

# Survey of Five Dental Practices in Paris

*in conjunction with*

Eurotec Dental

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*Tests Conducted by:*

**Pathogen Solutions Ltd**

UK

+44 (0) 121 288 4900

[www.medixair.com](http://www.medixair.com)

*On Behalf of:*

**Eurotec Dental**

141 Rue Manin

Paris

# Measurement of Airborne Micro-organisms in Five Parisian Dental Practices

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## 1 Summary

At end of August 2004 five Parisian dental practices identified by Eurotec dental were visited by Pathogen Solutions Limited of the UK

The air in each of the practices was sampled for airborne microorganisms. In each establishment a series of agar strips were exposed using a Biotest HCS air sampler. Agars for the identification of coliforms and staphylococcus were employed together with a general agar for determination of total viable count.

Medixair units were then installed in each surgery and allowed to run overnight. The air was then re-sampled the next day. The results are given below. A significant reduction in airborne microorganisms was demonstrated.


	Total Count			Staph.		Coliforms	
	Pre	Post	Reduction	Pre	Post	Pre	Post
Surgery 1	680	170	75%	2	3	2	3
Surgery 2	680	30	96%	12	0	0	0
Surgery 3	595	40	93%	11	0	0	0
Surgery 4	341	70	79%	14	5	0	1
Surgery 5	850	45	95%	22	8	0	2

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*These results are consistent with those obtained by Pathogen Solutions Limited in doctor's surgeries, nurseries, hospital wards and laundries. They demonstrate clearly the effectiveness of Medixair in eliminating airborne microorganisms. Extending the period between the pre and post test would have given even further reductions*

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## MEDIXAIR and PATHOGEN SOLUTIONS

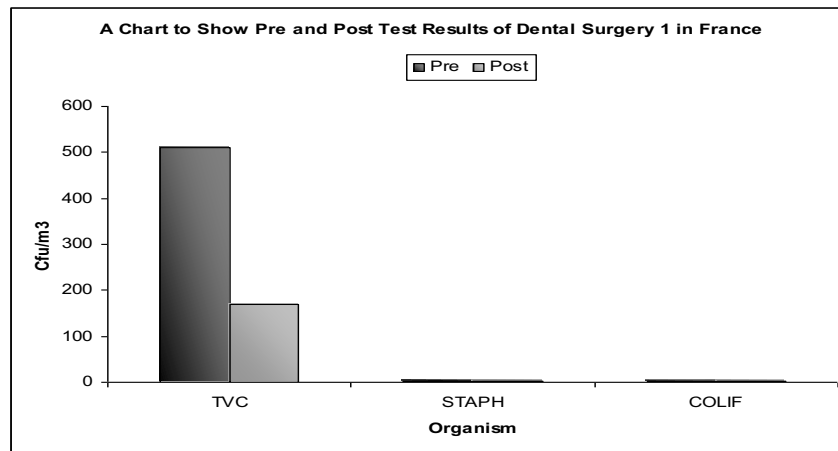
- **Detecting**
  - **Identifying**
  - **Quantifying**
  - **Eliminating**
- 
**Airborne Infection**

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**Engineering Air Sterility**

## 2 Results: Pre and Post test results taken in five Dental surgeries

### Chart 1- Dental Surgery 1



	TVC	STAPH	COLIF
Dental Surgery 1 Before	680	2	2
<b>Dental Surgery 1 After</b>	<b>170</b>	<b>3</b>	<b>3</b>

Before installation of Medixair the results show that the bioburden measured as the Total Viable Count (TVC) of microorganisms was relatively high, being more than three times the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

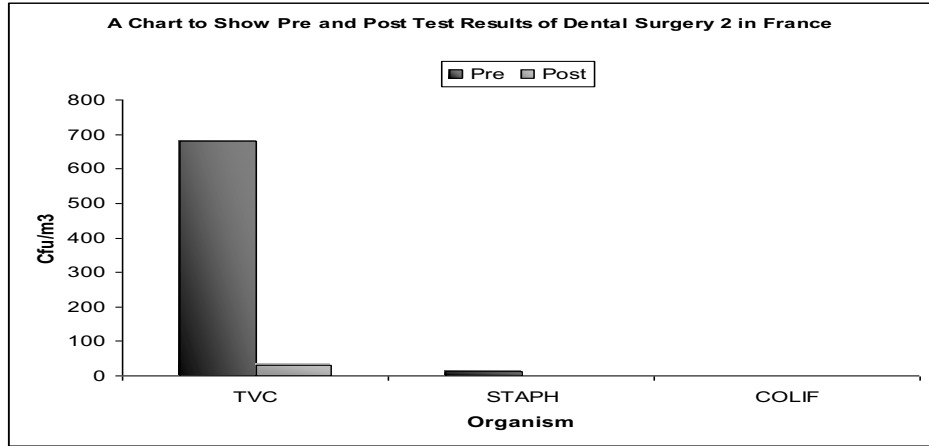
Staphylococcus and Coliforms although present were recorded at very low levels.

Testing the air after installation of the Medixair showed that the Total Viable Count (TVC) had reduced significantly - to within the target level of 150-200cfu/m<sup>3</sup>.

Staphylococcus and Coliform in the above table has increased by single units. This is not however considered to be statistically significant at such low levels.

<sup>1</sup> The target level of 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup> has been determined by PSL from a large number of outdoor air samples, taken to create a datum point for fresh air.

**Chart 2- Dental Surgery 2**



	TVC	STAPH	COLIF
Dental Surgery 2 Before	680	12	0
<b>Dental Surgery 2 After</b>	<b>30</b>	<b>0</b>	<b>0</b>

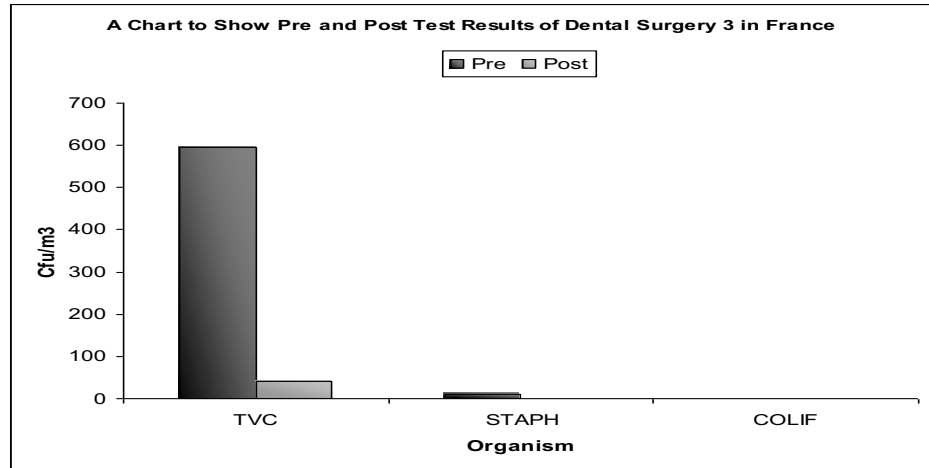
Pre installation of Medixair results shows that Total Viable Count (TVC) was high, being more than three times the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

Staphylococcus was recorded at low levels and Coliforms were not present.

Post installation air testing (After Installation of the Medixair) reveals that the Total Viable Count (TVC) has reduced significantly - below the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

Staphylococcus was eliminated

### Chart 3- Dental Surgery 3



	TVC	STAPH	COLIF
Dental Surgery 3 Before	595	11	0
<b>Dental Surgery 3 After</b>	<b>40</b>	<b>0</b>	<b>0</b>

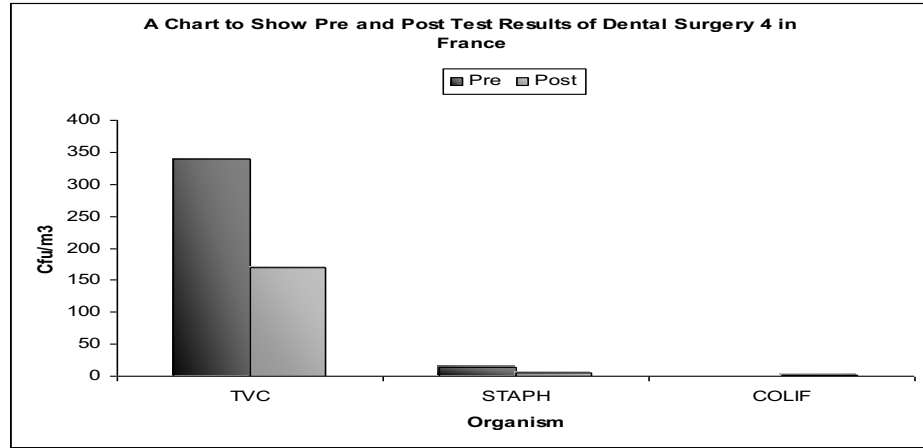
Pre installation of Medixair results shows that Total Viable Count (TVC) was high, being more than three times the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

Staphylococcus was recorded but Coliforms were not present.

Post installation air testing (After Installation of the Medixair) reveals that the Total Viable Count (TVC) has reduced significantly - to below the "acceptable outdoor" level of 150-200cfu/m<sup>3</sup>

Staphylococcus was eliminated.

**Chart 4- Dental Surgery 4**



	TVC	STAPH	COLIF
Dental Surgery 4 Before	340	14	0
<b>Dental Surgery 4 After</b>	<b>170</b>	<b>5</b>	<b>1</b>

Pre installation of Medixair results shows that Total Viable Count (TVC) was high, being more than twice the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

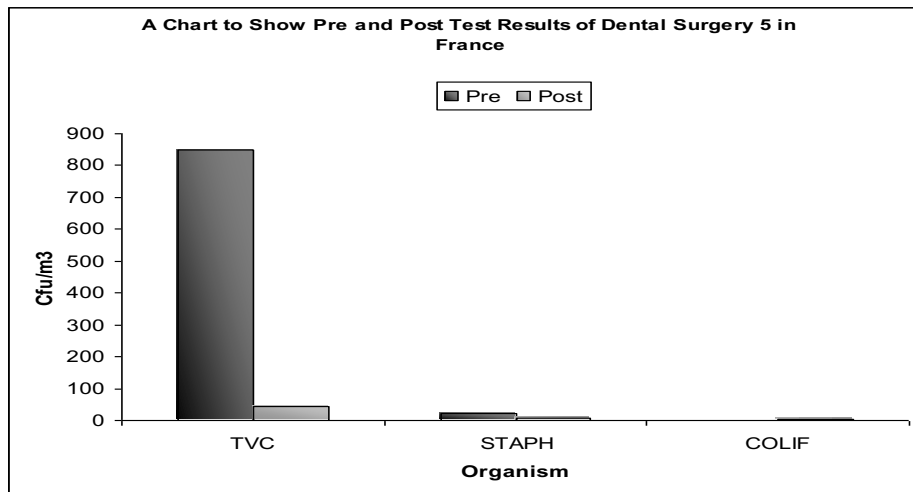
Staphylococcus was recorded but Coliforms were not present.

Post installation air testing (After Installation of the Medixair) reveals that the Total Viable Count (TVC) has reduced significantly - to within the target level of 150-200cfu/m<sup>3</sup>

Staphylococcus levels have also reduced.

A single colony forming unit of Coliform has been recorded but a single figure is not statistically significant.

### Chart 5- Dental Surgery 5



	TVC	STAPH	COLIF
Dental Surgery 5 Before	850	22	0
<b>Dental Surgery 5 After</b>	<b>45</b>	<b>8</b>	<b>2</b>

Pre installation of Medixair results shows that Total Viable Count (TVC) was high, at more than four times was high, being more than four times the target level<sup>1</sup> of between 150cfu/m<sup>3</sup> and 200cfu/m<sup>3</sup>

Staphylococcus was present at relatively high levels

Post installation air testing (After Installation of the Medixair) reveals that the Total Viable Count (TVC) has reduced significantly - to well below the target level of 150-200cfu/m<sup>3</sup>

Staphylococcus levels have also reduced significantly.

Coliforms were recorded in very tiny amounts but not at a statistically significant level.



### ***3 Conclusions***

The study indicates that the air sampled at the five surgeries exhibited levels of airborne micro-organisms (TVC) above the accepted "outdoor" levels of 150-200cfu/m<sup>3</sup>.

Staphylococcus was recorded at low levels in the majority of surgeries tested and Coliforms were detected in 3 out of the 5 locations.

Post installation air sampling (after installation of Medixair) reveals that Total Viable Count (TVC) was substantially reduced in all cases to well below the "acceptable outdoor" level of 150-200cfu/m<sup>3</sup>.

Staphylococcal levels were also reduced in virtually every case.

Coliform levels were recorded but at very low counts and did not alter significantly during the study attributable to the continual generation of such organisms from within the environment

*Notes:*

- 1. The results reported within this report are from only a small number of samples. As such the results are indicative of positive trend*

4 Appendix

*Confidential*

	Surgery Name
1	Dr Brouhiel & Mme Brouhiel
2	Dr Mouyal
3	Dr Uzan
4	Dr Dabi
5	Dr Bismuth

