

CO-Gas Safety's Prize Giving House of Lords 25th January 2011

15 Years of Data of Deaths and Injuries from Unintentional Carbon Monoxide Poisoning 01.09.1995 – 31.08.2010



Make sure YOUR child is SAFE by asking your child's school to enter CO-Gas Safety's School Poster Competition. Closing date for entries 31st July 2011 (closing date each year end of July) Help us to stop these unnecessary deaths from CO and other fuel toxins

> Press Pack kindly sponsored by Kane International



Winner for the South. Katy Hatch. Age at entry 11. School: St Patrick's Catholic Primary School Teacher: Lorna Lyons



The Carbon Monoxide & Gas Safety Society

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The Carbon Monoxide & Gas Safety Society (CO-Gas Safety) is an independent charity committed to reducing accidents from Carbon Monoxide and other gas dangers worldwide and supporting gas related accident victims. Company Limited by Guarantee, Registered in England. Registration No. 03084435. Charity Registration No. 1048370

CO-Gas Safety's 15 years of data on deaths and injuries from Accidental Carbon Monoxide poisoning 01.09.95 – 31.08.2010 & Schools Poster Competition

Press Pack 2011

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CO-Gas Safety's Schools Poster Competition to raise awareness of the dangers of Carbon Monoxide and other fuel toxins

Page 26 Winners of the 2009-10 Schools Poster Competition & a Big Thank You to our Sponsors Page 27 Flyer giving details of the 2010-11 Schools Poster Competition. Page 28 Rules of the 2010-11 Competition. Please note. Closing date 31st July every year. Part of the booklet (on our website) about CO for Pages 29-36 competitors, teachers and parents. Pages 37-38 About the charity and our work over the years. Page 39 Our suggestions for changes to improve fuel safety Page 40 Some recent media Page 41 Thanks to our many supporters. Stephanie's particular thanks to our directors, MPs & Heather Tomlinson, who undertook the pilot project.

The Facts about Carbon Monoxide (CO) and Emissions from Fuels

CO may be emitted from any faulty cooking or heating appliance powered by any fuel that burns (gas, coal, oil, wood etc.). If there is sufficient air at the flame, carbon dioxide (CO2) is produced, not CO. CO2 is a greenhouse gas but CO is lethal because less than 2% can kill in between one and three minutes (see

<u>http://www.hse.gov.uk/foi/internalops/hid/spc/spctosd30.pdf para 74 Table</u> <u>23</u>). This is no longer available on the HSE website. We have a copy of this if you would like to ask us for it.

CO is lethal because the haemoglobin in the blood takes up CO in preference to oxygen. (*Please note that whereas CO2 has two molecules of oxygen to one of carbon, CO has only one molecule of oxygen to one of carbon.*)

Human senses cannot pick up CO, which is another reason it is so dangerous. Sometimes other products of combustion also escape which do smell, (sometimes people describe this as a gassy smell), but not necessarily.

Please note that the Gas Emergency Service basically has a legal duty to 'make safe' from CO as well as natural gas, (this has a smell added to it). The real scandal is that the Gas Emergency Service has no equipment to test appliances for CO.

The Gas Safety (Management) Regulations 1996 Regulation 7 contains the duty to prevent gas escapes and emissions of CO. '(6) Where a person conveying gas in a network has reasonable cause to suspect that gas conveyed by him which has escaped has entered, or may enter, any premises, he shall, so far as is reasonably practicable, take all the steps necessary to avert danger to persons from such entry.'

'17 (b)any reference to an escape of gas from a gas fitting includes a reference to an escape or emission of carbon monoxide gas resulting from incomplete combustion of gas in such a fitting;'

CO-Gas Safety submits that under this duty 'to take all steps necessary to avert danger' from CO as well as gas, the Gas Emergency Service should have been carrying and using equipment to test appliances and the air for CO since 1996. We appreciate that the duty is only 'so far as is reasonably practicable, take all the steps necessary to avert danger to persons from such entry' but how can this duty be said to be fulfilled, when no equipment, which can sense a deadly gas, (which cannot be sensed using human senses), has been, is or will be used?

In 2000, ten years ago, the Health and Safety Commission (now Executive) recommended that the GES has and uses equipment to test appliances for CO but Government has failed to implement this excellent HSC recommendation.

In 2000, ten years ago, the Health & Safety Commission (now Executive) also recommended a levy on the gas suppliers (we would prefer the whole fuel industry) to pay for publicity about the dangers of CO and for research. Again this excellent HSC recommendation has not been implemented. Why pay for the HSE if Government ignores it?

CO dissipates in a live body very quickly so a person needs to seek an urgent blood or breath test. If this is negative, it is not wise to assume that your home or workplace or car etc. is safe from CO and this is why **tests of appliances and air in a house are urgently needed to ensure safety**. Please note that CO can be emitted from next door (e.g. through a joint chimney or roof space) or another flat.

Investigations can be undertaken by CORGI Services but cost about $\pounds 1,800$. If CO is suspected and if a legal action is contemplated, it is vital that this investigation is undertaken <u>before</u> any suspected appliances are worked on (other than to turn them off). Working on an appliance will change the evidence you may wish to rely on. Landlords and installers are well aware of this and often undertake work very quickly. Please note that most Gas Safe Registered installers will not undertake this test.

See WHO guidelines for indoor air quality:selected pollutants 15.12.10 ISBN 978 92 890 0213 4

See page 70 second para from the bottom.

Walker (130) states that the incidence of chronic carbon monoxide exposure in Great Britain is officially 200 per year, while at the same time "250 000 gas appliances are condemned annually". He speculates that if only 10% of these appliances give off significant amounts of carbon monoxide that reach the breathing space of residents, as many as 25,000 people every year may be exposed to carbon monoxide in their homes. The carbon monoxide support study (89) found that "only one case out of 77 was correctly identified (i.e. diagnosed) on the basis of symptoms alone" and that medical professionals were the least likely group to "discover" the fact of the carbon monoxide poisoning.

See also page 86 Guidelines

The 24-hour guideline

Chronic carbon monoxide exposure is different from acute exposure in several important respects, as noted above. Thus, a separate guideline is needed to address minimal exposure over 24 hours, rather than the 8-hour period used in the acute guidelines. The latest studies available to us in 2009, especially those epidemiological studies using very large databases and thus producing extremely high-resolution findings, suggest that the appropriate level for carbon monoxide in order to minimize health effects must be positioned below the 8-hour guideline of 10.5 mg/m₃, possibly as low as 4.6–5.8 mg/m₃. This is also essential since the minimal exposure time for this guideline is three times longer. 'Note to explain these levels

10.5 mg/m3 = 8.9 Parts Per Million so call it 9 PPM 4.6 mg/m3 = about 4PPM'

Please note that CO-Gas Safety has been lobbying for 15 years now on these matters. Also please note that Colin Breed MP tabled an EDM (Early Day Motion) asking for these recommendations to be implemented in 2000 and again in 2007. The first was signed by 49 MPs and the second was signed by 121 MPs (see pages 23-24).

Please note that there are other toxins in fuels and emissions from fuels.

Other fuel toxins

1. Evidence from the Internet

www.airquality.co.uk/archive/reports/cat08/0407081208 Task7 cumbustion report issue1.pdf

This is a DEFRA document (i.e. a British Government document) search for NoX, PM10s, Dioxins, Furans and PCBs and VOCs (Volatile Organic Compounds).

For natural gas see

<u>http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf</u> and search for mercury, manganese, copper, arsenic, chromium, cadmium, barium, nickel etc. and see

http://www.npi.gov.au/publications/aedmanuals/pubs/gasburning_ff.p_df

For details of other toxins found in Domestic Heating Oil or fuel oil (Kerosene) combustion see

http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s03.pdf

This is from the United States Environmental Protection Agency. For coal and wood see

http://www.npi.gov.au/publications/aedmanuals/pubs/solidfuel_rev2.p df

This is an Australian document.

For mercury in oceans from deposits from power stations see http://www.ens-newswire.com/ens/may2009/2009-05-04-02.asp

If fish in the Pacific are being poisoned by the mercury in the pollution from coal powered power stations in Asia, think what that mercury could be doing if it is leaking with the products of combustion from a fuel appliance into a home. Surely there should be research into this danger?

2. The Reach Legislation, which basically requires all products to have to be proved to be safe, excludes fuels. See

http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001: 0849:EN:PDF

3. The fact that a test house assures us that the toxins (such as mercury, manganese etc.) are in such tiny amounts that they cannot possibly cause a problem, yet state that they have done no research to prove this nor can they quote any research done to prove this. <u>All gas appliances are tested</u> <u>before sale for the CE Mark but they are tested with laboratory gasses, which are specially prepared to remove impurities such as the other toxins.</u>

4. The fact that at the All Party Parliamentary Gas Safety Group (APPGSG) meetings although the other toxins including the toxins were discussed, none of the energy companies present denied that they existed.

5. The statement from Dr. Walker GP in the APPGSG that the other toxic compounds may well be responsible for some of the long-term consequences – see Page 19 of the report January 2009 see

<u>http://www.gassafetygroup.org.uk/lib/docs/allpartygassafetygroupreport me</u> <u>dicalawareness.pdf</u> (This is no longer available) 'Treatment for the long-term effects of CO exposure is, according to Dr Ed Walker is much more complicated. The picture is complicated by the fact that victims exposed to CO are often exposed to other toxic compounds at the same time, and it may be these that are responsible for some of the long-term consequences. However survivors of severe episodes of exposure often have extensive brain damage which can be demonstrated on MRI scans of the brain. This sort of damage is permanent and irreversible.'

6. We have many other cases over the years in which toxicologists cannot explain damage suffered as resulting from CO, yet is consistent with damage as a result of the toxins.

7. There is a case of a three year old, who died with a gas appliance in his bedroom, who had insufficient CO in his blood to kill him (in fact zero CO which is unusual). However, Stephanie Trotter, OBE was told by the Coroner, that the dead child had raised levels of toxins (arsenic, barium and nickel and especially manganese – 15 times the higher levels). The inquest has now been held (April 2010) and the verdict was death by natural causes. The manganese was explained by contamination and post mortem distribution, although we have been told that there is only research on post mortem distribution with regard to drugs, not heavy metals.

Please note that although we informed the APPGSG about the other toxins in April 2008, the group has refused to examine the other toxins confining their inquiry to CO only. However, as we submitted to the APPGSG, if poisons in water were being considered, and if toxins A,B,C and D were known to exist in water, surely it would be pointless and dangerous to consider only toxin A? Yet this in effect, is what the APPGSG continues to do.

. . . .

Furthermore, there is a case of poisoning by an oil fired appliance where, having not been worked on, it was tested and found to have negligible CO emissions, yet the couple report they have been badly poisoned by the other toxins.

Please also note that it is extremely difficult for our victims to obtain the services of toxicologists to assist them in any way. The only toxicologists who have been at all helpful seem to have emigrated (e.g. Dr. Alison Jones who was head of Guys Toxicology unit) or retired or undertake research work only. Stephanie Trotter, OBE has tried very hard to obtain the name of a toxicologist to advise on the poisoning of foetuses, but it seems that there is nobody in the UK who can do this or if there is, they are unwilling to assist

Proposed research

CO-Gas Safety wants research into:-

1. What is in gas before and after combustion?

Is it possible for significant amounts of toxins, such as toxins to be emitted into the atmosphere or far worse, blown back into or remaining in a dwelling when there is a partially blocked flue? Would incomplete combustion affect this other than to increase CO? What about flueless appliances such as cookers and some fires? To undertake this research an independent body would have to be found to test the gas before combustion and after combustion using gas in pipes and burned in a boiler with a flue, a boiler with a partially blocked flue. This would also have to be done for a gas fire and also for a cooker in an average kitchen with average ventilation. Also a flueless gas fire should be tested. We have asked BRE about the cost of this research and it would cost about £10,000 for an initial laboratory test and a further £40,000 for field tests.

- 2. It is also possible that while the amounts of the toxins in fuels are small, these could build up in the body fat of the person concerned causing problems over a long period.
- 3. The same as above for oil, coal and wood.

The cost of this research would be far more than we could afford but surely the gas and oil industry must have undertaken such research? If not, why not? **Surely if they are selling their products to the public they should know what is in it and whether if used correctly or <u>incorrectly</u>, there are any dangers to the public? We need this research to be of the highest quality and extremely independent. We have already asked Lord McKenzie (Government Minister responsible for the Health and Safety Executive, which covers gas) to undertake this research (May 2009) and also drawn the attention of various Select Committees to this need. Please note that there may be a risk to those inside from these toxins when the fumes are not exiting to outside air. However, there is also a possible risk of planet poisoning when the toxins exit to the outside air and it seems that scientists expert in outdoor air are well aware of these toxins in the atmosphere. However, the amount of such toxins would obviously be much greater in indoor air.**

We suspect that many people whom GPs report as 'TAT' (Tired All the Time) are in fact suffering from poisoning caused by these toxins and/or Volatile Organic Compounds (VOCs). For blood tests for these toxins see <u>http://www.co-gassafety.co.uk/prevention.html</u> and click on 'Blood tests' on the right hand side. These blood tests can be done weeks or months later, unlike tests for CO. It is also possible to have urine tests both before and after a provoker has been taken. However, it would still be necessary to prove on a balance of probabilities (for a civil claim) that these toxins, if found in the blood, came from the fuel and appliance concerned. However, if the research really has not been done by the fuel suppliers, surely urgent research on the other toxins emitted by appliances should be undertaken?

To prevent deaths and injuries from CO and other fuel toxins.

- 1. All appliances powered by any fuel that burns should be installed and serviced according to manufacturer's instructions usually once a year. Make sure that the person doing this work is properly qualified. Please check and remember it's your money and <u>your life</u>. With gas the installer must be Gas Safe Registered. However, also check with the Gas Safe Registered website to make sure that the particular person who works on your appliance is qualified to do so (e.g. qualified for fires, not just boilers). This can be done by checking the Gas Safe Register on the Internet.
- 2. Make sure all chimneys and flues are regularly swept and checked.
- 3. Ensure adequate ventilation and don't block ventilation grilles.
- 4. As an extra safeguard against CO, buy a CO alarm to European Standards EN50291. This will cost around £15 - £20 in most good DIY stores and some supermarkets.

In an emergency, ring the Gas Emergency Service line on 0800111999 but they will only turn off your appliance or your gas. **They will not test your appliances for CO nor will they test the air you breathe.**

Seek immediate medical help and insist on a CO test and ask for the result in writing. Ordinary blood is adequate for this – there is NO NEED for arterial blood.

CO-Gas Safety's 15 years of data of deaths and injuries from Unintentional Carbon Monoxide poisoning and gas explosions from 01.09.1995 – 31.08.2010

When we first launched at the House of Commons in 1995, it was obvious that there was a huge need. However, we did not know how many people were dying or being injured from carbon monoxide poisoning and we needed to find out. It was also obvious that if a common reason could be found for the deaths, those deaths could be reduced. We asked the then Gas Consumers Council to attend all the inquests on CO deaths in one year but they responded that such an exercise had 'resource implications'. The GCC was funded by a levy on the industry, so we asked the GCC to ask for more funding to do this. I did some research and found out that inquests could be attended by junior barristers for £100 each plus £100 for compilation etc., costing a total a total of £10,000 for 50 deaths. Hardly a huge cost so I put this proposal to the GCC. As far as we know, GCC failed to act on our suggestion.

We started collecting data in Autumn 1995, using every method available and quickly employed a press cutting agency. I asked a friend, Jo Richards if she would take this over for some payment. Thankfully she agreed and she has compiled the data all these years. Obviously we worked hard to refine our methods and were soon writing to Coroners to check details. We found out some interesting facts:-

- 1. It can take up to three years for an inquest to be held so **the most recent years show fewer deaths because we often don't hear about a death until the inquest**.
- 2. Local papers were remarkably accurate on the whole, especially when reporting an inquest. When you think about it, this is not surprising because local journalist don't want to cause offence by writing 'John Smith committed suicide' when he didn't.
- 3. The Coroners (although all independent) became more and more helpful because we sent them our statistics, a one page update of the deaths (we still do this see page 11) so they could see that we used the data we sent them. I would like to thank all those Coroners and Coroners' officers for the invaluable work they do and the help they have given the charity over the years.
- 4. We found that in order to be accurate, you need the name of the deceased, the date of death and the place of death (the place of death provides the Coroner with his or her jurisdiction over the body with deaths abroad it is where the body arrives in the UK).
- 5. The HSE did not publish the names of the dead for many years so it was impossible to compare our data with theirs. The HSE basically only collects gas related CO deaths.
- 6. HSE maintained that the families would be upset if HSE published the names. We had asked the families (it seems HSE had not) and families were glad that we intended to publish the names; they told us that our list is like a war memorial. HSE does now give us the names.
- 7. We decided to collect, compile and freely publish named CO deaths from <u>all</u> fuels.
- 8. Other bodies were extremely helpful to us, such as the Solid Fuel Association.
- 9. Setting up the database and website was another milestone.
- 10. We have been told that in March 2011, the All Party Parliamentary Gas Safety Group is setting up research into 'barriers to accurate recording of data'. We have been collecting data for 15 years. The real issue is why is there no automatic test of dead bodies for CO? Also, why doesn't Government encourage Coroners to report this sort of CO death automatically?
- 11. It seems wrong that our data is the best in the UK but this seems to be so. It is peculiar that our data continues to be ignored. Perhaps big business cannot accept that a small charity can do just as well, if not better, than large organizations with huge funding?
- 12. We would like to have the funding to continue our data collection, to provide more analysis of the existing data and to find someone independent to check it. In the past we have been supported by the Department of Health for many years and we are grateful. In our opinion, our research is not something that can be peer reviewed, because who else is even trying to gather as much data as we are? Therefore, perhaps the best way forward would be to find someone independent to randomly check 10% or so of the deaths in our database. However, we need funding just to continue, let alone do this.

Stephanie Trotter, OBE

UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010. This data is being added to regularly so map will probably change.



Please note Scotland does not have Coroners so sadly the low number of deaths we have recorded there almost certainly does not reflect the facts.

CO-GAS SAFETY'S STATISTICS OF DEATHS AND INJURIES*

UK Deaths from unintentional carbon monoxide poisoning over 15 years from 01.09.1995 to 31.08.2010 TOTAL 594

Tenure:				
	Owner/Occupier	343		
	Council	61		
	Private Rental	62		
	Housing Association	15		
	Other (e.g. hotel)	9		
	Unknown	104		
_		-	-	
Situation:				
	House	279	Hostel	1
	Flat	87	Commercial Premises	3
	Bungalow	41	Campervan	10
	'At home'	18	Polytunnel	1
	Garage	21	Shed/Cabin	7
	Car	6	Lorry	7
	Caravan	23	Hotel	5
	Boat	21	Public House	3
	Workshop	5	Care Home	1
	Work Place	12	Aeroplane	4
	Shop	4	Club House	2
	Tent	7	Unknown	26

Fuel breakdown by CO-Gas year (September to August):

Year	95/6	96/7	97/8	98/9	99/00	00/1	01/2	02/3	03/4	04/5	05/6	06/7	07/8	08/9	09/10	Total
Solid fuel	27	19	26	14	18	14	5	8	3	5	8	14	10	6	5	182
Gas Mains	32	22	18	24	14	16	7	11	9	14	12	9	11	18	4	221
Gas Portable	8	8	5	6	10	5	7	7	6	4	7	4	3	5	5	90
Petrol	6	7	3	6	3	3	8	1	2	3	2	9	4	4	6	67
Oil	-	2	-	-	-	-	-	-	-	-	-	1	-	1	-	4
Paraffin	-	-	1	1	-	-	-	2	-	-	-	-	1	-	-	5
Unknown	1	-	-	-	-	-	4	4	1	2	4	2	1	3	3	25
Total	74	58	52	51	46	38	31	31	23	28	33	39	30	37	23	594

Near-Misses from Accidental Carbon Monoxide Poisoning in UK

Year	95/6	96/7	97/8	98/9	99/00	00/1	01/2	02/3	03/4	04/5	05/6	06/7	07/8	08/9	09/10	Total
Near misses from accidental CO	467	449	320	386	335	297	87	145	171	213	151	329	193	254	176	3,973

(Fifteen years from September 1995 to August 2010) **Total: 3,973** of whom **2,085** required hospital treatment (of those **365** had lost consciousness).

Deaths from Gas Explosion in UK (September 1995 to August 2010) Total: 94

Year	95/6	96/7	97/8	98/9	99/00	00/1	01/2	02/3	03/4	04/5	05/6	06/7	07/8	08/9	09/10	Total
	11	5	6	6	13	7	6	5	15	4	2	4	5	4	4	97

*Please note that we gather these statistics from newspaper cuttings etc. and we check deaths with the Coroners – most Coroners are very helpful. Figures for near-misses reflect only those reported in the press; we expect the true number to be much higher. Please also note that all figures are running totals and are adjusted as more information is gathered. © Copyright CO-Gas Safety 2010. Last update December 2010.

Data from website can be published provided it is not used for profit and provided it is stated where it came from and our website www.co-gassafety.co.uk is quoted on all material used.

CO-Gas Safety data on deaths from unintentional CO poisoning put into HSE years i.e. HSE year runs from 1st April to 31st March

This data is being added to regularly so will change.

Year	95/6	96/7	97/8	98/9	99/00	00/1	01/2	02/3	03/4	04/5	05/6	06/7	07/8	08/9	09/10	Total
Solid fuel	26	18	22	17	13	19	5	8	3	5	8	12	10	8	5	180
Gas Mains	28	22	18	23	17	18	6	12	10	13	9	10	12	16	8	222
Gas Portable	8	6	6	7	10	5	6	7	8	2	8	3	5	4	4	91
Petrol	3	7	5	5	4	3	6	4	2	2	2	8	6	2	7	67
Oil		2											1	1		4
Paraffin					2					2			1			5
Unknown	1						2	6		3	3	3	1	3	1	25
Total	66	55	51	52	46	45	25	37	23	27	30	36	36	34	25	594

Please note that HSE collect statistics for domestic/commercial gas fatalities due to both LPG and Natural Gas. Workplace CO deaths recorded could (theoretically) arise from incomplete combustion of any type of fuel.

In contrast, CO-Gas Safety collects statistics with regard to unintentional CO related deaths and injuries from all fuels.

Note. CO-Gas Safety only started collecting data on the 1st September 1995 so for 95-96, our data put into an HSE year (April to March) is only during a 6 month period i.e. 1st September 1995 to 31st March 1996.

HSE data from the HSE

Contains public sector information published by the Health and Safety Executive and licensed under the Open Government Licence v1.0'. www.nationalarchives.gov.uk/doc/open-government-licence/

Table RIDGAS

http://www.hse.gov.uk/statistics/tables/ridgas.xls

Incidents relating to the supply and use of flammable gas (a) 2005/06 - 2009/10p

		2005/06	2006/07	2007/08	2008/09
Number of incidents (b)	Explosion/fire	28	22	31	27
	Carbon monoxide poisoning	119	115	147	172
	Other Exposure	*	*	12	4
	Total	149	137	190	203
Number of fatalities	Explosion/fire	4	2	2	2
	Carbon monoxide poisoning	16	10	13	15
	Other Exposure	-	-	3	1
	Total	20	12	18	18
Number of non-fatalities	Explosion/fire	29	27	37	30
	Carbon monoxide poisoning	210	184	191	289
	Other Exposure	*	*	10	5
	Total	241	211	238	324

Notes:

(a) Mainly piped gas but also includes bottled LPG

(b) An incident can cause more than one fatality or injury

p Provisional

Data from website can be published provided it is not used for profit and provided it is stated where it came from and our website www.co-gassafety.co.uk is quoted on all material used.

FUEL type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010.

This data is being added to regularly so chart may change.



Considering the relatively small number of solid fuel users, there is a high incidence of deaths from solid fuel.



APPLIANCE type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010.

*'Cooker' includes cooker, just hob or just grill.

Considering the relatively small number of solid fuel users, there is a high incidence of deaths from solid fuel. AGE of victims relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010.



This data is being added to regularly so chart may change.

Age Range

From the Census 2001

http://www.statistics.gov.uk/census2001/pyramids/pages/uk.asp It is interesting to note that ages 71-80 make up only 7.3% of the population yet represent 19% of the deaths. In our opinion, many deaths in this age group are put down to 'heart attack' when they are CO because there is no automatic test of CO on death, so the proportion of CO deaths in this age group could be even higher.



PLACE of incident that caused death relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010.

It is easy to see that people at home are most at risk from carbon monoxide poisoning. Why is so little being done to raise awareness of the dangers and to protect ordinary people who may be exposed for 24 hours a day? Dr. Ben Croxford's research at UCL (University College London) in 2006 found:-

- 23% of homes had one or more defective gas appliance;
- 8% of homes were judged to be at risk of dangerous levels of CO;
- 45% of homes had received no information on the dangers of CO; and
- A higher prevalence of problem appliances was found in the homes of vulnerable people (young, old, those in receipt of benefits).

Taken from HSE press release 2006

TENURE type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2010.

This data is being added to regularly so chart may change.



http://www.communities.gov.uk/documents/statistics/pdf/1750754.pdf Tenure

1.1 In 2008, there were around 22.2 million dwellings in England, Table 1.1.

Some 15 million dwellings (67%) were owner occupied while 3.3 million were privately rented (15%). The social sector accounted for the remaining 3.9 million dwellings which were fairly evenly divided between local authorities and housing associations (CO-Gas Safety adds - presumably 9% and 9%)

Comment by CO-Gas Safety

Therefore the incidence of deaths in owner occupied property looks lower than expected, although there is quite a high incidence of unknown tenure (18%). The incidence of deaths in council owned property looks relatively high (10% deaths higher than the 9% of the housing stock) while the incidence of deaths in housing associations (3%) looks low compared to the percentage of properties owned by housing associations (9%).

It would be really helpful to have even more co-operation from Coroners to record the tenure which, of course, the government could require.



It is entirely unsurprising that November, December and January contain the highest number of deaths.

One example page of CO-Gas Safety's 11 pages from 01.09.95 to 31.08.2010 of the named people who died from unintentional carbon monoxide poisoning

Surname	Forename	Age	DateofDeath	Fuel Type	Appliance	Situation
Agar	Peter	53	30/01/2001	Petrol/Diesel	Other	Shop
Ahmed	Qaila	20	16/03/1998	Mains Gas	Gas Fire	House
Ahmed	Tauseff	23	16/03/1998	Mains Gas	Gas Fire	House
Ainsworth	Derek	54	20/02/1999	LPG	Generator	Boat
Aitken	John	63	06/04/1999	Petrol/Diesel	Engine	Garage
Akester	Wilfred		02/04/1999	LPG	Fridge	Boat
Akhtar	Javed	31	23/10/1995	Mains Gas	Gas Fire	House
					Central Heating	
Ali	Mohamed	33	00/04/1998	Mains Gas	Boiler	Flat
Alker	Deborah Ann	45	27/04/2004	Paraffin	Cooker	Other
Allan	Andrew	31	25/11/1999	LPG	Room Heater Central Heating	Flat
Allen	Brian	50	27/01/2000	Mains Gas	Boiler	House
Allen	Daniel	19	12/02/2006	LPG	Other Central Heating	House
Allen	Henry	83	07/12/2008	Solid	Boiler	Unknown
-	- ,				Central Heating	
Allen	Jeffrey	47	19/09/2007	Mains Gas	Boiler	House
Allum	Nigel	24	30/12/2006	Petrol/Diesel	Generator Portable Room	Caravan
Ananthakumar	Nadorasah		15/03/2001	LPG	Heater	Flat
Angell	Jean Mary	67	28/05/1998	Solid	Room Heater	House
Angell	Winifred Florence	95	28/05/1998	Solid	Room Heater Central Heating	House
Archer	Harold	74	25/11/1996	Solid	Boiler Central Heating	House
Arkell	Stephen	25	08/11/1995	Solid	Boiler	House
Atkinson	Samuel	57	22/02/1996	Petrol/Diesel	Engine	Garage
Attwood	Elsie	86	27/11/2007	Mains Gas	Gas Fire	House
Attwood	Ray	88	27/11/2007	Mains Gas	Gas Fire	House
Axford	Dorothy	65	02/02/2003	Mains Gas	Cooker	House
Axford	Lillian	76	07/02/2003	Mains Gas	Cooker	House
Ayeano	Rusel	29	18/10/2003	Petrol/Diesel	Generator Central Heating	Workplace
Bailey	Mary-Ann	15	28/01/2004	Mains Gas	Boiler Central Heating	House
Bailey	Sarah Jane	74	14/08/2007	Oil	Boiler	House
Baker	John	50	03/03/1998	Solid	Room Heater Portable Room	House
Ball	Jordan	18	21/03/2009	LPG	Heater	Shed
Barber	Rachel	85	25/03/1998	Solid	Open Fire	House
Barns	David	75	22/09/1998	Petrol/Diesel	Engine	Garage
Barton	Brian	59	05/02/1998	LPG	Generator	Boat
Bateman	Leslie George	87	07/02/2008	Solid	Cooker	House
Bates	Lena	93	04/06/1998	Solid	Room Heater	House
Bawden	Enid	82	06/12/2004	Solid	Cooker	House
Baxter	Mabel	69	19/11/1996	Oil	Cooker	House
Baxter	William	75	19/11/1996	Oil	Cooker	House
Beak	David	52	13/11/2001	Petrol/Diesel	Generator Central Heating	Workplace
Bean	Edward	80	31/12/1999	Solid	Boiler Central Heating	Bungalow
Bean	Maud	80	04/01/2000	Solid	Boiler	Bungalow
Bedford	Margaret	76	01/01/1996	Solid	Room Heater	House

CO-Gas Safety publication of 15 years of data & Schools Poster Competition Prize Giving 25.01.11

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Sponsorship sought for the data collection and publication to continue and for the work of the charity generally

Data Collection Payment of press cuttings & media per year about	£ 3,000
Payment to press cuttings and database officer*	10,000
Share of management & administration Total	<u>10,908</u> £23.908

*Note A friend of Stephanie's, Jo Richards has been doing this job brilliantly since the charity started collecting data in 1995. She does this work from home when she can find the time. CO-Gas Safety has not been able to pay her very much and she has done a lot of the work without charging. With her help we have estimated that it would take about 500 hours per year at say £20 per hour to do the work even from home.

CO-Gas Safety has incurred extra expenses this year in paying for the data to be compiled into pie charts and bar charts and the map.

We only heard on the 16th January 2011 that our data had been used extensively in preparing a piece of Government research 'Study on the Provision of Carbon Monoxide Detectors Under the Building Regulations' BD 2754

<u>http://www.communities.gov.uk/documents/planningandbuilding/pdf/1324663</u> We are looking into this matter.

There is the website to keep up and there are other expenses such as computer help, telephone, stationary and travelling to help victims (at inquests for example) etc. Stephanie works from home so there are virtually no office costs.

There are gas safety trusts with funds and companies which make huge profits (British Gas £585 million) and yet profess to care about their customers and gas safety, yet a charity such as CO-Gas Safety is struggling simply to find funding to continue its vital work.

Stephanie and the directors do the work as volunteers. Think how much more it would cost if CO-Gas Safety was run by civil servants or company employees with bonuses and pension funds!

If there are any wealthy trusts or companies which would be willing to fund CO-Gas Safety's work, please get in contact with us on <u>office@co-gassafety.co.uk</u> Tel. 01372 466135. This work needs to be continued.

EDM 574

CO-GAS SAFETY TENTH ANNIVERSARY

Breed/Colin

That this House notes that CO-Gas Safety, the independent charity committed to reducing accidents from carbon monoxide and other gas dangers worldwide, reaches its 10th anniversary on Tuesday 25th January; congratulates CO-Gas Safety on all its achievements in the last 10 years, during which it has pushed for and achieved a British Standard for both carbon monoxide detectors and flue gas analysers and set up a unique database of deaths from accidental carbon monoxide poisoning from all fuels as well as an informative website at www.co-gassafety.co.uk; acknowledges that CO-Gas Safety has raised awareness of the dangers of carbon monoxide, especially from solid fuel, and has given help, advice and support to hundreds of injured people and bereaved families; is gravely concerned that the Health and Safety Committee recommendations in 2000 have not all been implemented; and urges the Government to implement them as soon as possible.

Breed/Colin Vis/Rudi McDonnell/John Brake/Tom Clapham/Michael McNamara/Kevin Griffiths/Win Simpson/Alan Rapson/Syd Jenkins/Brian Russell/Bob Sanders/Adrian Trickett/Jon Dismore/Andrew Campbell/Gregory Llwyd/Elfyn Caton/Martin Spink/Bob Lepper/David Bottomley/Peter George/Andrew Jones/Lynne Wyatt/Derek Hoyle/Lindsay Dodds/Nigel Cryer/Ann Eagle/Angela Ennis/Jeff Tvler/Paul Perham/Linda Hamilton/David Jones/Nigel Barnes/Harry Corbyn/Jeremy Marris/Rob Drew/David Price/Adam Robinson/Iris

Williams/Betty Gerrard/Neil Stunell/Andrew Hancock/Mike Meale/Alan Mitchell/Austin Etherington/Bill Cable/Vincent Beggs/Roy Hermon/Sylvia Chidgey/David Printable EDM.. 24.01.05

CO-Gas Safety publication of 15 years of data & Schools Poster Competition Prize Giving 25.01.11 Page 22 © CO-Gas Safety 2011. Please seek permission for publication by email office@co-gassafety.co.uk Data from website can be published provided it is not used for profit and provided it is stated where it came from and our website www.co-gassafety.co.uk is quoted on all material used. Early Day Motion

EDM 1032

PREVENTING DEATH AND INJURY FROM ACCIDENTAL CARBON MONOXIDE POISONING 05.03.2007

Breed, Colin

That this House records its sadness that 16 people have already been reported as having died of accidental carbon monoxide (CO) poisoning in the UK since September 2006; commends the recommendations which were made by the Health and Safety Commission in 2000, including a modest levy on gas suppliers to provide funds for raising awareness of the dangers of CO; recognises the need for regular servicing of appliances by qualified operatives, adequate ventilation, regular chimney sweeping and the use of CO alarms in preventing CO poisoning; further recognises that the gas emergency service should have and use equipment to test appliances for CO; and urges the Government to bring forward proposals to make these recommendations mandatory given the lack of industry movement since 1997, and to make funds available for a body to assist the victims, their families and to fund further research.

Sign	atures(= 121)	
Alph	nabetical=20 Order	-
Stati	15	
=20	Open = signatures	-

Breed, Colin
Hoyle, Lindsay
Penning, Mike
Bottomley, Peter
Dismore, Andrew
Meale, Alan
Holmes, Paul
Jones, Lynne
McCafferty, Chris
Caton, Martin
Conway, Derek
Cryer, Ann

George, Andrew Hancock, Mike Swayne, Desmond Taylor, David Williams, Stephen Scott, Lee Pope, Greg Spink, Bob Hermon, Sylvia Iddon, Brian Brooke, Annette Campbell, Ronnie Corbyn, Jeremy Drew, David Turner, Desmond Vis, Rudi Leech, John Cohen, Harry Dean, Janet Vaz. Keith Williams, Mark Anderson, David Kemp, Fraser Francis, Hywel Gibson, Ian Amess, David Bercow, John Williams, Betty Heyes, David Jenkins, Brian Jones, Kevan Durkan, Mark Hamilton, Fabian Baker, Norman Stunell, Andrew

Taylor, Ian Swinson, Jo Moon, Madeleine Sarwar, Mohammad Simpson, David McDonnell, John Donaldson, Jeffrey Willis, Phil Wyatt, Derek Clark, Katy Simpson, Alan McCrea, Dr William Miller, Andrew Moore, Michael Gerrard, Neil Taylor, Richard Etherington, Bill Hemming, John Harvey, Nick Campbell, Gregory Clegg, Nick Ennis, Jeff McDonnell, Alasdair Mitchell, Austin Morley, Elliot Illsley, Eric Keetch, Paul Mulholland, Greg Soulsby, Peter Pugh, John Harris, Evan Evans, Nigel Sheerman, Barry Laws, David Martlew, Eric

Hamilton, David Riordan, Linda Singh, Marsha Lepper, David Rowen, Paul Llwyd, Elfyn Foster, Don Hunter, Mark Featherstone, Lynne Horwood, Martin Dodds, Nigel Taylor, Matthew Farron, Timothy Carmichael, Alistair Goldsworthy, Julia Williams, Hywel Smith, Robert Arbuthnot, James Moffat, Anne Thornberry, Emily Sanders, Adrian Gilroy, Linda Webb, Steve Griffith, Nia McGovern, Jim Waltho, Lynda Prentice, Gordon Hepburn, Stephen Brake, Tom Cook, Frank Linton, Martin Davies, Dai Keeble, Sally Stewart, Ian Clwyd, Ann

Ellman, Louise
McKechin, Ann
Abbott, Diane
Morgan, Julie

Cost benefit analysis of a modest levy

Our Fuel Safety Bill should save funds or even produce surplus funds, because the cost of each sudden death is £1,683,810 and the average cost of injury is £34,496. Both these figures are taken from DOT figures at 2008 prices*. I have recently been informed by HSE that there are HSE prices but these are only available at 2006 prices.

The Fuel Safety Levy, even at $\pounds 2$ per annum should bring in at least $\pounds 44$ million per year to be spent on safety improvements. There would be some costs involved in raising a levy but these are likely to be small.

	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	Totals
Deaths from accidental CO	38	31	31	23	28	33	39	30	37	23	= 313 Divided by 10= 31
Near misses from accidental CO	297	87	145	171	213	151	329	193	254	176	= 2016 Divided by 10 = 202

*From the death of Katie Overton aged 11 who died in 2003 and Elisabeth Giauque aged 6 who died in 2005, it is obvious that even with the death of a previously healthy child, CO can be missed. This leads us to the conclusion that many deaths and injuries from accidental CO are misdiagnosed and that these figures are just the tip of an iceberg. Also, we are convinced that many of those presenting at the GP with TAT (Tired All the Time) have in fact suffered poisoning by CO and other fuel toxins.

So 31 deaths per year at £1,683,810.....£52,198,110 202 near misses per year at £34,496.....<u>£6,968,192</u>

Total average cost per year

of these accidental CO deaths & injuries......<u>£59,166,302</u>

So a fuel safety levy of £2 per household per year (£44 million) would save the taxpayer/society over £15,166,302 million per year.

A fuel safety levy of a mere £1 per household per year (£22 million) would save the taxpayer over £ 37,166,302 million per year.

*Please note that the most recent figures are for 2008 and these are:-'Cost of a life' is £1,683,810, serious injury £189,200, slight £14,590 with an average of all injuries being £34,496. Please see http://www.webtag.org.uk/webdocuments/3 Expert/4 Safety Objective/3.4.1-draft.htm

Winners of the 2009-10 competition

South

Katy Hatch Age at entry 11

School St Patrick's Catholic Primary School Tel. 01708 745655

Teacher Lorna Lyons

MP Andrew Rosindell Con.

North

Charlotte Mason Age at entry 11School Sheffield High SchoolTeacher Sarah GroombridgeMP Paul Blomfield MP Lab for the SchoolAndrew Percy MP Con for the residential address of the winner

A Big Thank you to the Sponsors of our Competition - The Department of Health

We have funding from the DoH until 2013 for the competition.

Also thank you to those who have generously given to us.

Kane International

Scottish & Southern

CoGDEM

PTS Plumbing Trade Supplies



Registered Charity Number:1048370 www.co-gassafety.co.uk

Calling all Primary Schools and Pupils aged 10-11! We want YOU!

Please help raise awareness of the dangers of carbon monoxide (CO) poisoning!

CO-Gas Safety is an independent registered charity and is running a Schools Poster Competition for a fourth year to highlight the dangers of CO and other dangers from using fuel that burns.

Entry is FREE and there are great CASH prizes!

Competition for this year closes 31st July 2011

All the details are on the website www.co-gassafety.co.uk/competition.html

There are two regions, North England and South England so there will be 2 winners plus possibly 1 overall UK winner. Prizes are at least £300 for each winning pupil and at least £500 for each winning school!



You could ask your audience to spot the CO dangers in this picture

The charity is hoping for some brilliant entries to get the message across simply ©copyright CO-Gas Safety 2010







RULES

1. The competition asks students to produce an informative, accurate and eye-catching poster warning of the dangers of Carbon Monoxide (CO) poisoning and/or fumes and/or how to avoid them. Material about CO and how to avoid it and other fuel toxins can be found at www.co-gassafety.co.uk/competition.html

2. There will be one year group Year 6 in Primary School (ages 10-11) in the autumn term 2010 (or any other student who joins this year in 2010-July 31st 2011 but who is the correct age as specified above).

3. Students can use any medium (paints, crayons, painting, photographs etc.) provided it is the individual student's own individual and original work. <u>Students must not work together</u>.

4. Students may consult books or the Internet for information or ideas, but no credit will be given for material simply printed off the computer or photocopied etc.

5. Entries must be photographed and emailed (1 entry per person per email) in JPEG format to: <u>postercompetition@co-gassafety.co.uk</u>

6. Entries should reach CO-Gas Safety by no later than midnight on July 31_{st} 2011. To avoid any confusion <u>please make sure that each entry/poster is clearly labeled on the poster itself</u> with the name and age of the student and the name and address of the school and please repeat this information in the accompanying email.

7. The winners will be awarded prizes and the best ones may be put on display in the media or used to further raise awareness.

The judges' decision on all matters will be final and no correspondence will be entered into with regard to any matter concerning this competition. The charity will try to clear up any ambiguities that may be brought to its attention (email <u>office@co-gassafety.co.uk</u>) and rules may be amended accordingly from time to time in order to clear up any such ambiguities brought to our attention.
 Provided there are enough entrants, there will be two regional winners, North England and South England. Prizes will be £300 for each winning student and at least £500 for each winning school* (although if we obtain more sponsorship, we may increase this).

10. For those being home educated*, parents can nominate either a school or a Local Education Authority etc. to receive the £500 winning prize for the 'school'.

Please note that groups of the relevant ages such as scouts etc. can also enter provided they nominate a recognized organization, such as scouts, guides etc. as the 'school' to receive the prize.

11. By entering all entrants, (if winners), agree to attend a prize presentation at a venue to be notified to the winners, probably at the Houses of Parliament usually during the last week of January in the year following (e.g. if poster sent by 31.07.2011 wins, prize giving end of January 2012). Please note that the charity has funding from the Department of Health to continue this competition for three years from 2010 to 2013.

Reasonable expenses for travel, food and accommodation costs for attending the prize giving venue of students and a parent/guardian will be reimbursed provided receipts are received. At the event one overall winner for England may be announced selected from the regional winners. 12. Upon entry, all entrants agree that all copyright and other intellectual rights to the posters will become the property of the registered charity, CO-Gas Safety.

For further information please visit www.co-gassafety.co.uk or email office@cogassafety.co.uk

'If you have any queries or worries please email Stephanie Trotter OBE office@co-gassafety.co.uk'

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SCHOOLS POSTER COMPETITION INFORMATION ABOUT CARBON MONOXIDE

SECTION ONE TO BE READ BY PUPILS/STUDENTS WITH THEIR PARENTS AND **TEACHERS BEFORE DESIGNING A POSTER**

The Silent and Invisible Killer

Every year about 40 people in the UK are recorded as having died of carbon monoxide poisoning. Hundreds more suffer ill-effects as a result of exposure to carbon monoxide: sometimes they are permanently disabled. Carbon monoxide can be emitted from faulty domestic heating and cooking appliances.

CO-Gas Safety believes that even these figures are the tip of an iceberg for many reasons:-

- 1. GPs rarely test for carbon monoxide.
- 2. Dead bodies are not automatically tested for carbon monoxide.
- 3. Heating and cooking appliances are often not tested for carbon monoxide.

Greater awareness of the dangers of carbon monoxide and other products of combustion and toxins in fuel as well as the need for ventilation, proper servicing and chimney sweeping could prevent these tragedies.

What is carbon monoxide?

Carbon Monoxide (CO) is a toxic gas, which can be emitted from the burning of any fuel.

Can you name any fuel that burns?



Gas (mains or bottled), solid fuel (coal, wood, etc) petrol, oil, paraffin.

Can you find any possible sources of carbon monoxide in this picture?



Why is Carbon Monoxide called CO?

The fuels that we use on a daily basis all contain carbon. Sources of carbon include charcoal, oil, natural gas and petrol. When we burn these fuels the carbon combines with oxygen in the air. If there is enough air, carbon dioxide is produced. Carbon dioxide or CO2 is formed from one atom of carbon and two atoms of oxygen.



Carbon monoxide, CO is formed from one atom of carbon and one atom of oxygen.



So you can see that the less oxygen there is at the flame the more likely it is that carbon monoxide will be formed. This is why it is so important to burn fuels in a well ventilated area.

The dangers of carbon monoxide

Carbon monoxide is a highly toxic gas. Less than 2% of CO in the air can kill in two minutes (See HSE website <u>http://www.hse.gov.uk/foi/internalops/hid/spc/spctosd30.pdf</u>). Low level exposure of CO over a long period can cause brain and neurological damage.

Why is carbon monoxide so toxic?

The red blood cells in your bloodstream carry oxygen to all parts of the body. Each red blood cell contains molecules of haemoglobin. Oxygen binds to the haemoglobin and when it gets to where it is needed in the rest of the body, the oxygen breaks away.



Carbon monoxide can also bind to the haemoglobin but it doesn't break away again.



Effectively carbon monoxide blocks the haemoglobin, making it useless for carrying oxygen.

This explains why CO can poison in tiny amounts.

Haemoglobin is attracted to the deadly charms of carbon monoxide



CO cannot be sensed using human senses, (hearing, seeing, tasting or feeling).



Do you know that miners used to take canaries down the mine?

Do you know why?

Because the poor canary (being very small) would die first and this would alert the miners to the presence of CO or other toxic fumes.

These days, special equipment, such as a flue gas analyzer, is needed to test appliances and/or the air in a room for CO.

Animals can still warn of dangers in the home. You may find your cat won't stay in the house. Dogs may also behave strangely or have a sore throat or mouth.



Please note that although you can't smell CO itself, you just might be able to smell some of the other products of combustion, which may have escaped into the room rather than gone up a chimney, (because it is partly blocked for example). Sometimes people describe this smell as 'gassy' and think there has been an escape from a gas pipe supplying natural gas to the house or appliance.

Recent research shows how widespread the problem is

Recent research undertaken by University College London has found:-

- 1. 23% of homes had one or more defective gas appliance;
- 2. 8% of homes were judged to be at risk of dangerous levels of CO; *(equates to about 4.5 million people in the UK)*
- 3. 45% of homes had received no information on the dangers of CO; and
- 4. A higher prevalence of problem appliances was found in the homes of vulnerable people (young, old, those in receipt of benefits).

The above is taken from an HSE Press Release 02.10.06

Symptoms of CO poisoning include:

- Headaches
- Nausea, (feeling sick)
- Exhaustion, (feeling unnaturally tired)
- Drowsiness, (wanting to go to sleep more than usual)
- Dizziness, (feeling funny as if you are going to fall over when standing up and perhaps feeling funny sitting down)
- Vomiting, (being sick)
- 'Flu like' symptoms, (generally feeling unwell. Some people suffer tummy aches and quite often different people suffer from different symptoms)
- Palpitations, (feeling your heart beat oddly)
- Chest pain, (pain in your chest)
- Collapse without necessarily losing consciousness, followed by unconsciousness and perhaps death.

The elderly and young are at higher risk than healthy adults. If you are suffering any of the symptoms, especially if more than one person in the house is suffering, you may be at risk of CO poisoning.



Please bear in mind that family members can suffer different symptoms, for example, the mother may be tired and have a headache, the son may be dizzy and act strangely and always want to be out of the house, the daughter may have a bad stomach ache, while the father may just be bad tempered. The problem is that such symptoms could be nothing or they could be CO.

Diagnosing CO poisoning

Doctors are generally poor at diagnosing CO. Doctor John Henry, former Consultant Physician at the National Poisons Unit, surveyed 200 general practitioners. He sent them symptoms of CO poisoning and requested their diagnoses. Although many sensible suggestions were made, not one GP suggested CO as a cause of these symptoms.

Some doctors' surgeries have equipment, (sometimes called a Smokelysler or ToxCo), to analyse breath for CO. This is easy, painless and provides an instant result. If this shows CO, a simple blood test may be required to confirm the diagnosis. However, a blood or breath test can produce a falsely negative result if too much time has passed between exposure to CO and tests being carried out. Do not assume that your appliances are safe just because the test results were negative.

What do I do if I suspect I have been exposed to CO?

- 1. Get out of the house or place where the poisoning is occurring (e.g. workplace, garage, etc.) or if you can't do this
- 2. Open all windows and doors and turn off all appliances.
- 3. Call the Gas Emergency number on 0800 111999 (e.g. from a neighbour's house)
- 4. Get to your GP or to the Accident and Emergency department at a hospital as soon as possible and ask for an immediate blood or breath test for CO. Find someone to go with you if possible. A visit to a doctor may also be helpful to prove CO poisoning or at least to record symptoms suffered by you that are consistent with CO poisoning. If exposure to CO is severe, treatment with hyperbaric (high pressure) oxygen is often recommended.

Can CO pass between houses?

Yes, through a joint chimney for example. Alternatively CO or other products of combustion can leak from the flat above or the flat below.

Please note that the National Gas Emergency Service, (responsible for gas emergencies) has no equipment to trace CO. We think this is like sending someone out to trace radioactivity without a Geiger counter!



How safe is your boiler?

Take these simple steps to CO safety - it's just commonsense

 Look at all your appliances. Do they look unsafe? They should look clean (i.e. no soot or dirt around it and no water leaking from it) and burn with a blue flame.



2. Have all appliances installed and serviced at least once a year by a properly qualified person. For gas appliances this means that only someone who is on the Gas Safe Register should inspect or service them.

Don't be shy about asking for proof of their training and experience - it's your money and your life. You can check that the individual who comes to your house is qualified to work on that particular appliance on the Gas Safe Register website <u>https://engineers.gassaferegister.co.uk/</u>

Ensure that your gas fitter uses a flue gas analyser or similar equipment to check for CO gas.



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Data from website can be published provided it is not used for profit and provided it is stated where it came from and our website www.co-gassafety.co.uk is quoted on all material used.

3. Make sure chimneys and flues are swept regularly, at least once a year, by a fully qualified sweep.

Make sure the chimney does not end in the loft or leak into the loft. It is important that chimneys and flues are kept clear so that all the products of combustion go harmlessly up the chimney and not back into the house.



- 4. Do not block vents or air grilles. Make sure you have some ventilation (open a window). If there is enough oxygen reaching the flame carbon dioxide will be formed, NOT carbon monoxide.
- 5. As an extra safeguard buy a CO alarm to European Standards EN50291. This will cost around £15-£20. Alarms are available at most DIY shops and some supermarkets. CO-Gas Safety has never heard of anyone dying with an in date CO alarm in nearly 15 years but we have heard of people still feeling ill with a good alarm, perhaps from low levels of CO or perhaps from other products of combustion or toxins in fuels.



Illustrations by John O'Leary <u>www.oleary-irsara.com</u> © 2010 Copyright CO-Gas Safety

CO-Gas Safety

The charity was founded in 1995 by Molly Maher, Nigel Griffiths MP and the late David Jenkins of RoSPA. Molly is mother of Gary Maher, who died of CO in 1985 and Sheree Maher, who is confined to a wheelchair as a result of the same CO incident that occurred in Tenerife. Molly helped Stephanie Trotter, who was campaigning for licensing of children's activity holiday centres in 1994. This was successful and there is now an Act, the Activity Centres (Young Persons' Safety) Act 1995. Stephanie agreed to run CO-Gas Safety as a full time volunteer from its launch at the House of Commons in January 1995; that's 16 years ago. In 2007 Stephanie was awarded an OBE for her work on gas safety.

The charity has been funded mainly by a grant under S. 64 from the Department of Health for many years and we are extremely grateful for this support, both financial and moral. However, we understand that due to changes in the S. 64 grants procedures, we failed to obtain funding for the collection of our data in 2010. We have been successful in obtaining funding for our Schools Poster Competition from 2010-2013. We have recently managed to keep the data collection going by kind donations, particularly from Kane International. We have always insisted on unconditional funding although of course, by law our funds can only be spent on our charitable objects.

We have always hoped that the need for CO-Gas Safety would diminish as a properly funded, (e.g. from a levy on the industry) victim orientated and independent body was set up and took over our work. We sincerely hope that this proves to be the case. Certainly Stephanie would gladly swap her OBE for such a body provided the recommendations made by HSC were implemented, there were sufficient funds and there was a majority of victims or these representing victims on such a trust.

The aim of the charity, CO-Gas Safety, is and was to prevent deaths and injuries from CO and other gas dangers and to help victims and their families. Very quickly it became obvious that support for families was desperately needed because there seemed to be little official help. The HSE is more of a prosecuting and policing body, not a victim support body. 'Victim Support' itself knows little about gas safety. 'Inquest', a body that assists bereaved families and does a huge amount of valuable work, is mainly concerned with deaths in custody.

From talking to families and survivors common denominators quickly emerged.

- 1. Most people didn't even know what CO was, so how could they protect themselves?
- 2. Even if they found out they had suffered from CO, people were unable to prove it, even to their own families and GPs leading to incorrect treatment and physical, emotional and financial distress.

The consequence of these two facts is that the industry and government can continue to allege that CO and other fuel dangers are not a large problem which needs urgent attention. However, we think this is a huge problem. Even on our statistics (and we think these are the tip of an iceberg) about 30 people die a year of CO and many more suffer injury and disability from CO and other fuel toxins (see our statistics on Page 11) and our website on <u>http://www.co-gassafety.co.uk/stats.html</u>). All these deaths are easily preventable. We are shocked to find that our statistics are almost certainly the best in the UK because:-

- 1. HSE basically only collects gas incidents, whereas we deal with CO from all fuels.
- 2. We try to check every death with Coroners, most of whom are very helpful.
- 3. We exclude suicides.

4. We now have 15 years of this data.

To see what CO-Gas Safety has done so far (and we've done a lot!), please do visit:- <u>http://www.co-gassafety.co.uk/aboutus.html</u>

Our key objective has always been raising awareness of the dangers of carbon monoxide and other fuel dangers. Stephanie Trotter and other directors have sat on committees with industry and Government talking about how to do this since, at the latest, 1998. Ideally we would like prime time TV warnings similar to the anti-smoking and anti-drink driving warnings (but at least people know that smoking and drink driving are dangerous!). A levy of just £2 per household per year would provide at least £44 million to be spent on raising awareness every year. See page 11 for our cost benefit analysis. Sadly it always comes down to funding and despite the wealth of the fuel industry it seems that, commercial enterprises are unwilling to reduce the profit of shareholders and the Government has so far, failed to force them to do this. Please note that when the gas industry was privatised, Parliament was assured that 'safety would be paramount'.

The charity therefore decided that urgent action was required and that it could organise and fund a Schools Poster Competition. If this competition is taken up by Government and industry, it could eventually warn every child and therefore every family and teacher in the UK at a cost of only 3p per pupil if all primary school children in Year 6 entered. We have only managed to run the competition in England so far, but if there is sufficient interest and support, we would very much like to run the competition in Scotland, Wales and N. Ireland in the future. We now have three parents, who have lost children who are willing to give talks to schools and several survivors who are also willing to do this. We are now receiving inquiries from schools so please do contact us at <u>office@co-gassafety.co.uk</u> for someone to give a talk to your school. Meanwhile we have a downloadable Power Point Presentation which makes giving a talk very straightforward for anyone. See <u>www.cogassafety.co.uk/competition.html</u>.

We also have a film on the website of Paul Overton, director of CO-Gas Safety giving a talk to the school his stepdaughter, Katie Overton attended when she died of CO aged 11 in 2003.

CO-Gas Safety's suggestions for changes to improve fuel safety.

- Better awareness. There should be prime time TV warnings and other media. This could be paid for by a levy on the fuel suppliers for £1-£2 per household per year. A levy on the gas suppliers was recommended by the Health & Safety Commission (now Executive) in 2000. 4% of household gas bills are 'environmental costs', surely imposed by levies? <u>http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=126&refer=Media/FactSheets</u>
- 2. Independent trained people with equipment to test for CO. These could be paid for by those who need this service but provided free for those on social security etc.
- 3. Gas Emergency Service personnel to be equipped with Personal Air/Alarm monitors. Cost is not high (about £35 per operative). Scotia Gas is to be congratulated for already doing this, but why are the other providers failing to protect their employees? Why does HSE fail to act?
- 4. Gas Emergency Service (Emergency Service Provider ESP) personnel to have training and equipment to test appliances for CO and this should be free at the point of need. This could be paid for by an adjustment in the licence fee charged by Ofgem, if HSE asked Ofgem to do this. Why does the HSE fail to act? How can the ESP fulfill its duty to make safe from CO, without equipment to test for it? Of course payment would ultimately be made by the consumers. Again this was recommended by the HSC in 2000. Government and industry have failed to act.
- 5. Checks to be made after visit from ESP to make sure situation is safe and records kept.
- 6. All Registered Gas Installers to have PAMs and flue gas analyzing equipment. The need for this is demonstrated by the tragic death of Matthew Nixon, registered gas installer, aged 22, in December 2010.
- 7. Better consultation with Registered Gas Installers many of whom feel ignored by industry and by HSE.
- 8. Better training for all Registered Gas Installers. Hopefully the Competence Review will achieve this. Most people seem to agree that there should be Continuing Professional/Personal Development (CPD), (as with solicitors for example), which would mean that registered gas installers would be updated regularly and the cost would be spread rather than doing this once every five years.
- 9. Individual employed installers to be registered in their own right, not just listed as at present.
- 10. Improved resources for data collection. CO-Gas Safety has been doing this on a shoestring for 15 years. Why doesn't Government do this?
- 11. Help for victims and their families. CO-Gas Safety has been doing this on a shoestring for 16 years. Why hasn't industry and Government done this already? Victims are a research resource. Both 10 and 11 could be paid for by a levy on the industry (as recommended by the HSC in 2000) or by the social corporate responsibility funds of the big fuel companies, which profess to be committed to safety.
- 12. Automatic testing for CO on death. We would also like tests for the other toxins.
- 13. Better training of and awareness of CO by GPs & toxicologists and better, faster testing for medical emergencies. We would also like tests for the other toxins.
- 14. Landlord gas safety checks should be changed to a 'Person undertaking the check must either undertake a service according to manufacturer's instructions or, following procedures outlined in BS7967 part 4, use Flue Gas Analysers meeting EN50379 to measure the combustion gasses for PPM (Parts Per Million) of CO and also the CO/CO2 ratio.' Pimlico Plumbers supports this. British Gas refuses to undertake a landlords' gas safety check without a service contract, but so far has refused to back this proposal. Why?
- 15. Landlords should be licensed and have to provide in date CO alarms to EN50291.
- 16. Research should be undertaken to test the other products of combustion. Amounts of these are said to be tiny but some, such as the heavy metals, can build up in the body and could therefore be causing health problems such as symptoms similar to depression, ME, MS, Parkinson's and Alzheimer's disease. This issue has vast health implications. Scientists expert in outside air seem well aware of these toxins in the atmosphere and the dangers, yet indoors the concentrations are bound to be much higher.
- 17. Possibly a house MOT should be considered for all appliances powered by carbon based fuel that burns. It could be made illegal to supply carbon based fuel without proof of the MOT. However, none of the other suggestions have implemented yet so surely it would be better to try some suggestions as above first?

If anyone is interested in these suggestions or wishes to criticize or add to them please email Stephanie Trotter <u>office@co-gassafety.co.uk</u>

Some recent media as published

Star letter for December 2010 Heating & Plumbing Monthly

'Gas appliances should be serviced every year'

Re information is key to saving lives, Industry Watch, October 2010,

We at the independent registered charity, CO-Gas Safety, read the article by Roger Webb, director of The Heating and Hot Water Industry Council and most of it was helpful.

However, Mr. Webb states 'Make sure gas appliances and heating systems are inspected every year.' Surely it would have been better to state that 'gas appliances should be serviced every year (in accordance with manufacturer's instructions) by a competent, registered gas installer'?

Mr. Webb rightly urges people to fit carbon monoxide alarms but it would have been helpful to add 'to the standard EN50291 and the cost is $\pounds 15$ to $\pounds 20$ from most good DIY stores'.

Mr. Webb further states 'students who are living in rented accommodation must make sure their landlord has any gas appliance regularly serviced by a Gas Safe Registered engineer and issue the tenant with a copy of a gas safety record following the annual safety check'. In fact it is the landlord, who has the legal duty to have an annual gas safety check by a Gas Safe Registered installer on any gas appliance owned by the landlord and it is the duty of the landlord to display or give the record to the tenant. The tenants should be informed that the landlord does not have a duty to have the tenants' own gas appliance checked (cooker for example).

CO-Gas Safety thinks it would be much clearer if the law insisted that landlords must have their gas appliances serviced according to manufacturer's instructions or, following procedures outlined in BS7967 part 4, use Flue Gas Analysers meeting EN50379 to measure the combustion gasses for PPM (Parts Per Million) of CO and also the CO/CO2 ratio.' Pimlico Plumbers agrees with us. Does anyone else?

We totally agree with Mr. Webb's statement, 'There have been several TV campaigns highlighting the importance of installing a fire alarm but not so many regarding CO alarms.' Considering the vast profits by gas supply companies this is surely outrageous (e.g. British Gas announced £585 million profit in the first six months of this year). However, it is up to companies to make as much profit as they can but it is surely up to Government to make sure these companies act decently and a levy to pay for prime time TV warnings would surely save lives?

Yours Sincerely

Stephanie Trotter, OBE (Mrs), President and Director CO-Gas Safety

Chartered Institute of Environmental Health January 2011 We need new law on gas checks to improve safety

We are delighted that the CIEH has recognised the dangers of carbon monoxide poisoning and is stating, 'landlords should be forced to install CO detectors in rented homes to save lives' (EHN, 10 December). CO-Gas Safety is in favour.

However, we would prefer people not to be exposed to CO and other products of combustion in the first place. We consider the best way to do this is to change the law on the landlord's gas safety check. If the check was changed to either a service or at least a test of the flue gasses, then hopefully tenants would not be forced to rely on a £15 to £20 gadget for their lives. The CO alarm, (to EN50291) would therefore be an extra safeguard. As less than 2% of CO can kill in between one and three minutes, surely we need belt and braces? Also, a CO alarm only alarms in the presence of a certain amount of CO during a measured amount of time. A CO alarm will not inform if there is NOx or other products of combustion.

Why only protect tenants? Most people don't even know CO exists, let alone how to prevent it, so surely awareness should be raised by prime time TV warnings? How is this paid for? Why doesn't Government impose a tiny levy to pay for this on the fuel suppliers and manufacturers? This was recommended by the Health and Safety Commission (now Executive) in 2000 and never implemented. Yours Sincerely

Stephanie Trotter, OBE (Mrs) President & Director of CO-Gas Safety

Data from website can be published provided it is not used for profit and provided it is stated where it came from and our website www.co-gassafety.co.uk is quoted on all material used.

Our Thanks

Our thanks to all the families of victims and to the brave survivors of poisoning. Without your help we could not carry on.

Our thanks to the teachers, who work very hard instructing their pupils about CO and inspiring them. I'd particularly like to thank Sarah Groombridge from Sheffield High School, whose pupil has won third year running!

Our thanks particularly to the Corfu parents and Ed Balls MP, who supported our poster competition in the crucial first few years.

Thank you very much indeed all of those who faithfully attend our events. Your presence is much appreciated. There have been so many over the years, Sheree Maher, Chris Bielby, Blane Judd, John Andrews of NAPIT, Sascha Meding, Lord Hunt of Kings Heath, Barry Sheerman MP, Kevin Budd, Leigh Greenham, Zoe Forman, Angela Love, and Jim Lambeth and Frank Brehany come to mind but there are many more.

I would also like to thank Jo Richards, who has undertaken the work of the data compilation and publication for embarrassingly small wages over 15 years. Without her dedicated work, this data would never have been compiled. I started trying to do it but with the rest of the charity work and being interrupted all the time by calls from victims, I just drowned under newspaper cuttings. Jo doesn't just do a good job; she cares about every death and incident and does her utmost to get to the bottom of any ambiguities and we have been very lucky to have her work. Just because people work from home and are not in expensive offices doesn't mean their work isn't of the highest quality. We don't pretend that our data is perfect, but it seems that we are the only body which has been trying our hardest to collect, compile, check and freely publish data of unintentional CO deaths & injuries from all fuels for 15 years. Thank you also Caroline Neat our office assistant, our best ever.

We also send our thanks to all the Coroners and Coroner's officers who have given us so much information over the years.

The data also helps us to see trends such as the grill imported from Turkey that has killed so far 6 people (probably 8). It also enables us to issue what warnings we can (e.g. about the camping lamp, which killed Paul Griffiths in 2007).

We would also like to thank the civil servants, who have helped us over the years, the occasional Government Minister, MPs and those in the fuel industry, who have helped or at least have shown that they understand what we're trying to do.

I would like to thank all the directors and MPs, especially Molly Maher, Paul Overton, Jonathan Kane, Colin Breed MP, Mike Hancock MP, Desmond Swayne, Alan Keen MP and Crispin Blunt MP, who have helped the charity over the years. I would also like to thank Baroness Maddock, who has been our patron and stood by us almost the entire 16 years.

We would particularly like to thank Charlie Mullins of Pimlico and Karl Plunkett of Pimlico for their amazing support in 2010. Also other courageous gas installers such as Barry Matthews of OPGO and Stephen Hadley.

We would also like to thank Harry and Lorna Rogers. Harry was our gas expert for many years and we were also helped by his wife Lorna. Harry is now retired and we miss his expertise and independence very much indeed.

Finally we would like to thank John O'Leary, CO victim and children's illustrator who did all the work for us without payment and Heather Tomlinson, who bravely, while grieving for her beloved son Edward, undertook the huge work of the pilot project schools poster competition. Without their contributions, it just wouldn't have happened.

Stephanie Trotter

If you can help in any way, or we can help you, please get in touch with us at office@co-gassafety.co.uk

Website <u>www.co-gassafety.co.uk</u> Email <u>office@co-gassafety.co.uk</u>



Winner for the North. Charlotte Mason. Age at entry 11. School: Sheffield High School Teacher: Sarah Groombridge