

# Emergency Emma

Primary value statement:

- *Quick to enter and secure*

Secondary value statements:

- *Safe to place and remove*

## Personal Profile

Emma is 32 years old and has been working as an emergency physician (EP) at the accident & emergency department (A&E) for three years.

Emma performs between 1-3 intubations a month as it is the standard treatment for airway management. At least one of those patients is severely traumatized requiring immediate intubation at arrival to the A&E. The rest are less urgent requiring intubation usually within 30 minutes. The most dreaded situation is a cannot-intubate-ventilate event which happens in about 3% of the cases.

Emma works at Cross Hospital. The general hospital is serving a mixed urban and rural population of around 115 000 patients. At the moment the hospital is struggling to make ends meet.

As Emma often works under stress and time pressure a tube that is “*Quick to enter and secure*” is extremely important. Especially in patients where time is a matter of life and death.

Emma also wants it to be “*Safe to place and remove*” the endotracheal tube as dental injuries of some kind occur in many of the patients.

## Segment variables:

Application: Emergency  
Profession: Anaesthesiologist  
Experience: < 5 years  
Intubations: 1-3 per month  
Time to intubate: < 30 minutes

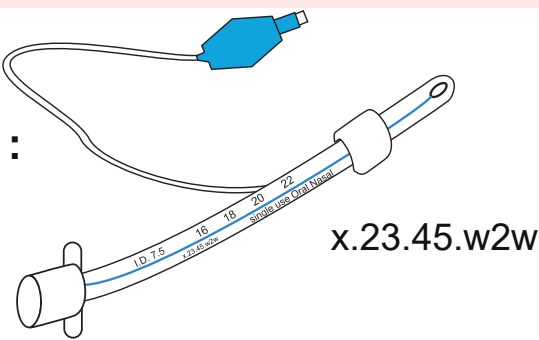
## Significant facts:

Hospital: General  
Population served: 100 - 250 000  
Area: Mixed urban and rural  
Payer: Government

## Market data:

Competitors: C. R. Bard, ConvaTec, GE Healthcare, Medtronic  
Area: Europe, North America  
Segment size: 237 USD/year  
Price level: Medium

Best fit :



Function					Present value	Target value	Value Focus
Noun - verb - noun		Type of function	System of measurement	m is a unit of length	Number	Number	Focus area
1	The endotracheal tubes supports breathing	Main function	Inner diameter	mm	7,0 - 8,5	5,5 - 8,5	
2			Murhy Eye size	diameter - mm	2,5	2,5	
3			Length	mm	270 - 300	270 - 300	
4			Connector	Type/mm	Standard 15 mm	Standard 15 mm	
5			Air resistance	kPa/L/s	0,4 -0,6	0,4-0,6	
6			Standards	Type	ANS / ISO5361 - 99	ANS / ISO5361 - 99	
7			Intubation	Type	Oral	Oral	
8	The endotracheal tubes protects lungs	Main function	Tracheal wall pressure	kPa	1,9 -2,5	1,9 - 2,2	Patient critical
9	The tube marks enhance positioning	Additional funtion	Tube marks	Number	2	6	
10			X-ray visualization	Type	Radio opaque line	Radio opaque line	
11			Tube size indicator	Yes/No	Yes	Yes	
12			Tube length indication	In mm	No	Yes	
13	The cuff harms the tracheal wall	Unwanted function	Cuff diameter	mm	10	20 to be investigated	
14			Cuff contact area	?	?	?	No measurability
15			Type	Volume/Pressure	HV-LP	HV-LP	
16			Inflation volume	mL	5-10	5-10	
17	The endotracheal tubes casue patient infection/irritation	Unwanted function	Material	Type	PVC DEHP	PVC DEHP free	
18			Outer diameter	mm	9	9	
19			Packing	Type	Sterile	Sterile	
20			VAP infections	%	6 - 52	6 - 25	Money bag