people..

Layla : Aha.

Dr Mark : ... spend a lot of time travelling..

Layla : Yeah.

Dr Mark : And the best way to travel is the one that produces the least pollution...

Layla : I mean petrol pollutes, yeah.

(we hear a person clearing their throat)

Dr Mark : ..and keeps you the fittest.

(the sound of heavy traffic sounding their horns)

(coughs)

Dr Mark : We are all driving around in our cars, getting demented and not realising that pollution is the problem

Layla : Well, I think in the future they're gonna make every car electric, maybe, so there's no petrol...

Peter Panbulance Team : We have four electric Peter Pambulances..

Peter Panbulance Team : ...a select fleet of electric vehicles, which obviously speaks for itself. We're not dumping emissions into the local area. So yeah, that's part of what we're doing and it's part of GOSH's agenda as well, that we become more carbon neutral.

Peter Panbulance Escort : Kids love it, and it drives really smooth.

Peter Panbulance Team : So yeah.

(Ambulance sound)

Layla : Erm...what else ?

Liz : Our gases are quite significant within the hospital and what we use on a daily basis

Amelia (Aged 12) : Goodness !

Sadem : What does that mean ?

Dr Helen : Anaesthetic gases, they're 5% of the total carbon footprint of an acute NHS Trust.

Sadem : I don't know also what does that mean?

Dr Helen : And these are all potent greenhouse gases.

Sadem : (laughs) I don't know what is that also !!

Dr Helen : They're much, much worse and carbon dioxide.

(Layla breathes in sharply)

Dr Helen : So anything we can do to reduce the amount of gas that you breathe..

Sadie (aged 6) : Yes !

Dr Helen : ...is really good for the environment.

Sadem : Er.... Yeah.

Dr Helen : When you have an anaesthetic - when you're asleep - we use medicines to keep you asleep.

(magical music)

Sadem : What !!!!

Sadie : Oh boy !

Dr Helen : And the most common way that we do that, is you breathe an anaesthetic gas or a sleepy gas that is a medicine.

Sadem : I don't know, I've never seen that !

Dr Helen : So we're trying to make sure we don't waste those gases, through leaks and unnecessary use at the hospital.

Sadie : Yeah !

Dr Helen : But as a child, if you're coming to the hospital, something that you can do...

Sadem : Erm..

Sadie : Oh yeah !!



Dr Helen : ...if it's something that you feel strongly about..

Davit (aged 8) : Yes.

Dr Helen : ... you can choose to go off to sleep with a cannula..

Amelia : Can you ?

Dr Helen : ...and there's also different ways that you can be kept asleep. You should talk to your anaesthetist about the greenhouse gas potential of all the anaesthetic gases.

Sadem : Yes.

Layla : Yeah.

(the sound of beeping horns)

Layla : I just want normal oxygen – but it's always going to have something bad in it.

(the sound of someone typing on a phone)

Dr Mark : As a child, you can still write to your MP..

Layla : ..maybe...

Dr Helen : ...writing letters to your MP...

Jesses's nanny Claire : ... to get fresh air.

Layla : Oh yeah.

Dr Mark : They're the people who actually have the power to make the changes.

Eden : Er..

Lizzie : You just kind of think, okay, we need to do as much as possible... because they've got really, really precious lungs that we need to keep really, really safe.

Mbarouk : Yeah.

Lizzie : And I know people are like... you don't want to think about bad things all the time. And - you know, like, things happen all around the world - and it's too much to keep in your brain. And I know that. But...you just kind of think.. (she breathes in)

Jesse : STOP DOING THAT !!!

(wistful music)

Mbarouk : Just learn more about it. Just think about the younger generation and what effect you could have on their future.

Jesse : Tttt. Yeah.

Peter Panbulance Team : We need to do our bit, you know - as a society, to make sure that they've got the brightest future they can have

(the sound of birds singing)