John Snow

(And the Broad Street pump.)

Cholera.

It’s a really nasty disease.

It’s a killer, in fact.

But what causes it?

Where does it come from?

Where is it hiding?

How can we stop it?

This is the story of the man who worked it out.

And stopped it.

His name was John Snow.

How did he do it?

*Tutor: I’ve been reading about John Snow.*

Student: Oh.

*And cholera.*

Cholera?

*Yes.*

Oh.

*And the Broad Street pump.*

The Broad Street pump?

*Yes.*

What about it?

*It’s world famous.*

A pump?

*Yes.*

Why?

*It’s all to do with John Snow.*

And cholera, I suppose.

*Yes. In 1854.*

In London?

*Yes.*

What was London like then?

*Well, that depends.*

On what?

*On where you were.*

Well yes, I suppose.

*Some of London was rich.*

And quite nice, I guess.

*But parts of London were poor.*

And not so nice, I suppose.

*No. Not at all nice.*

A lot of London was very poor, wasn’t it?

*Indeed it was.*

What part of London were you reading about?

*Part of Soho.*

Which is where, exactly?

*Almost in the middle.*

And cholera struck there, did it?

*Yes.*

What’s it like?

*Cholera?*

Yes. What’s it like?

*Ferocious and disgusting.*

What are the symptoms of cholera?

*Diarrhoea.*

Just diarrhoea?

*Well, not “just”.*

What do you mean, “not just”?

*It’s very sudden and very violent.*

Really?

*Yes.*

And it kills people?

*Sometimes in a few hours.*

A few hours?

*Mmmm…*

Did everyone who got cholera die?

*Some did, some didn’t.*

But most people did?

*Yes. Most people did.*

Oh.

*And in 1854 they had no idea how people caught it.*

Some people thought it was in the air, didn’t they?

*Yes. Almost everyone did.*

But it isn’t?

*No.*

Why did people think that, then?

*Well, the air in big cities was often very smelly.*

Oh.

*An awful lot of people lived in very crowded conditions.*

Oh.

*Very dirty conditions.*

Oh.

*And people were often sick, one way or another.*

So it was easy to think the air carried disease, I suppose.

*It must have seemed very likely.*

But what about cholera?

*Mmmm…?*

How do people catch cholera?

*Cholera is water-borne.*

Oh.

*Dirty water.*

Well, yes. Of course.

*And in 1854 there was not much clean water about.*

Where did people get water from?

*Some streets had water piped into houses.*

Like today?

*Well, not quite.*

Oh?

*Today, the water in our pipes is clean.*

But in 1854 it wasn’t?

*Most came straight out of the rivers.*

The Thames?

*Yes. In London.*

But that water is clean, isn’t it?

*It is today.*

But it wasn’t in 1854?

*No.*

Why not?

*Because sewage ran into the rivers.*

That’s disgusting!

*There were no flush toilets back then.*

Oh?

*No proper sewage system.*

Oh.

*A lot of sewage ran down ordinary drains.*

Straight into the river?

*Yes.*

Oh.

*Not like today!*

So if someone had cholera, back then …

*It would soon be in a river.*

And then back into the houses.

*Where people drank it.*

That’s disgusting!

*Well, yes, it is.*

So where does John Snow come in?

*Well, he was a doctor.*

And?

*He suspected cholera was water-borne.*

Why did he think that?

*Because of the Broad Street pump.*

The world famous Broad Street pump!

*Yes. That one.*

But why did he suspect the pump?

*Well, in 1854 there was an explosion of cholera.*

Around Broad Street?

*Yes.*

How do you mean “an explosion of cholera”?

*Loads of cases, very suddenly.*

Oh?

*500 people died in about ten days.*

500 people!

*In about ten days.*

Just in Soho?

*Yes.*

Around the Broad Street pump?

*Yes. And John Snow suspected the water from that pump.*

Why did he suspect that?

*Because he noticed that people who drank from it got cholera.*

Well, everyone did, didn’t they?

*Well, no.*

Oh?

*No.*

Some people didn’t get it at all?

*People who used different pumps didn’t.*

Or some with piped water, maybe.

*Yes. Some.*

Some?

*John Snow noticed something funny about that, too.*

What did he notice?

*Well, one water company took its water from the Thames in the middle of London.*

Which was dirty.

*Very dirty.*

But?

*But one water company took its water from further upstream.*

Where it was clean?

*Much cleaner, anyway.*

And people using that water didn’t get cholera?

*No.*

So John Snow worked out it must be in the water?

*Must have been, he thought.*

So where does the Broad Street pump come in?

*Well, lots of people drew their water from pumps.*

And the pumps were built over wells?

*Yes.*

And what was special about the Broad Street pump?

*It was over a contaminated well.*

A contaminated well?

*Yes.*

Dirty water?

*Yes.*

How did he know that?

*He didn’t.*

Oh?

*He didn’t know it was dirty.*

But he thought it might be?

*Yes. He suspected it was.*

How does that work?

*He suspected it because everyone who drank from it got cholera.*

How did the well get contaminated?

*From a cess pool alongside it.*

A cess pool?

*We would call it a septic tank now. Full of sewage.*

Alongside a well?

*Yes. And all the brickwork was rotten.*

Around the septic tank?

*And the well.*

So the well was contaminated with sewage?

*Yes.*

Disgusting!

*A lot of this story is disgusting!*

How did John Snow work out it was in the water, though?

*Because everyone who drank it got sick.*

Yes, but how did he know that?

*Well, he asked them.*

Asked them?

*Yes. He went to every house in Soho and asked.*

Oh.

*He asked every house where it got its water from.*

So he knew if it was from a pump.

*And which pump.*

Or if it was piped water.

*And which water company piped it.*

So he could tell where everyone got their water from.

*Yes. And he asked if they had cases of cholera.*

Right. He found cases and where they got their water from.

*And he could map cases of cholera against water supply.*

Did he do that?

*Yes. It’s a very famous map.*

World famous?

*Yes. World famous.*

What does it show?

*It shows the streets round Soho.*

And?

*The number of cases of cholera in each house.*

And they are all round the Broad Street pump?

*Well, not quite.*

Oh?

*There was a workhouse close by the pump.*

A workhouse?

*Where really poor people were housed.*

And looked after?

*Well, sort of.*

Sort of?

*Well, a workhouse was a pretty grim place.*

Oh.

*Lots of very poor people lived there.*

And?

*But hardly any got cholera.*

That’s funny.

*Yes.*

If they lived right by the Broad Street pump.

*Yes, but they didn’t use it.*

Why?

*Because there was a well inside the workhouse.*

Which was not contaminated?

*No.*

So they drank clean water?

*Exactly.*

Some people in there did get cholera, though?

*Yes.*

How?

*They drank water from the Broad Street pump.*

When they were out, maybe?

*Yes.*

And John Snow found out they had done that?

*Yes.*

How?

*He asked.*

But they were probably dead!

*Mostly, yes.*

So how did he find out they drank the water?

*He asked people who knew them.*

Scary!

*Well, yes.*

But I suppose it proves his case.

*It goes a good way, yes.*

I mean if people who didn’t drink from the pump didn’t get sick.

*Yes.*

But everyone who did drink from it got sick.

*Yes.*

It proves his case.

*Pretty much.*

Why did so many people die?

*How do you mean?*

Why didn’t they get better?

*You mean why weren’t they treated?*

Yes.

*Nobody knew how.*

Oh.

*Nobody knew what caused cholera.*

Oh.

*So there were no treatments.*

Oh.

*None which worked, anyway.*

So people just died.

*Yes.*

And went on dying?

*Yes.*

What did John Snow do?

*How do you mean?*

Well, now he knows where cholera is coming from.

*Yes.*

Did he tell everyone?

*Must have done.*

So everyone stopped using the pump?

*Well, no.*

Really? Why not?

*Most people didn’t believe him.*

Really?

*Really.*

Why not?

*Most people still believed it was air-borne.*

Weird.

*Well, nobody knew about germs, back then.*

Really?

*Nobody knew germs caused disease.*

So what did people think caused cholera?

*Some kind of poison.*

Poison?

*Yes. Air-borne.*

Air-borne poison?

*Yes. It seemed to make sense.*

Oh.

*John Snow’s idea seemed very strange.*

Oh.

*Air-borne poison seemed to make sense.*

I suppose it did.

*They called it “miasma”.*

The poison?

*Well, the dirty air.*

Bad air?

*Yes. They called it “miasma”.*

Oh.

*John Snow was the only person who suspected water.*

What did he do next?

*Mmmm…?*

When he knew the pump was where cholera was coming from?

*Oh, right.*

He must have done something!

*Oh, he did.*

What?

*He had the handle of the pump taken off.*

How?

*He got the council to do it.*

But they didn’t believe his ideas!

*No.*

So why did they do it?

*Well, nobody else had any ideas which worked.*

So they gave it a try.

*Yes.*

They took the handle right off.

*Yes.*

So nobody could get water from it!

*That’s right.*

And did the cholera stop?

*Yes.*

Is the pump still there?

*In Broad Street?*

Yes.

*Well, it’s called Broadwick Street now.*

But the pump?

*That’s long gone.*

Oh.

*But they’ve put another pump back.*

In memory of John Snow?

*Yes. A new pump to look like the old one.*

So there’s a pump over the well again?

*Where the well once was, yes. I’m not sure the well itself exists any more.*

It’s good they’ve put a pump back.

*Yes. To remember John Snow.*

It’s good we remember him.

*Mmm. Where the well was is outside a pub.*

Is it?

*Called the John Snow.*

Named after John Snow?

*That’s right.*

And does the new pump have a handle?

*Of course not!*