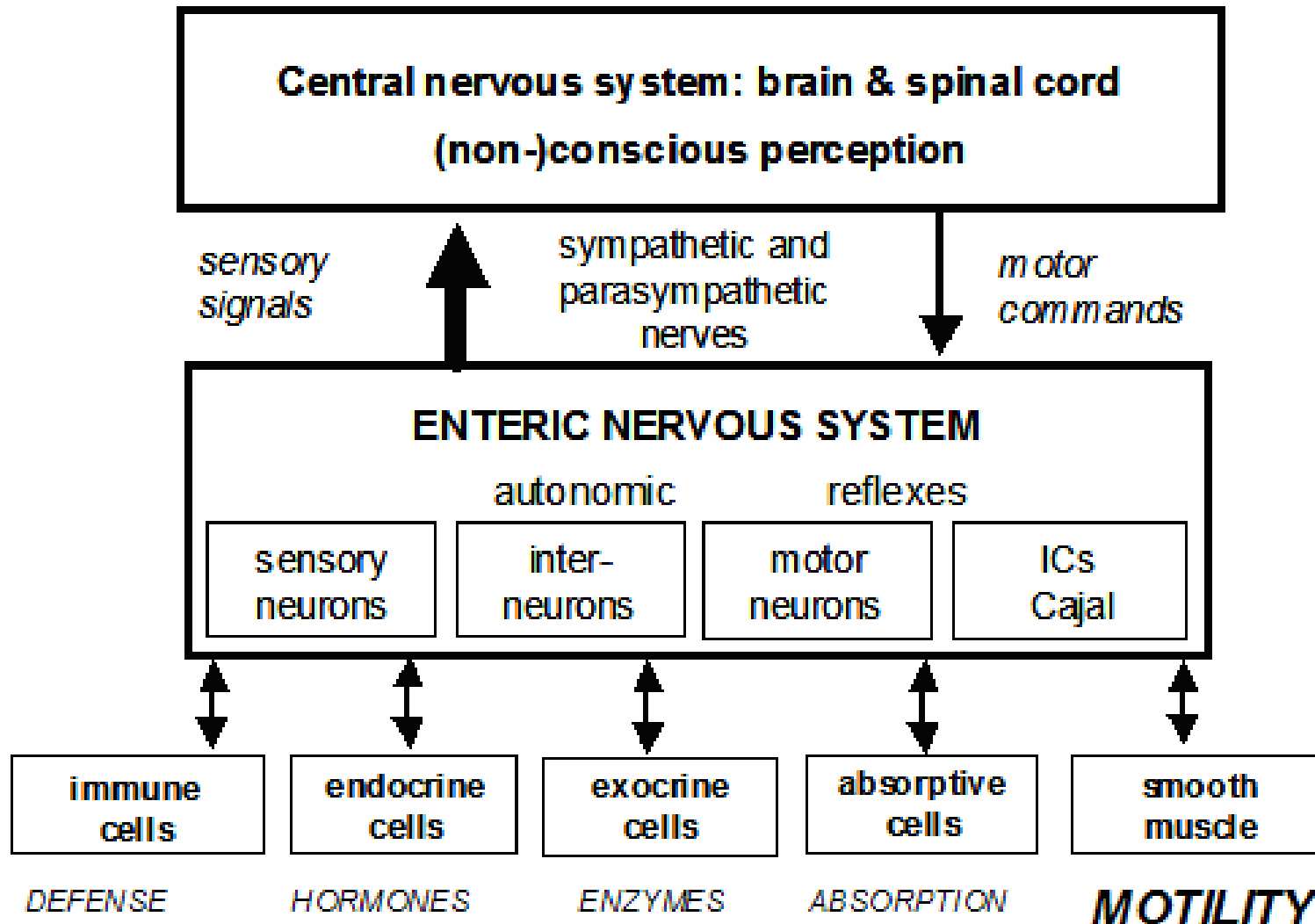
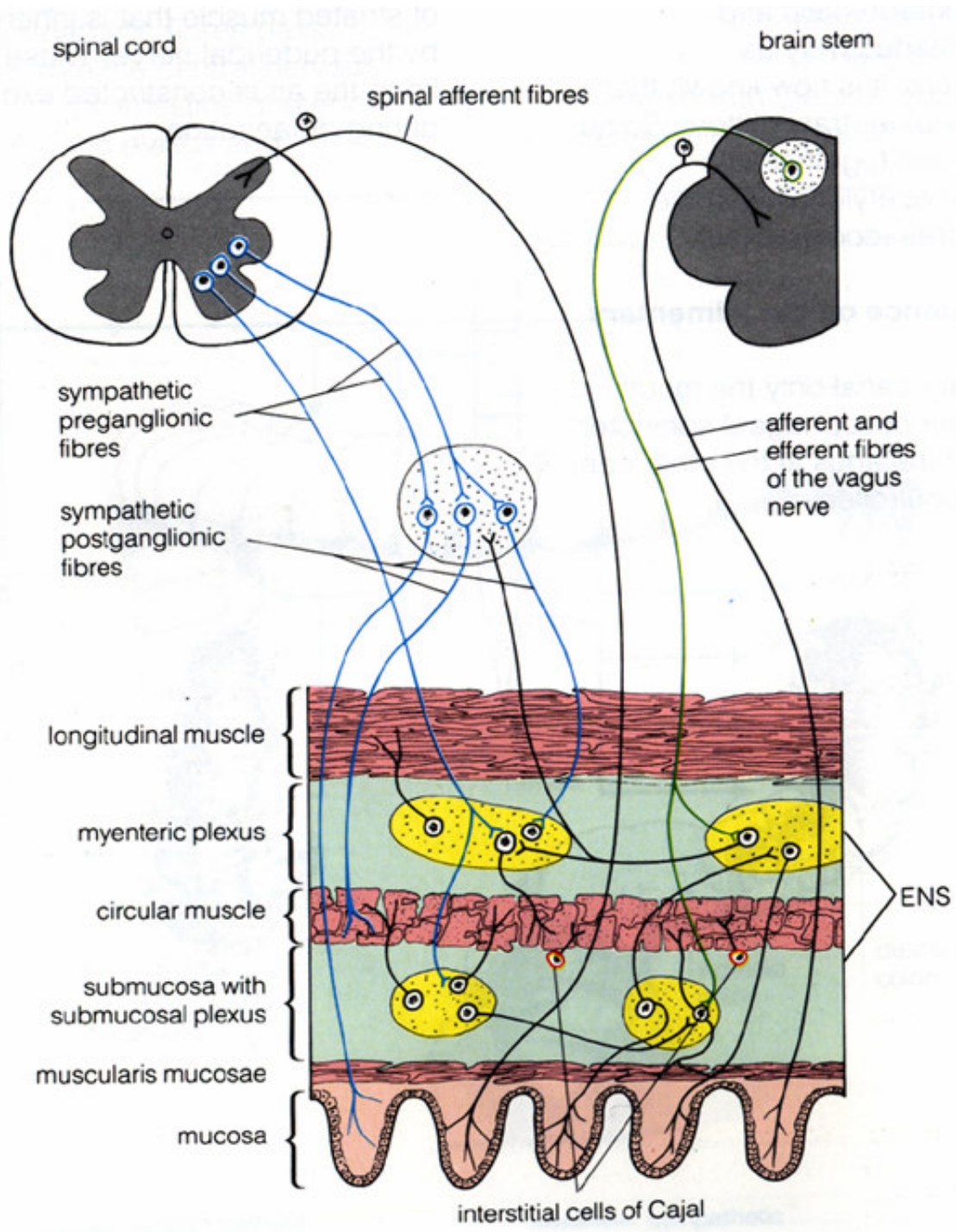


# ESTUDOS FUNCIONAIS DIGESTIVOS

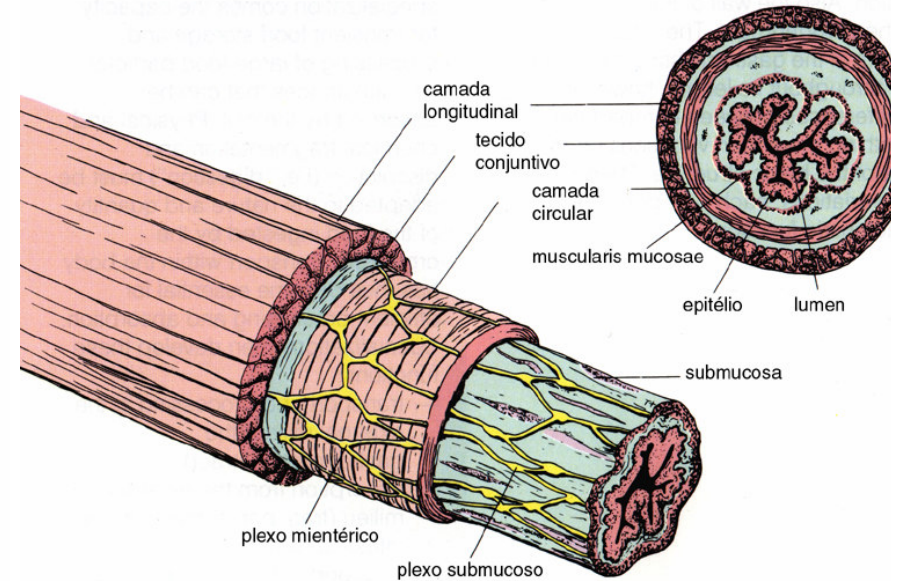
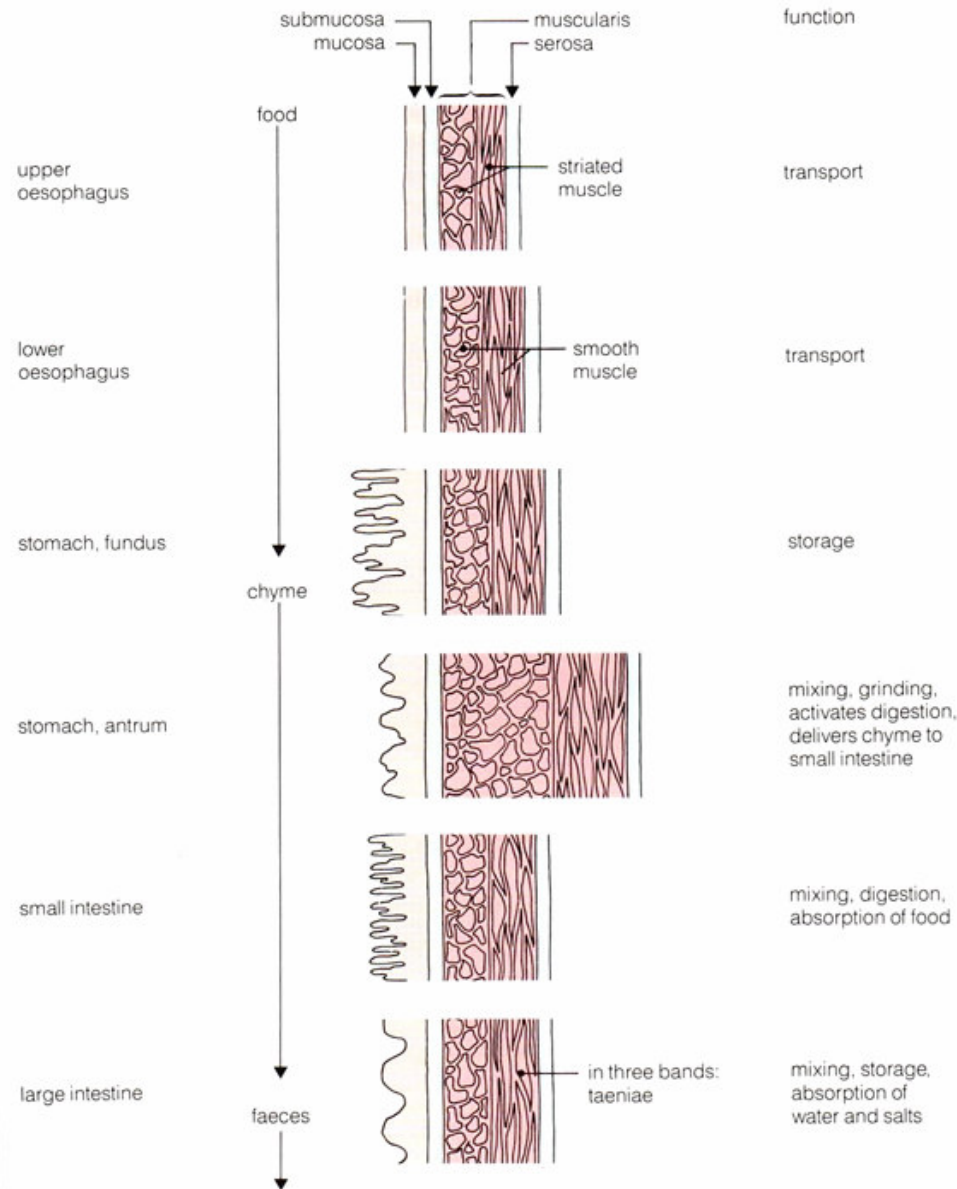
Silvestre Carneiro

# Função e controlo do ap digestivo

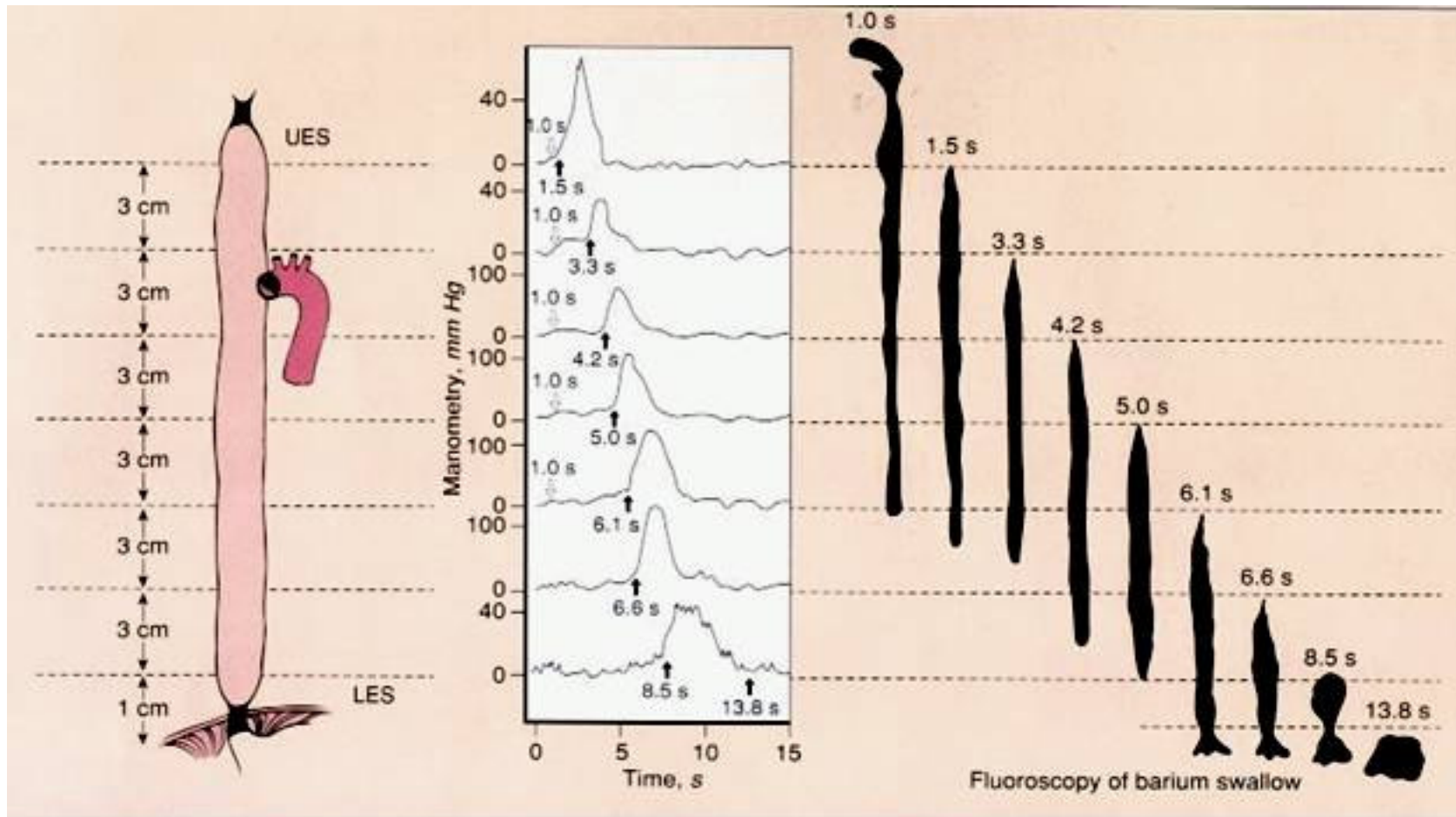




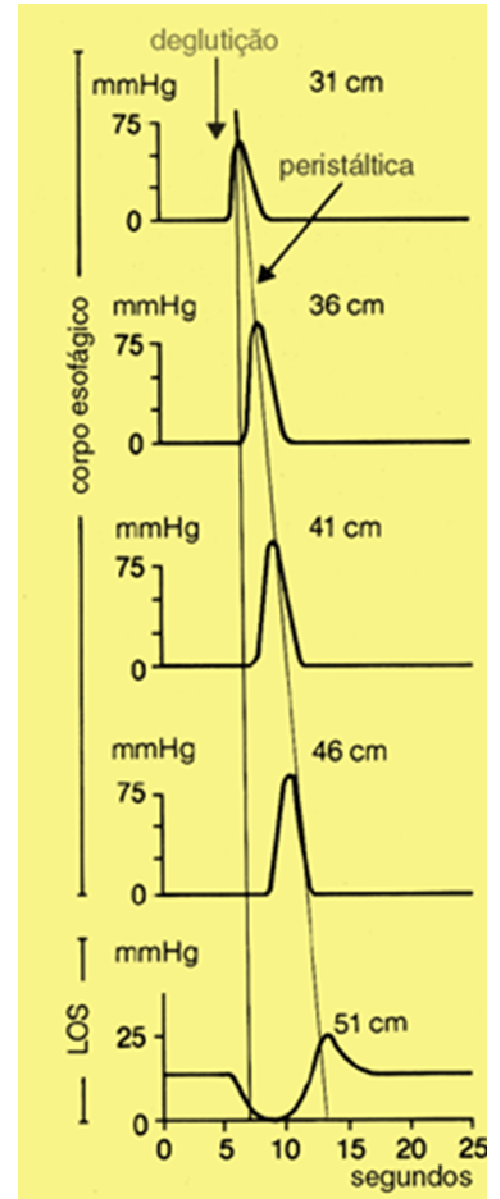
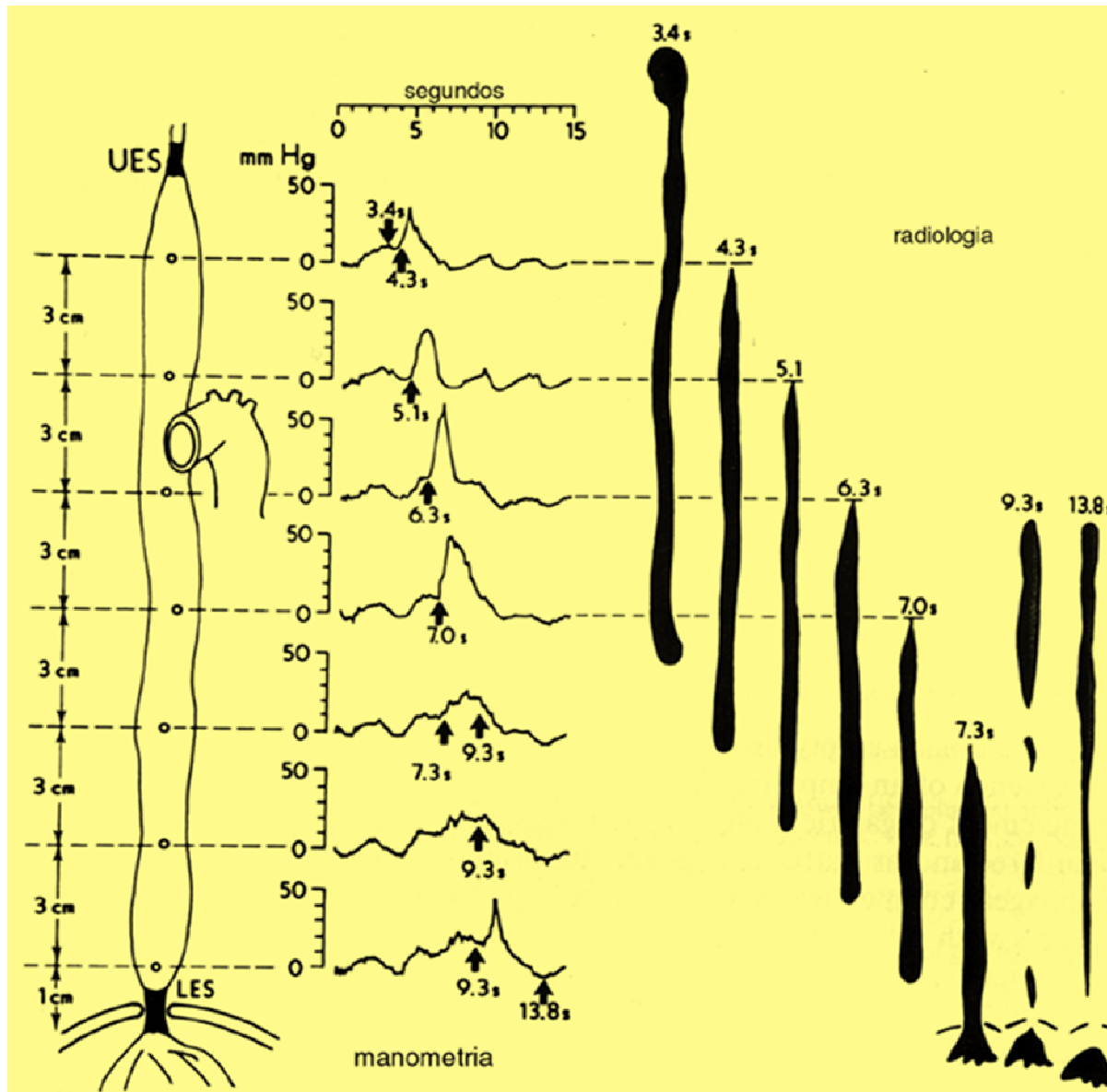
# Estrutura do tubo digestivo



# Motilidad...



# Motilidade esofágica



# Doenças/alterações da motilidade

- Acalásia
- Espasmo difuso
- Quebra-nozes
- Esclerodermia
- Diabetes
- Colon irritável
- Dispepsia não ulcerosa
- Discinésia biliar
- Doenças do SNC
- ...

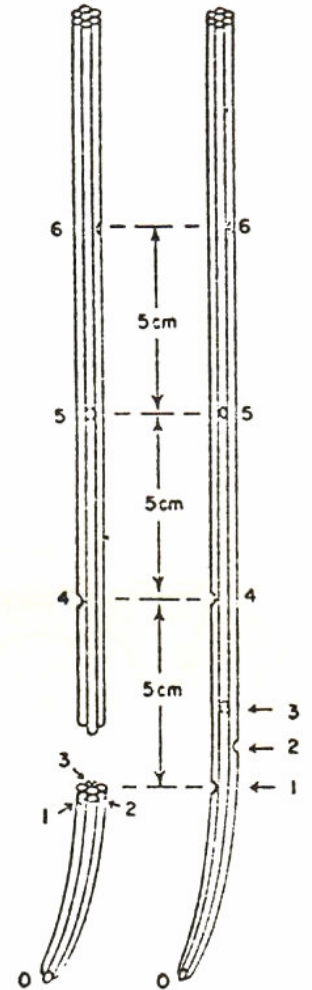
# Exames subsidiários

- Endoscopia digestiva alta
- Manometria esofágica
- pHmetria ambulatória
- Radiologia
- Cintigrafia
- Ecografia
- Electrogastrografia
- Electromiografia
- Ecoendoscopia
- ...

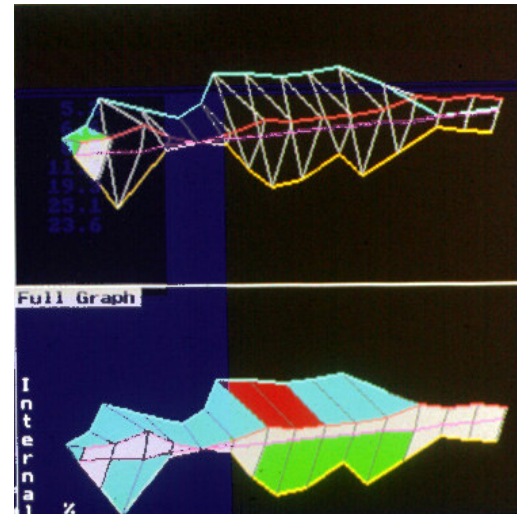
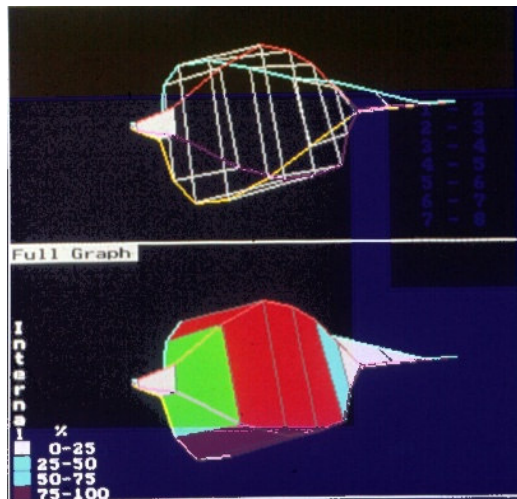
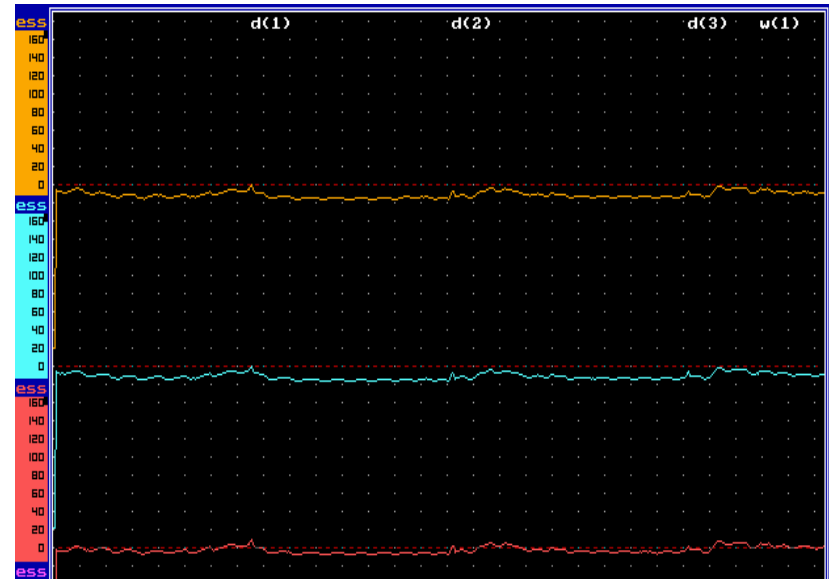
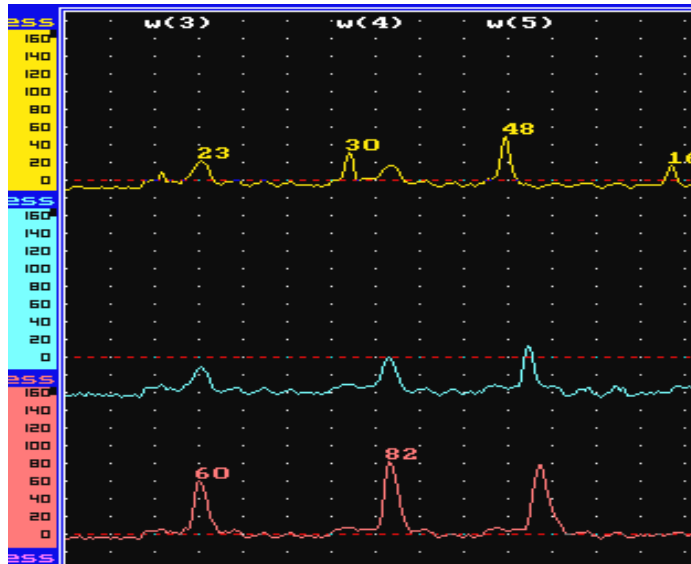




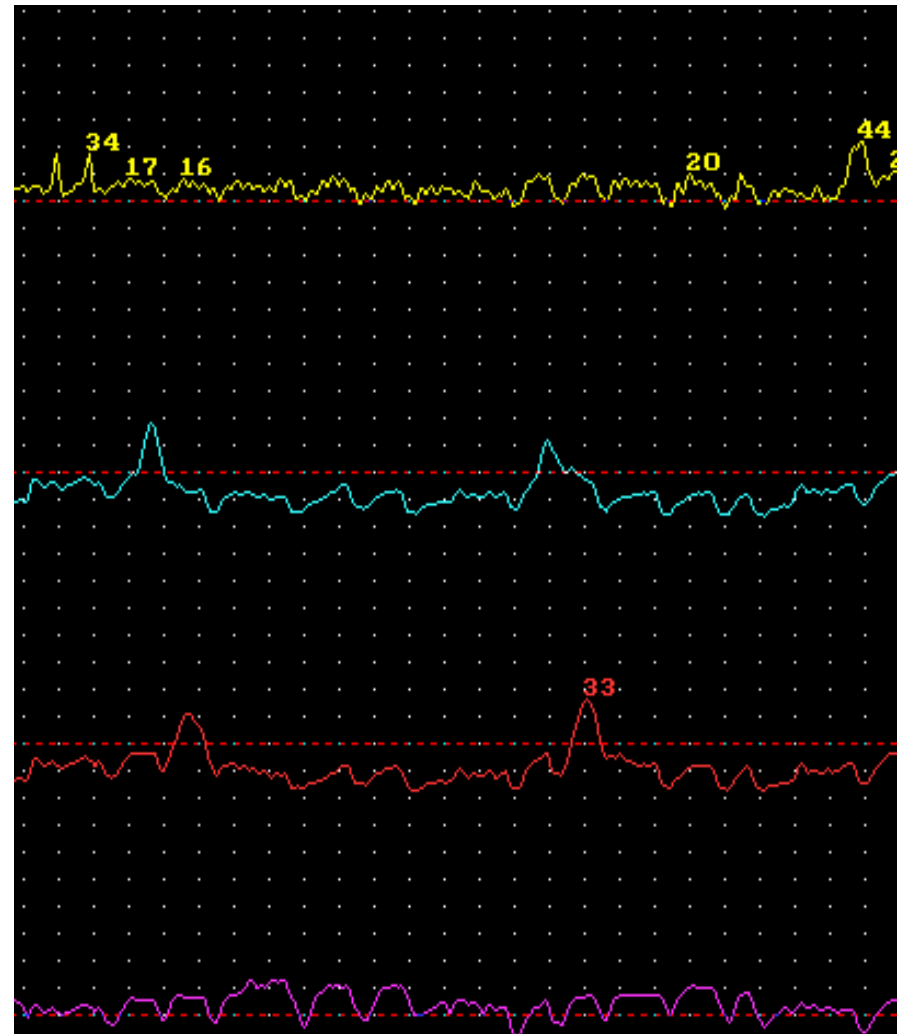
# Manometria



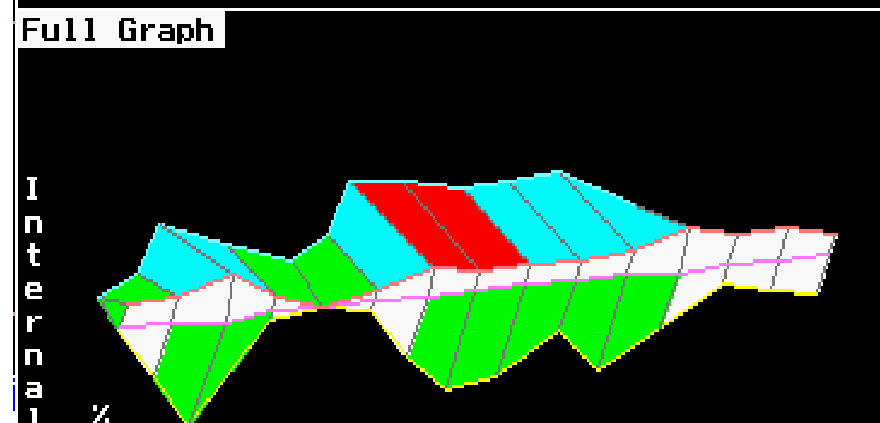
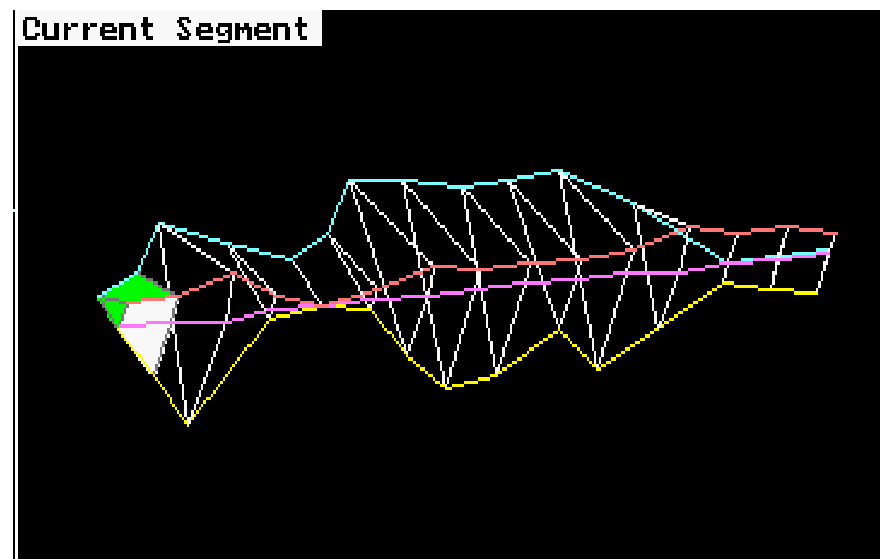
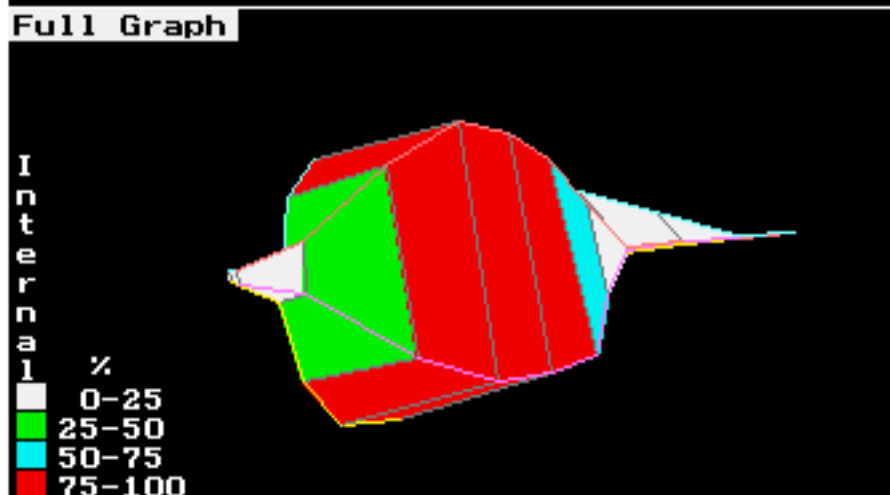
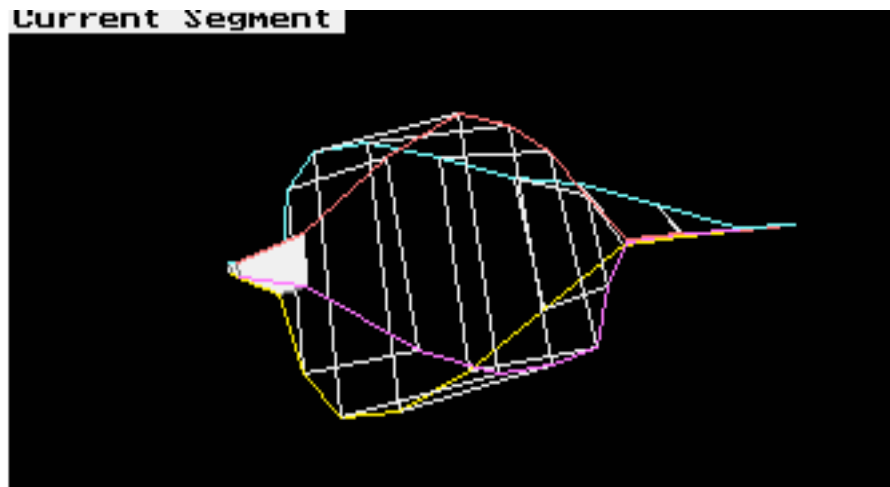
# Manometria esofágica



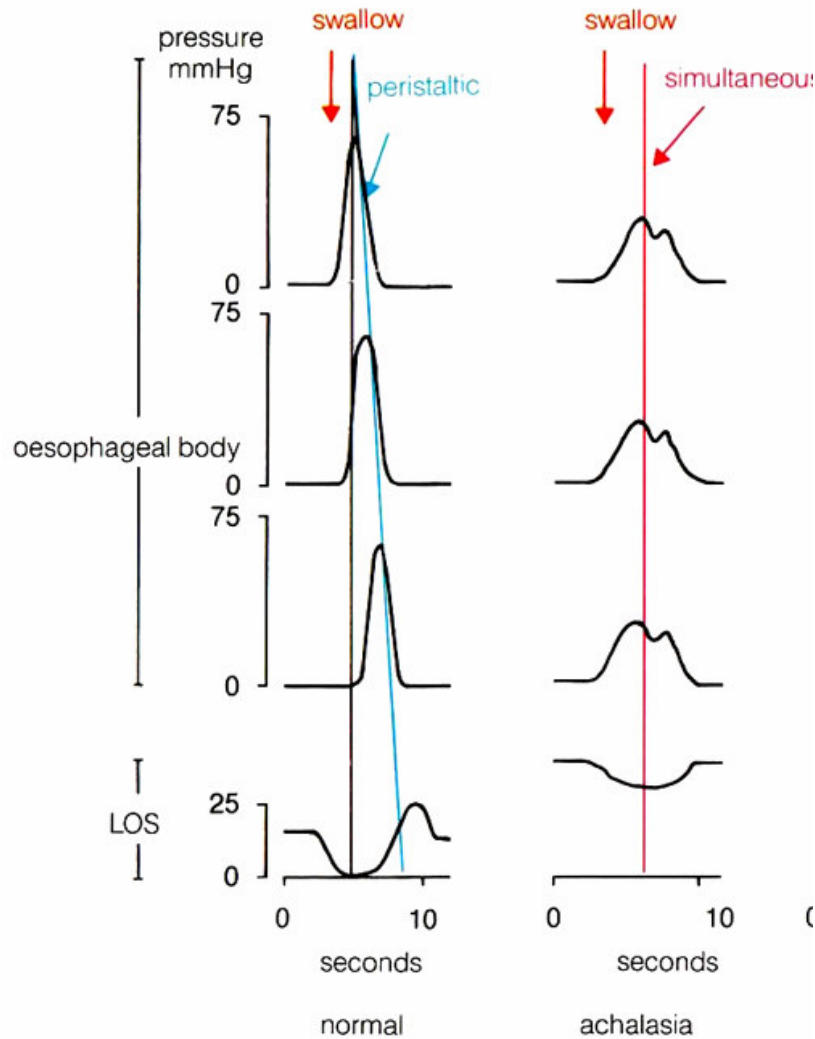
# Manometria esofágica - corpo do esôfago



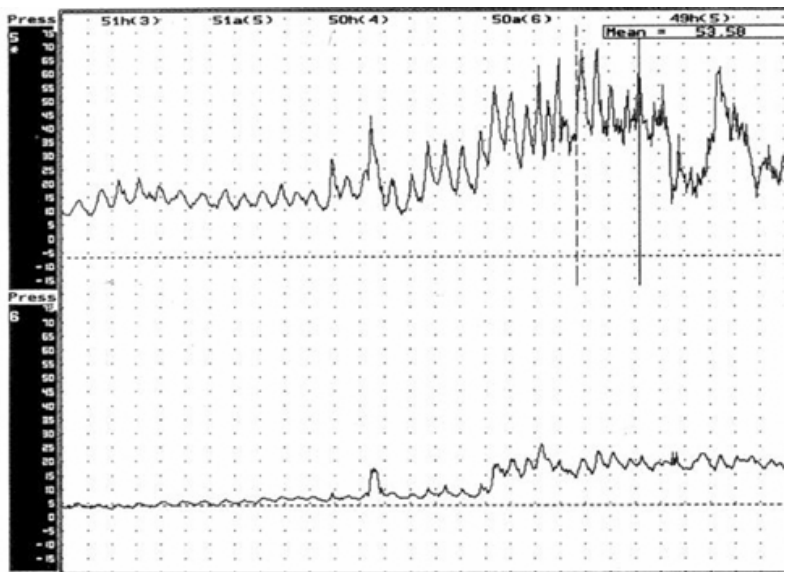
# Esfíncter esofágico inferior - reconstrução 3D



# Manometria - Padrões anormais



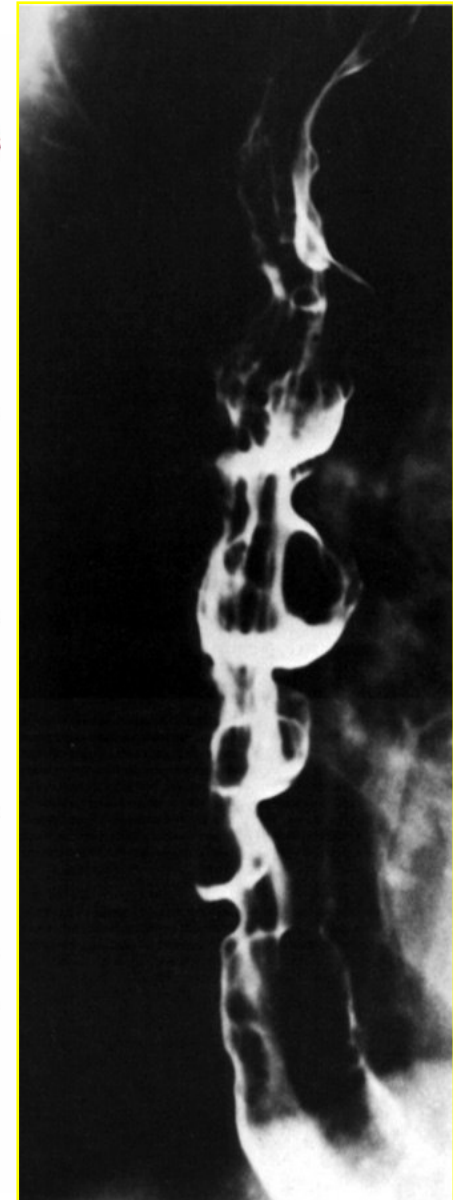
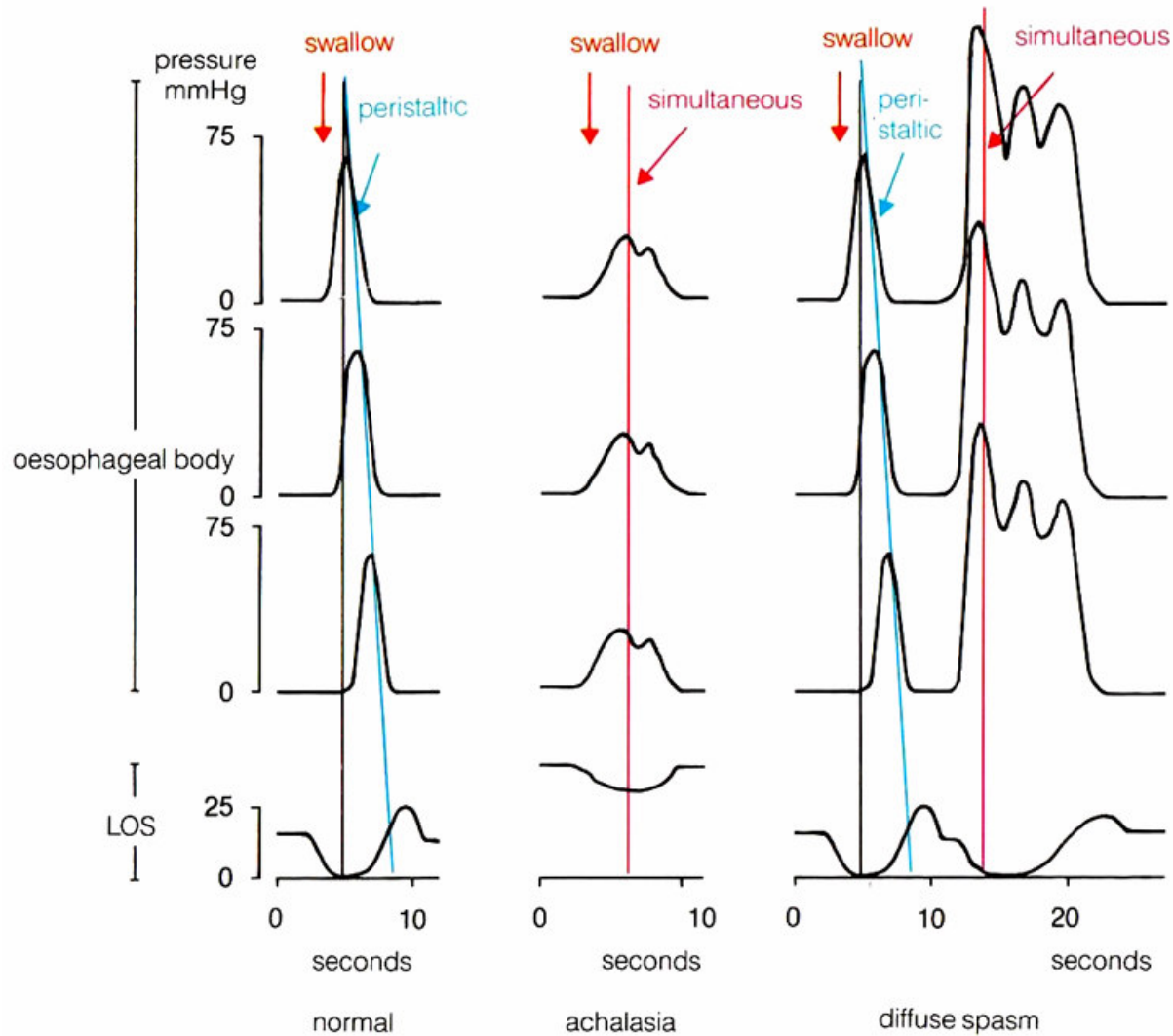
# Acalásia



# Espasmo difuso



# Manometria - Padrões anormais





# Correlação de exames subsidiários

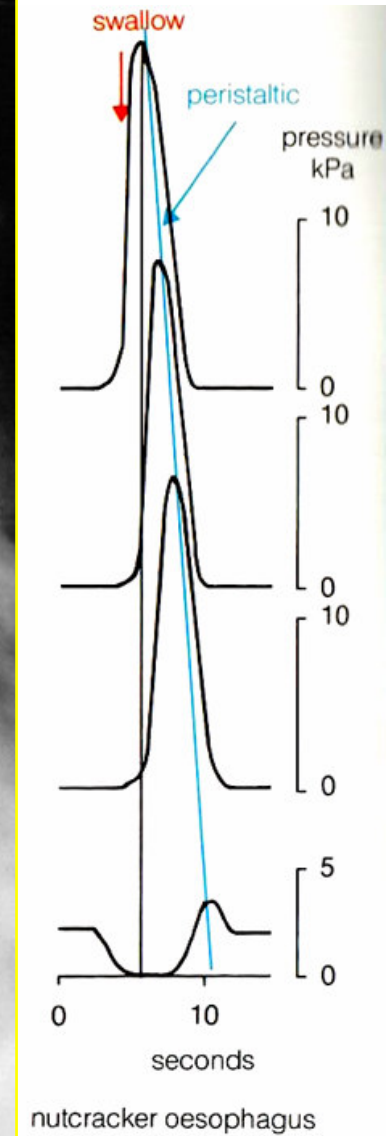
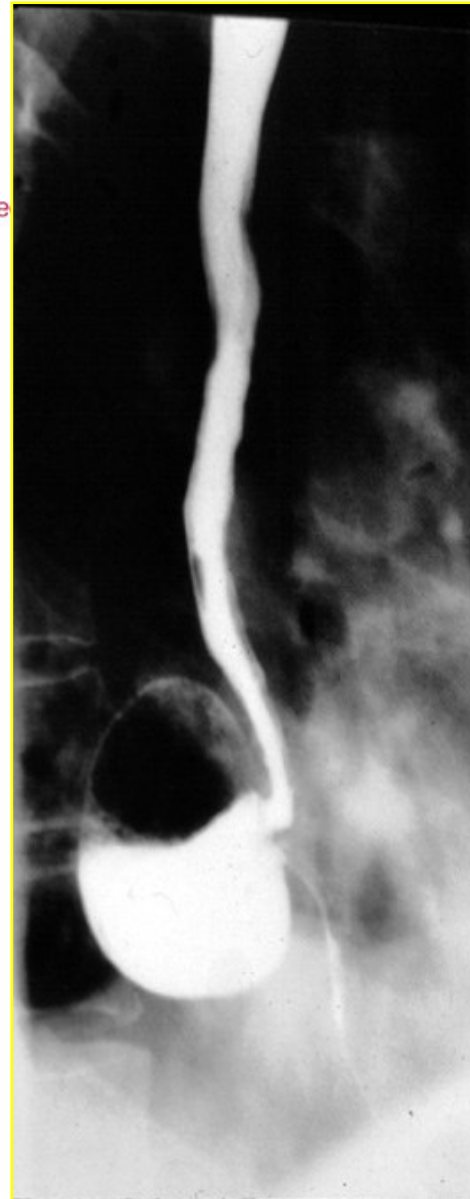
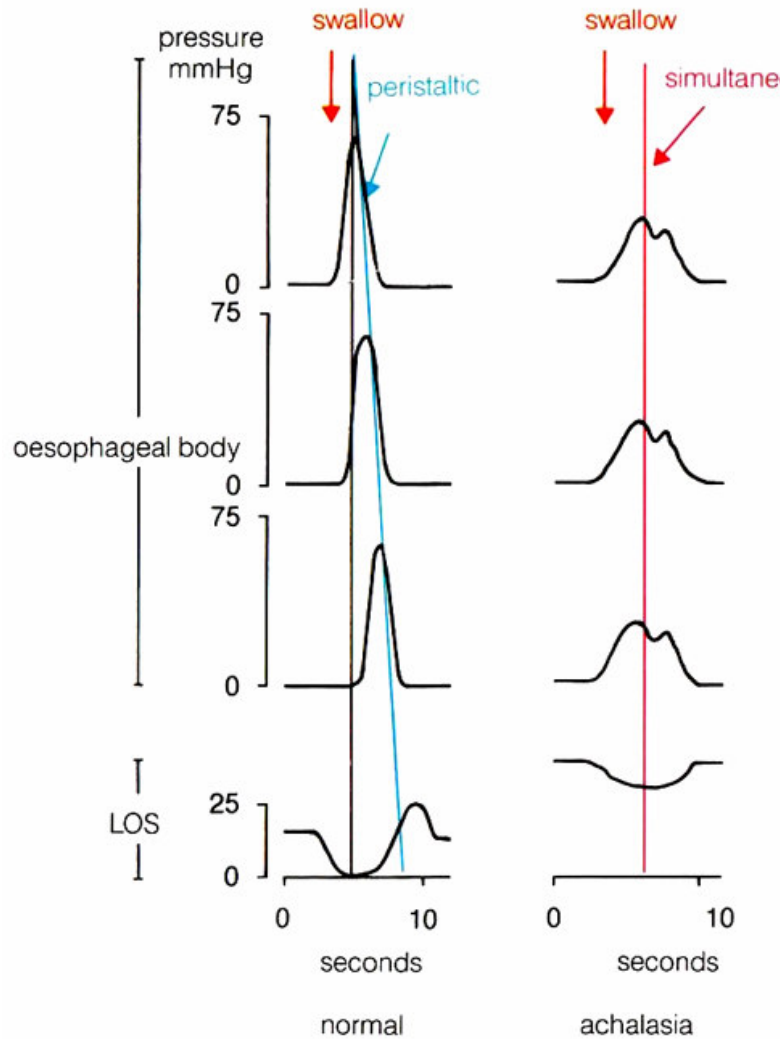


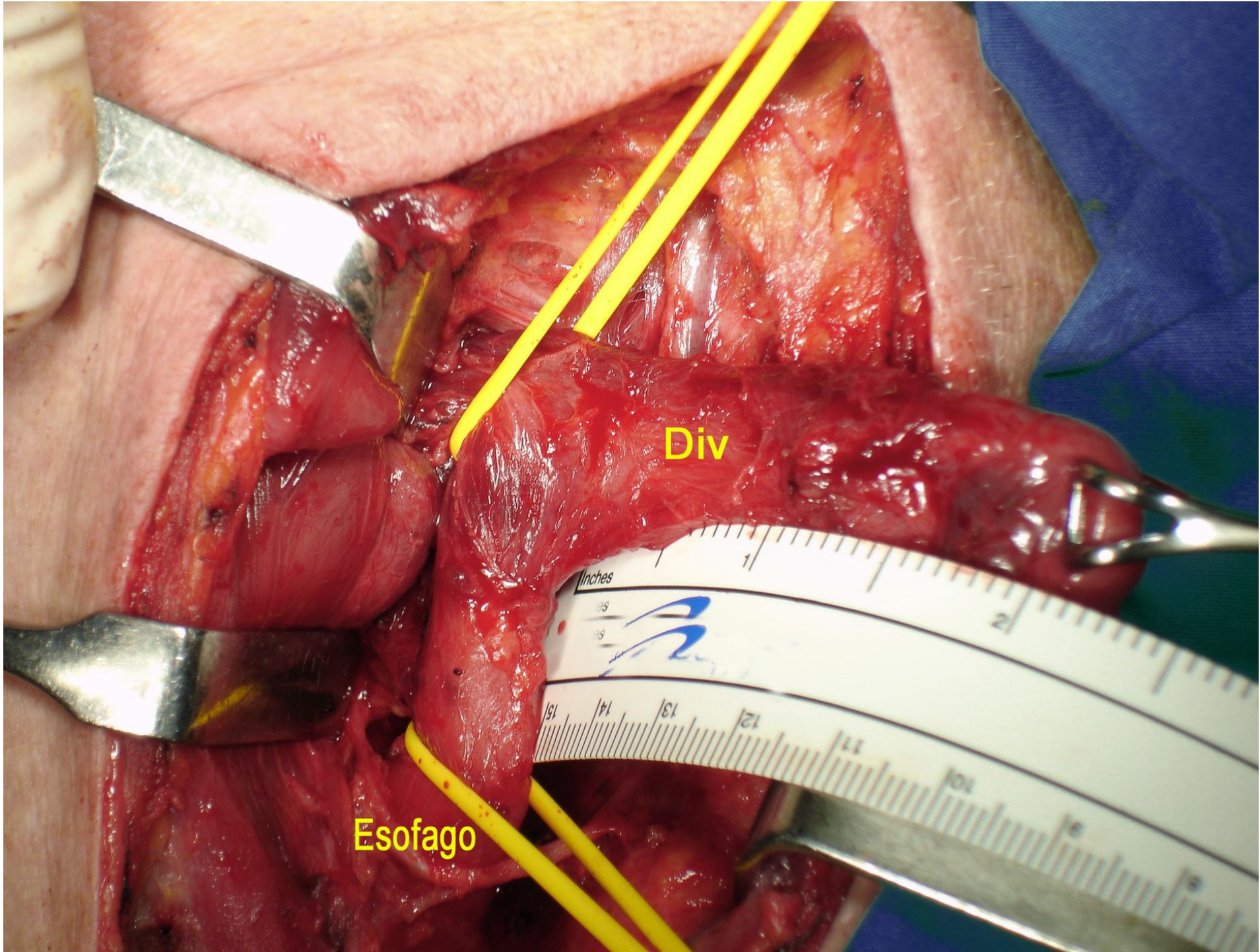
# Divertículos

- Zenker
- 1/3 médio
- Epifrénicos

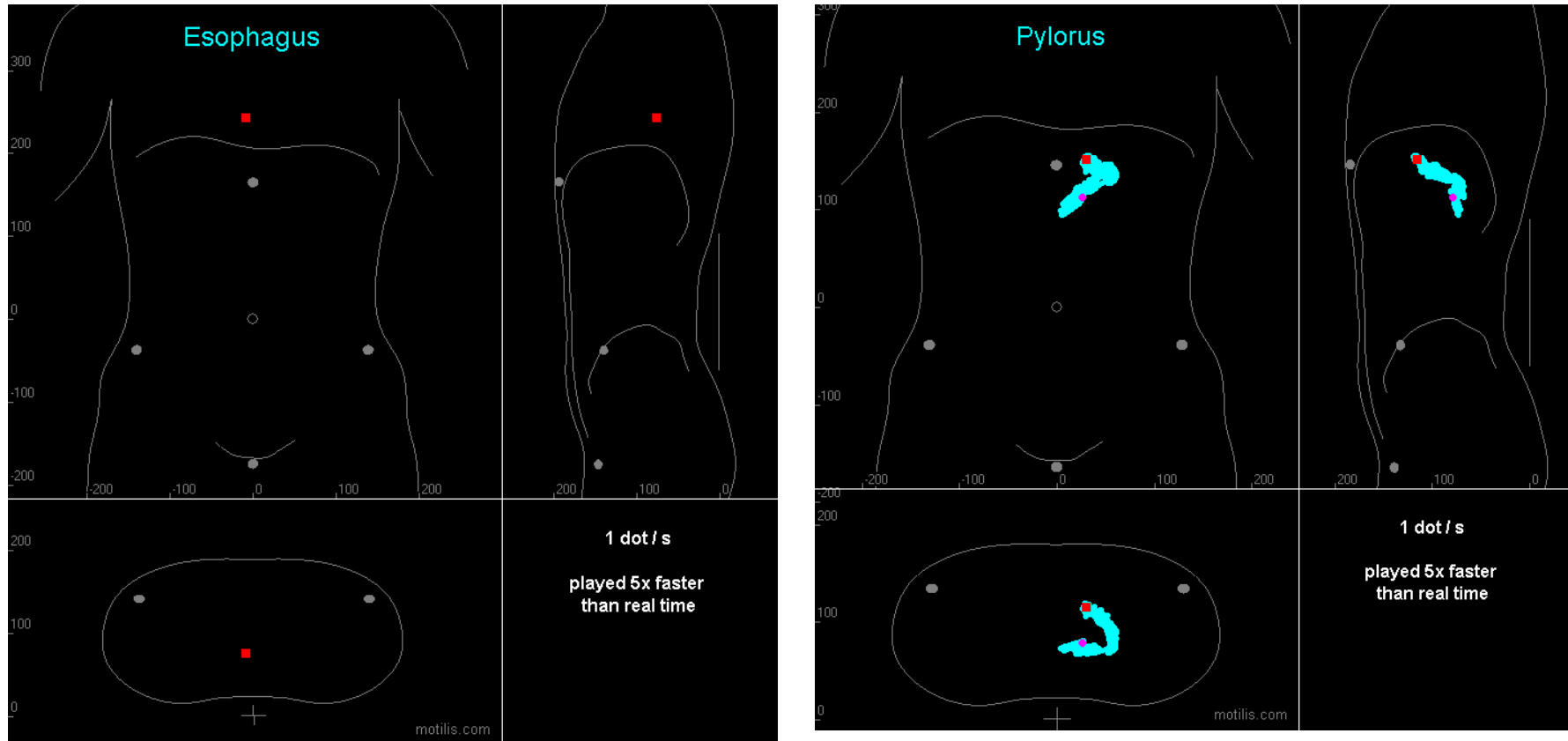


# Manometria - Padrões anormais

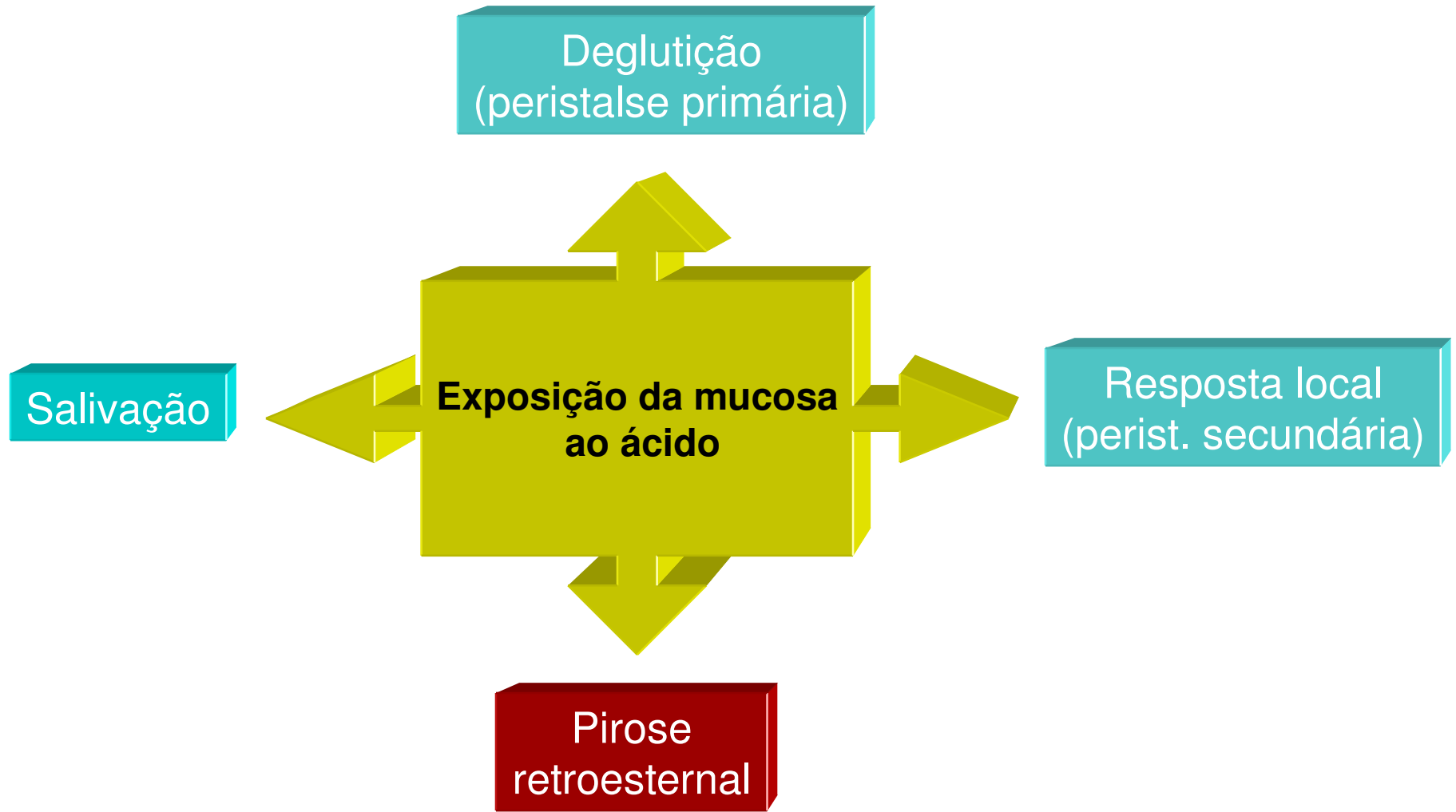




# Transito digestivo: Marcador magnético



# Mecanismos de defesa do esófago



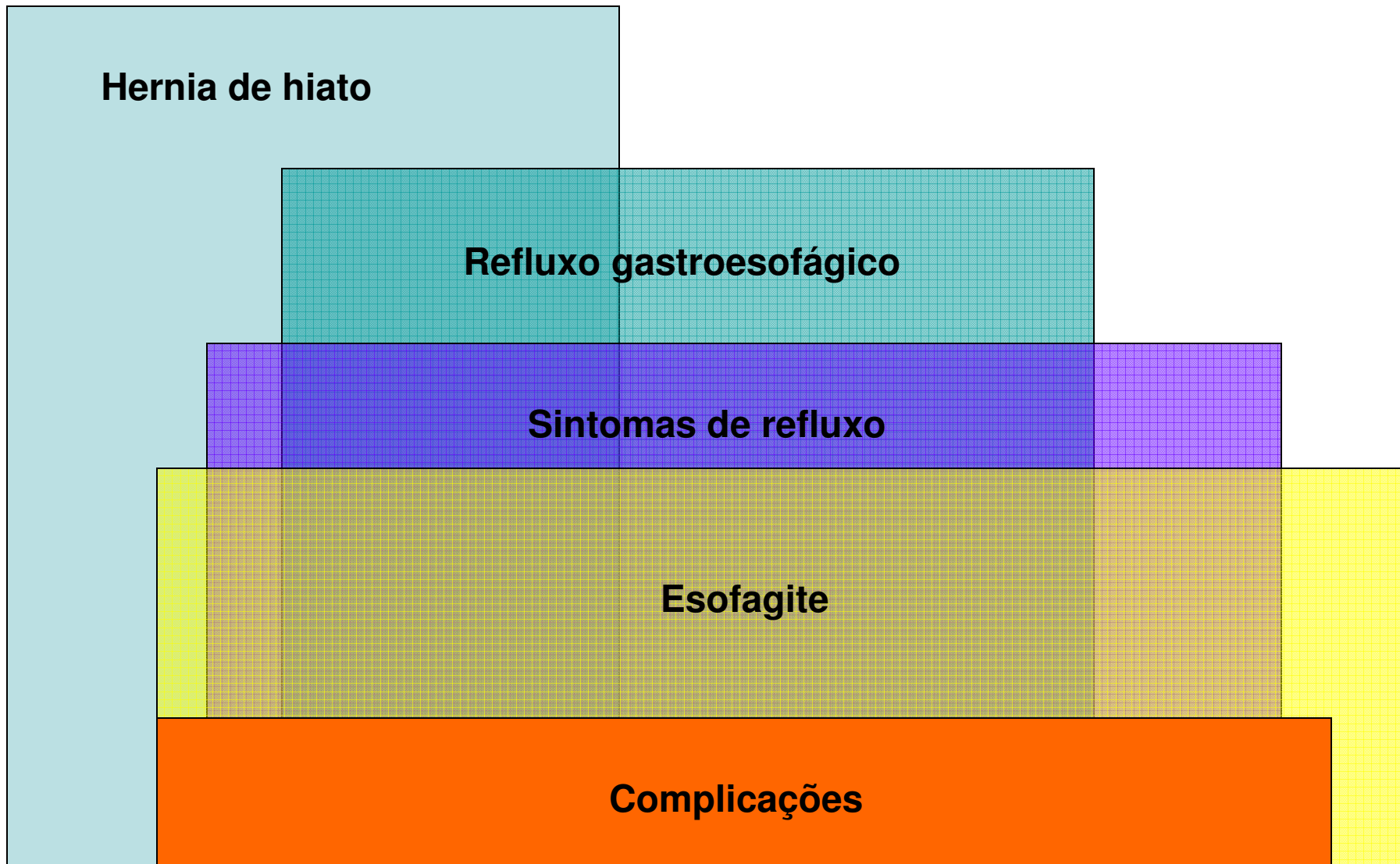
**Hernia de hiato**

**Refluxo gastroesofágico**

**Sintomas de refluxo**

**Esofagite**

**Complicações**



# Diagnóstico da DRGE

Pirose retroesternal  
Regurgitação  
Dor torácica  
Disfagia  
Vómitos  
Halitose  
Asma  
Rouquidão  
Tosse  
Otalgias

.....

*“A anamnese sugestiva, permite o diagnóstico correcto em 80% dos casos...”*

Horrocks e De Dombal, 1985





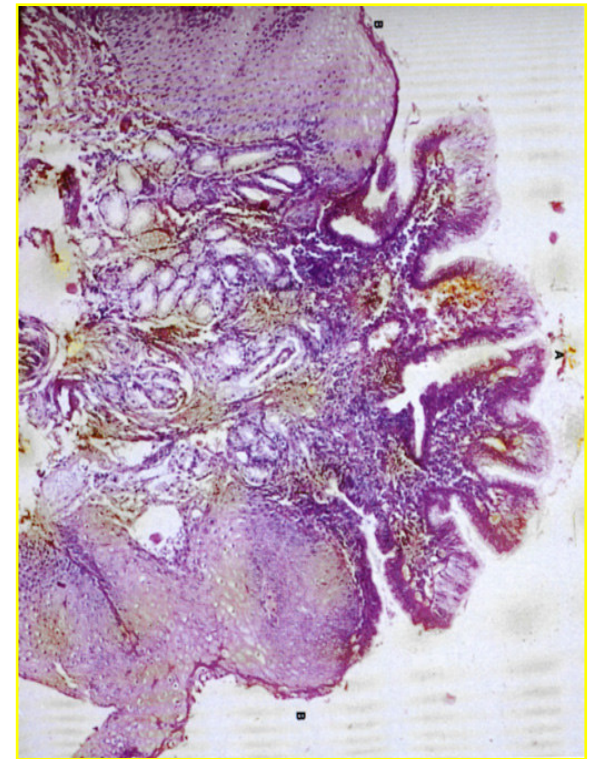
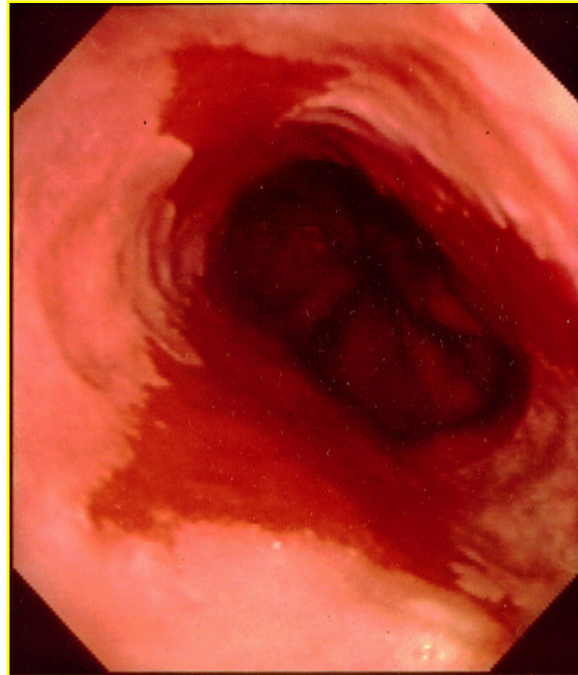
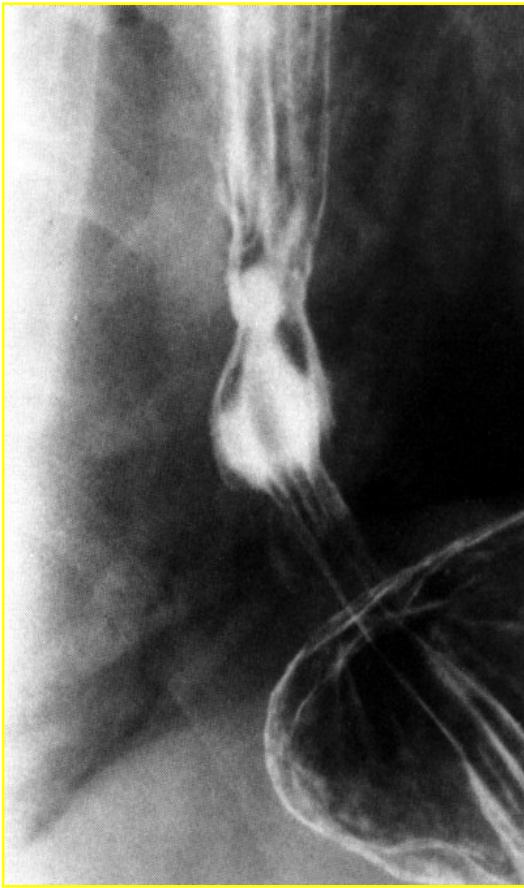
# Diagnóstico - objetivos

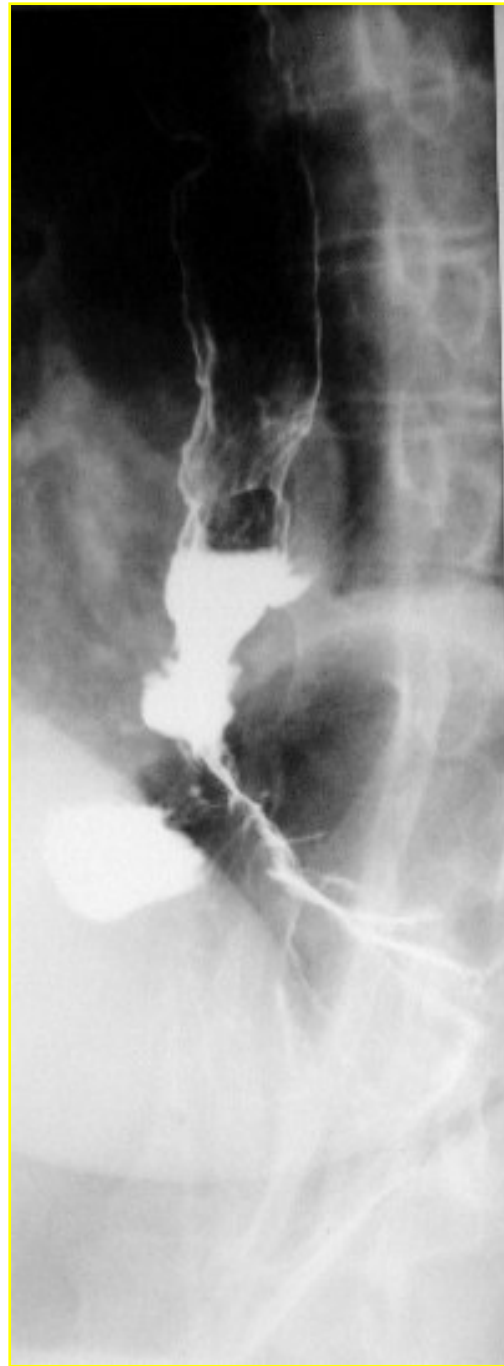
- Demonstrar existência de refluxo em quantidade e/ou duração elevadas
- Identificar as causas predisponentes
- Evidenciar as complicações

# Hérnia de hiato



# Correlação de exames

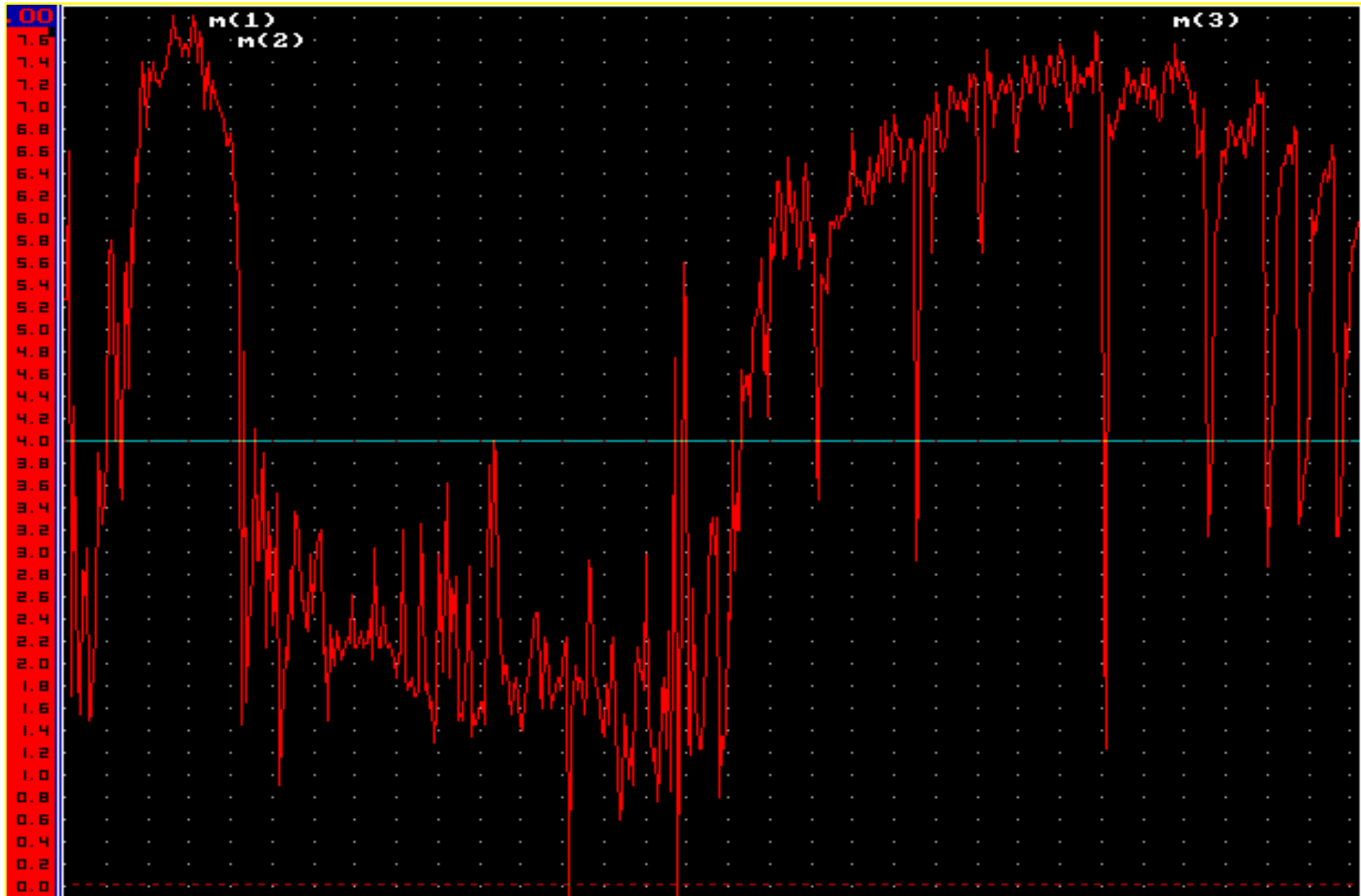


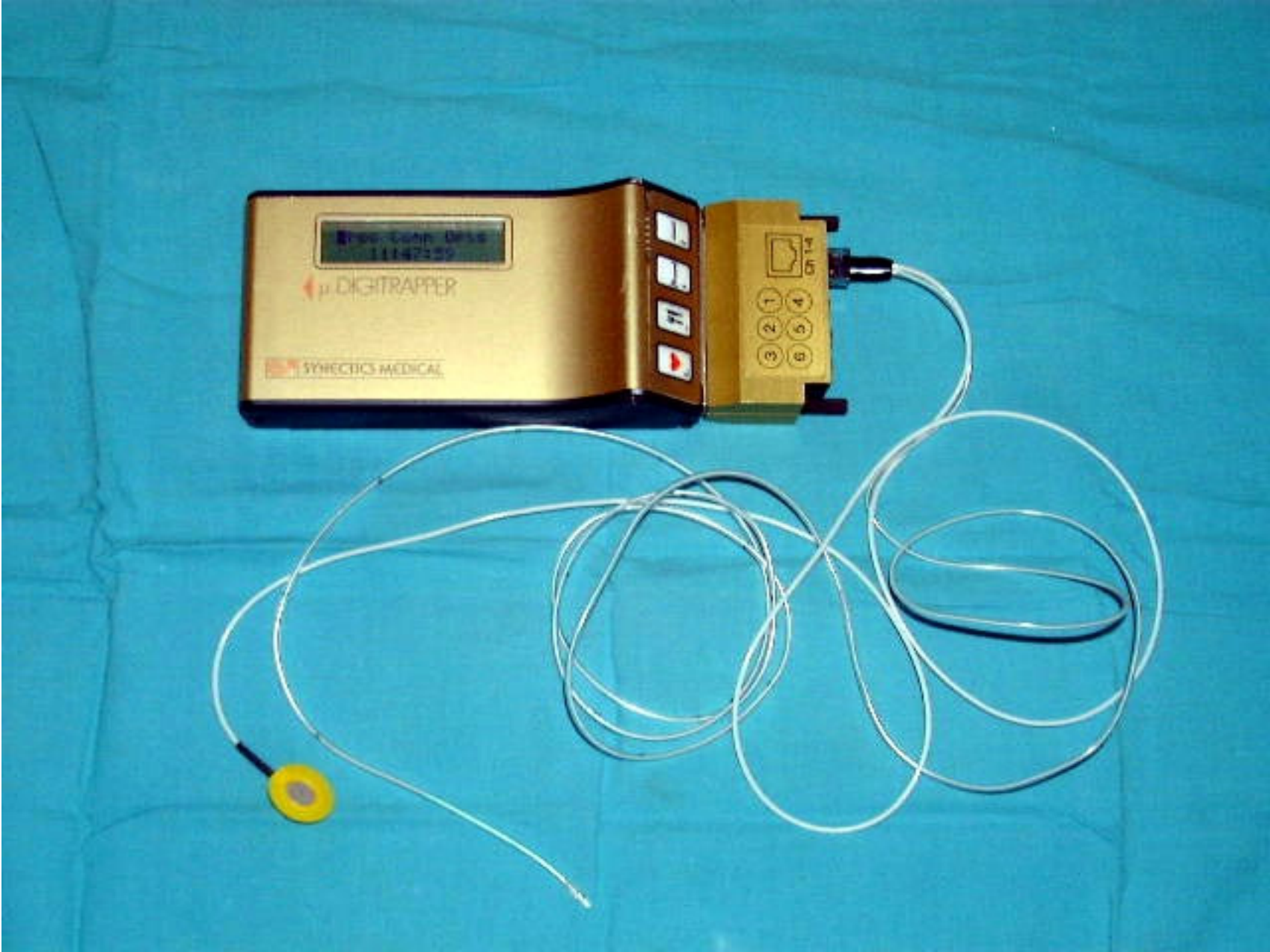


# O espectro do Refluxo

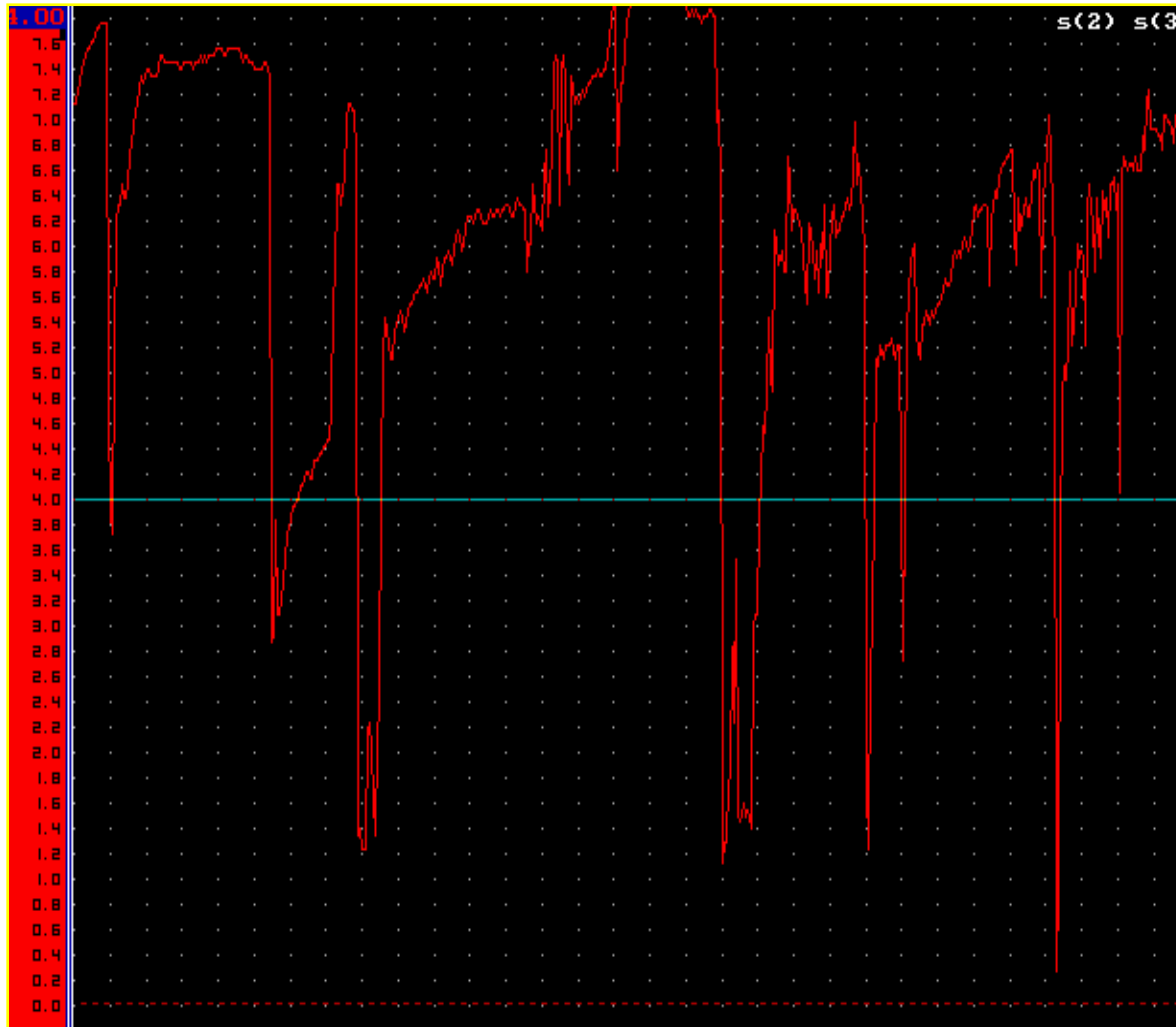
<b><i>Sintomas</i></b>	<b><i>Mucosa esofago</i></b>	<b><i>pHmetria</i></b>	<b><i>Categoria</i></b>
Não	Normal	Normal	Normal
Sim	Normal	Normal	Sem DRGE
Não	Normal	Anormal	?
Sim	Normal	Anormal	DRGE
Não	Esofagite	Anormal	Esofagite de refluxo
Sim	Esofagite	Anormal	Esofagite de refluxo

# pHmetria ambulatória de 24 horas



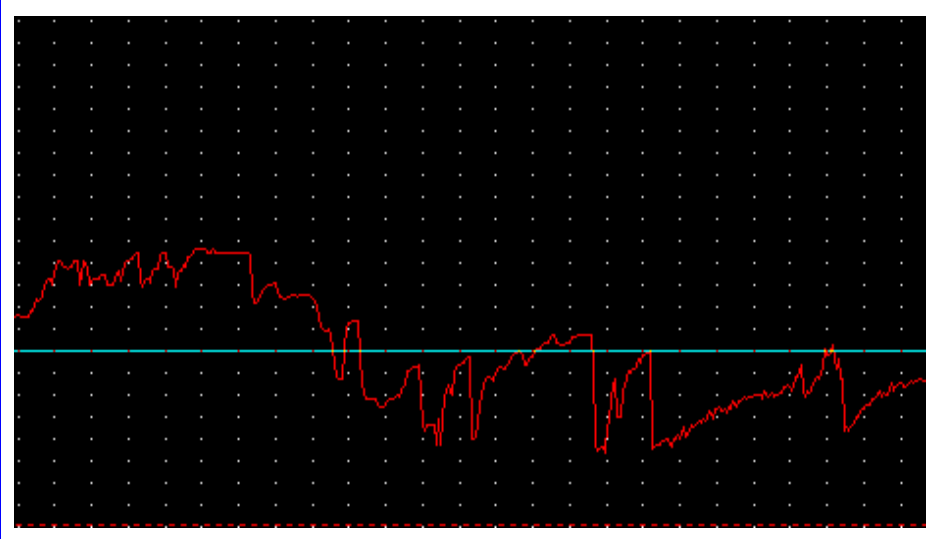
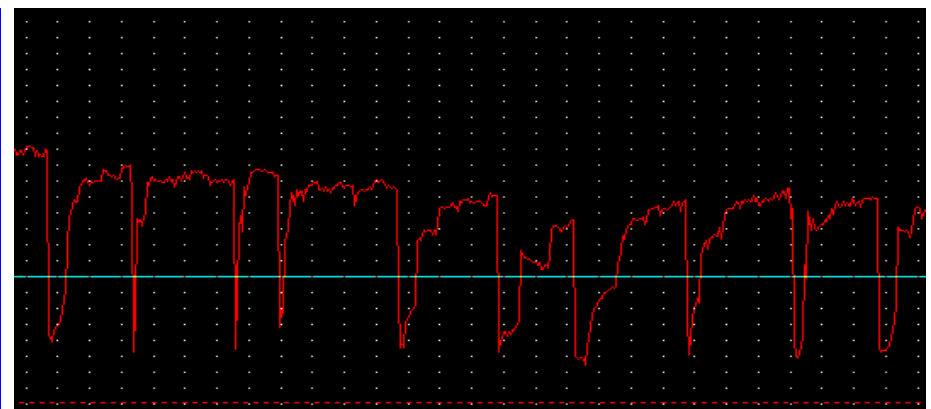
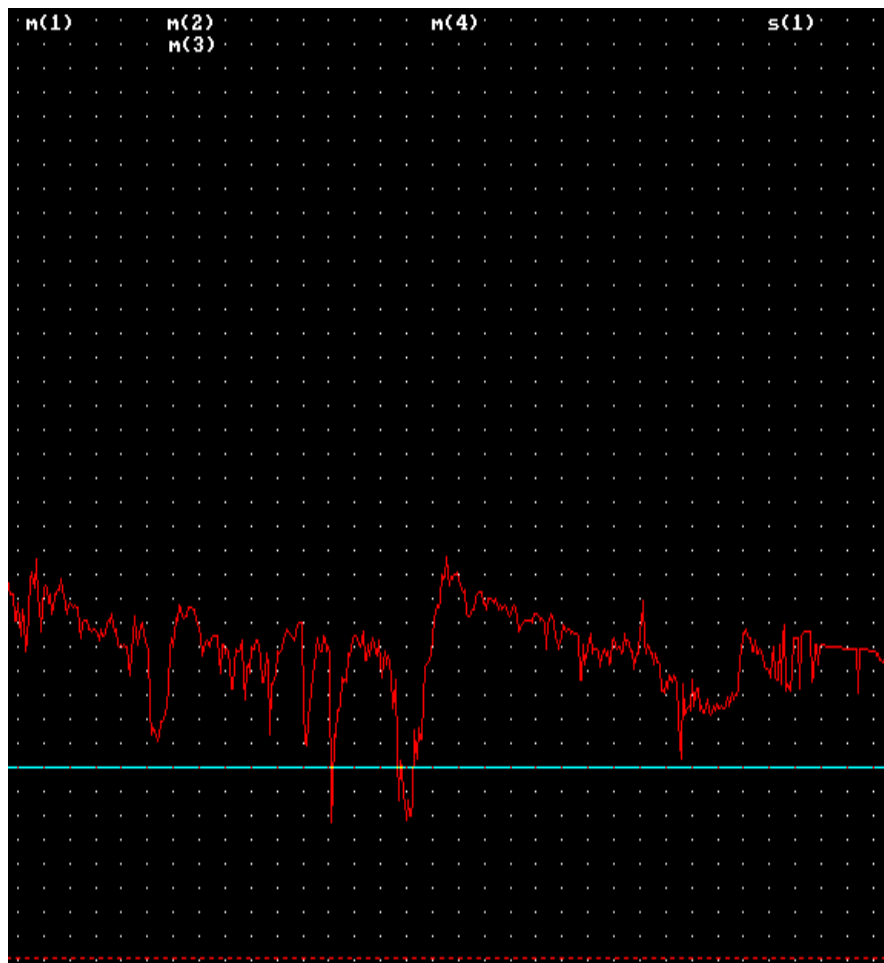


# pHmetria ambulatória de 24 horas





# pHmetria ambulatória - padrões normais e de refluxo patológico



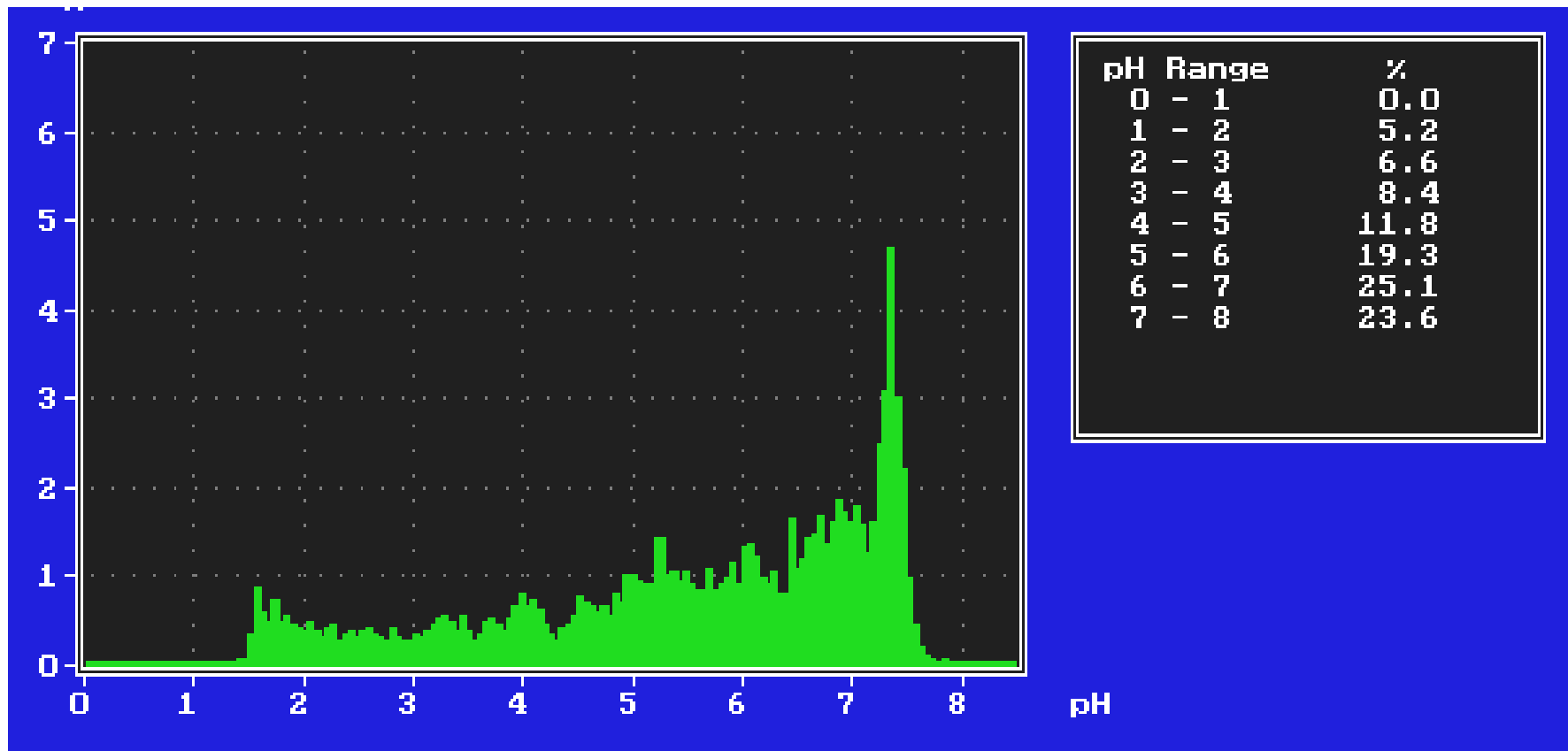
# pHmetria ambulatória de 24 horas

CHANNEL 1	TOTAL	MEAL	POSTPRAN	UPRIGHT	SUPINE
Duration (hh:mm:ss)	21:48:20	01:22:12	05:40:20	14:23:32	07:24:48
Median pH	5.5	6.3	4.0	5.4	7.0
<b>Acid Reflux Episodes</b>					
Total Number	610	22	287	485	125
Duration of Longest (min.)	10.4	0.9	10.4	10.4	5.4
# longer than 5.0 min.	6	0	5	5	1
Percent Time pH below 4.0	21.0	6.1	49.2	27.2	9.0
Symptom Index	0.0	0.0	0.0	0.0	0.0

## Acid Score Table

DeMeester Score for Acid Episodes	Normal (95th%)	Patient Score
Total Number (ref/24 h)	46.90	610 52.13
# longer than 5.0 min. (ref/24 h)	3.45	6 5.88
Duration of Longest (min.)	19.80	10.40 1.47
Time pH below 4.0 TOTAL (%)	4.45	21.02 15.35
Time pH below 4.0 UPRIGHT (%)	8.42	27.22 11.63
Time pH below 4.0 SUPINE (%)	3.45	8.99 9.36
<b>Total DeMeester Score</b>	<b>14.72</b>	<b>95.82</b>

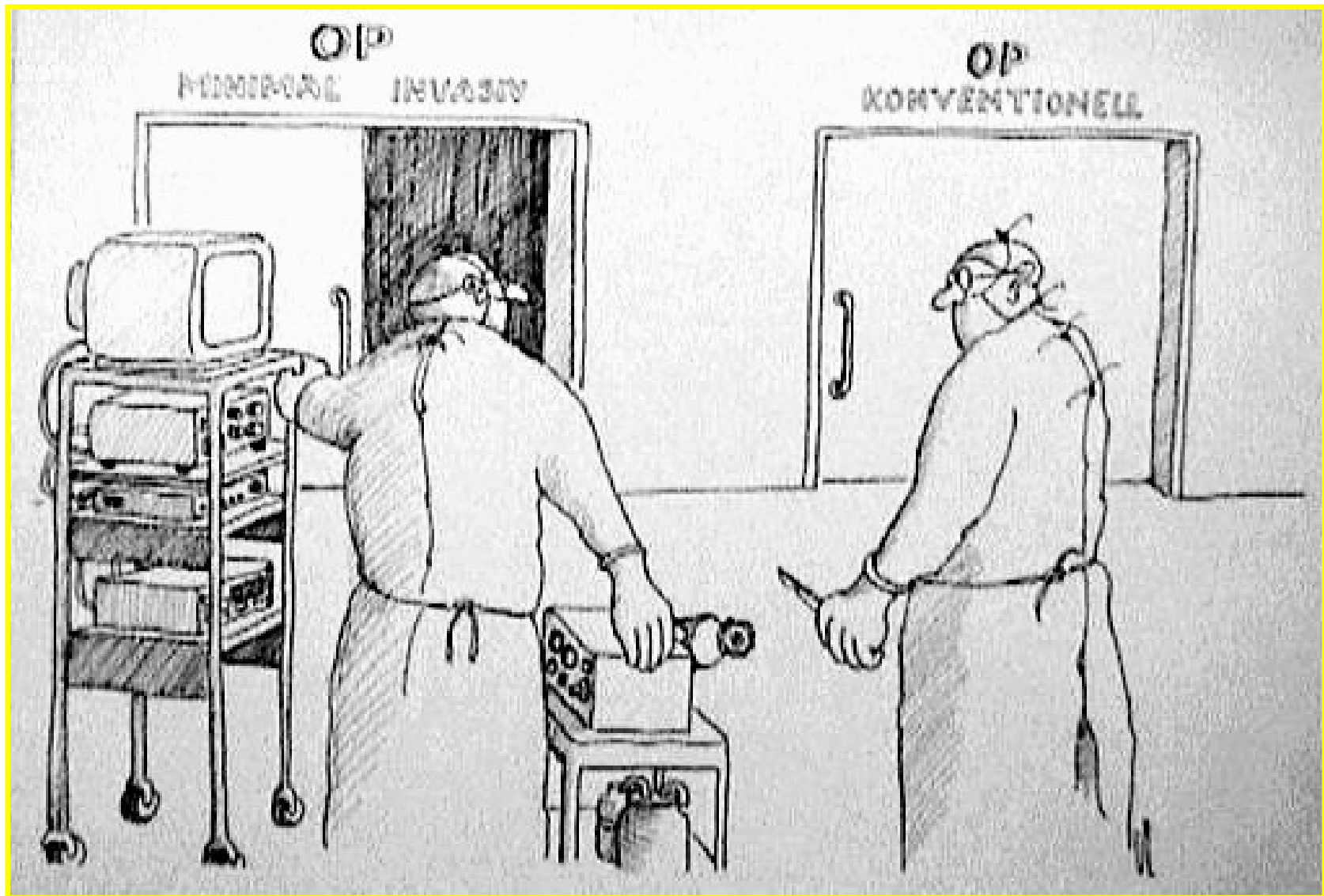
# pHmetria - exposição da mucosa esofágica ao ácido



# Refluxo ao longo do dia

- Número de episódios (pH<4): <50
- Tempo de pH <4
  - ⇒ Ortostatismo: 6,3%
  - ⇒ Decúbito: <1,3%
- Episódios duração maior que 5 min: <4
- Duração do episódio mais longo: <9,3 min

# Cirurgia? Aberta ou laparoscópica?

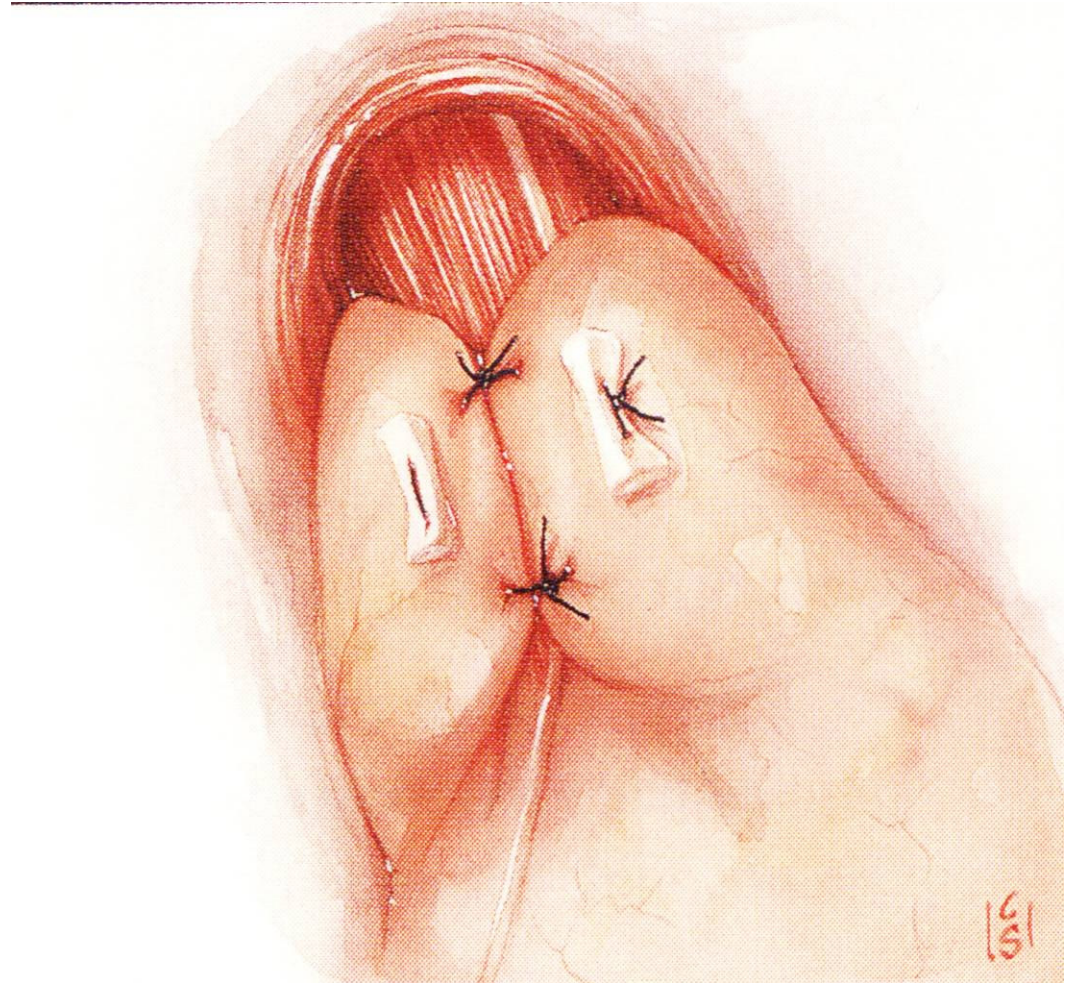


# Avaliação pré-operatória

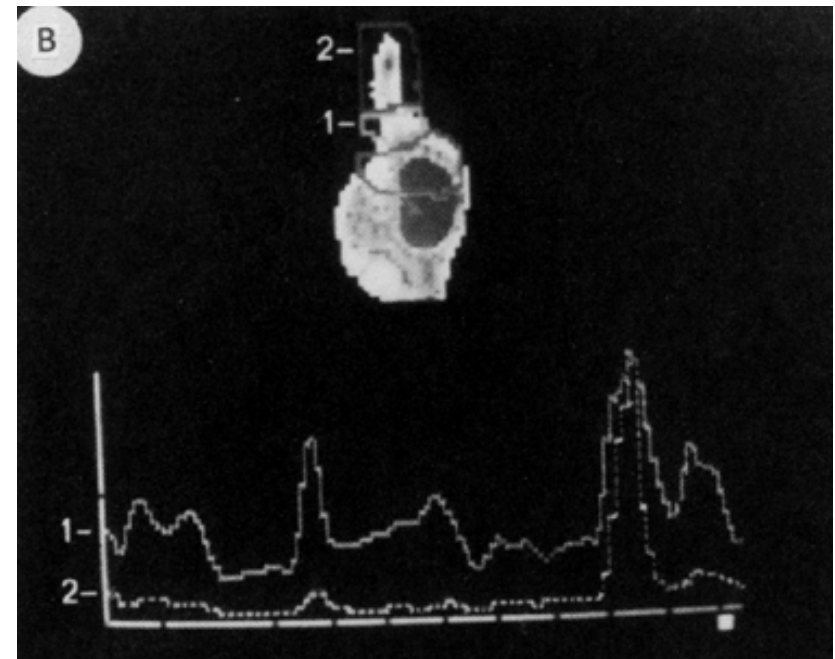
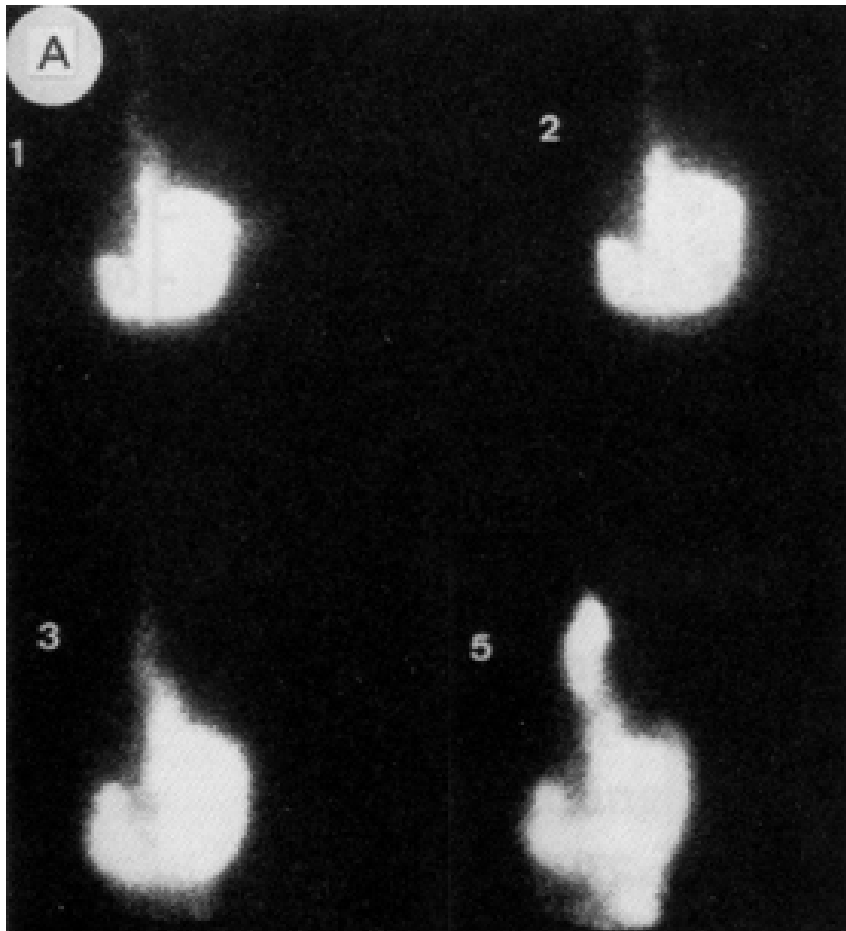
(SAGES 1998)

- Endoscopia (c/ biópsias)
- Manometria esofágica
  
- Radiologia
- pHmetria ambulatória de 24 horas
- (Monitorização prolongada de refluxo biliar)
- (Estudo do esvaziamento gástrico - cintigrafia)

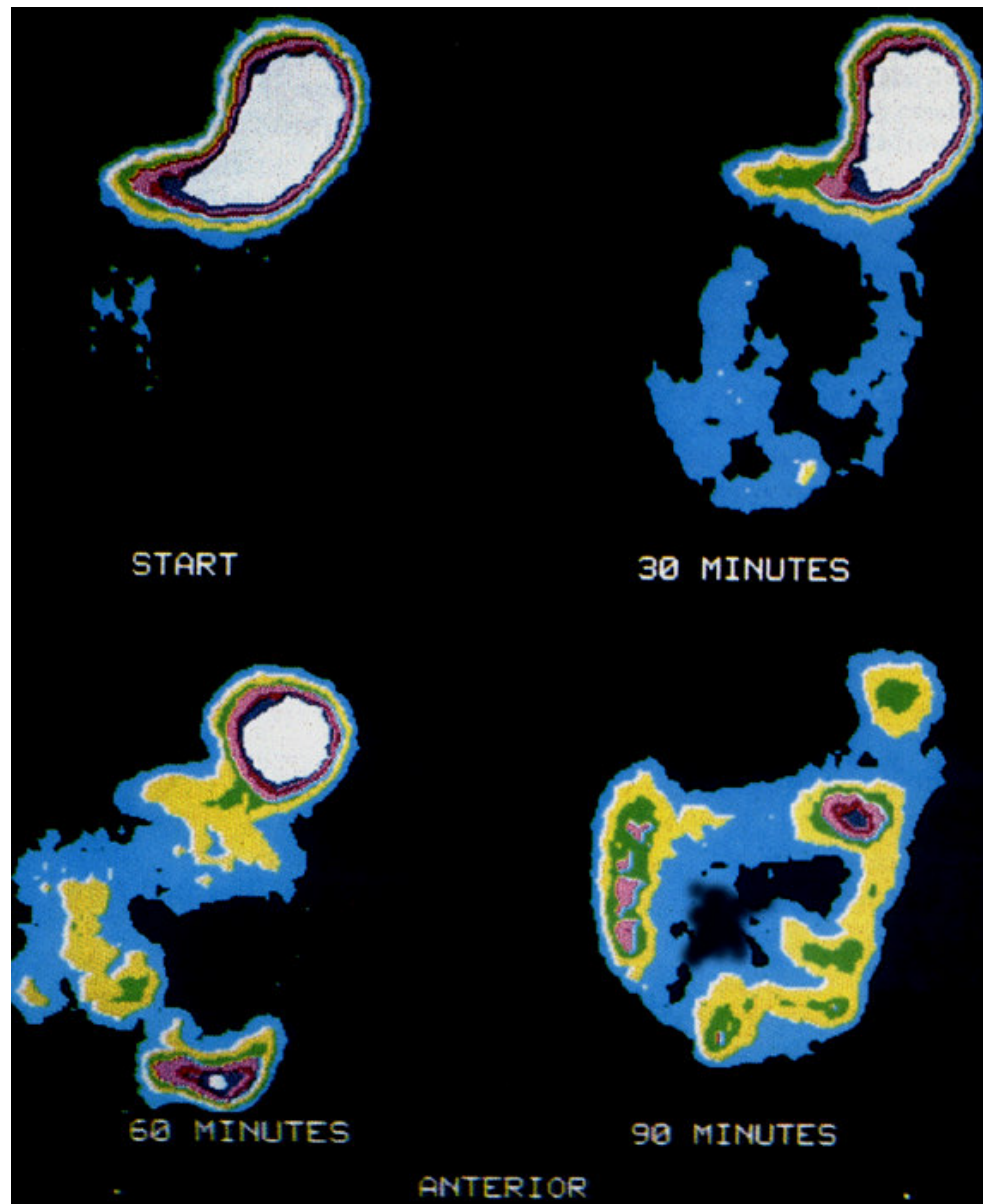
# A funduplicatura de Nissen



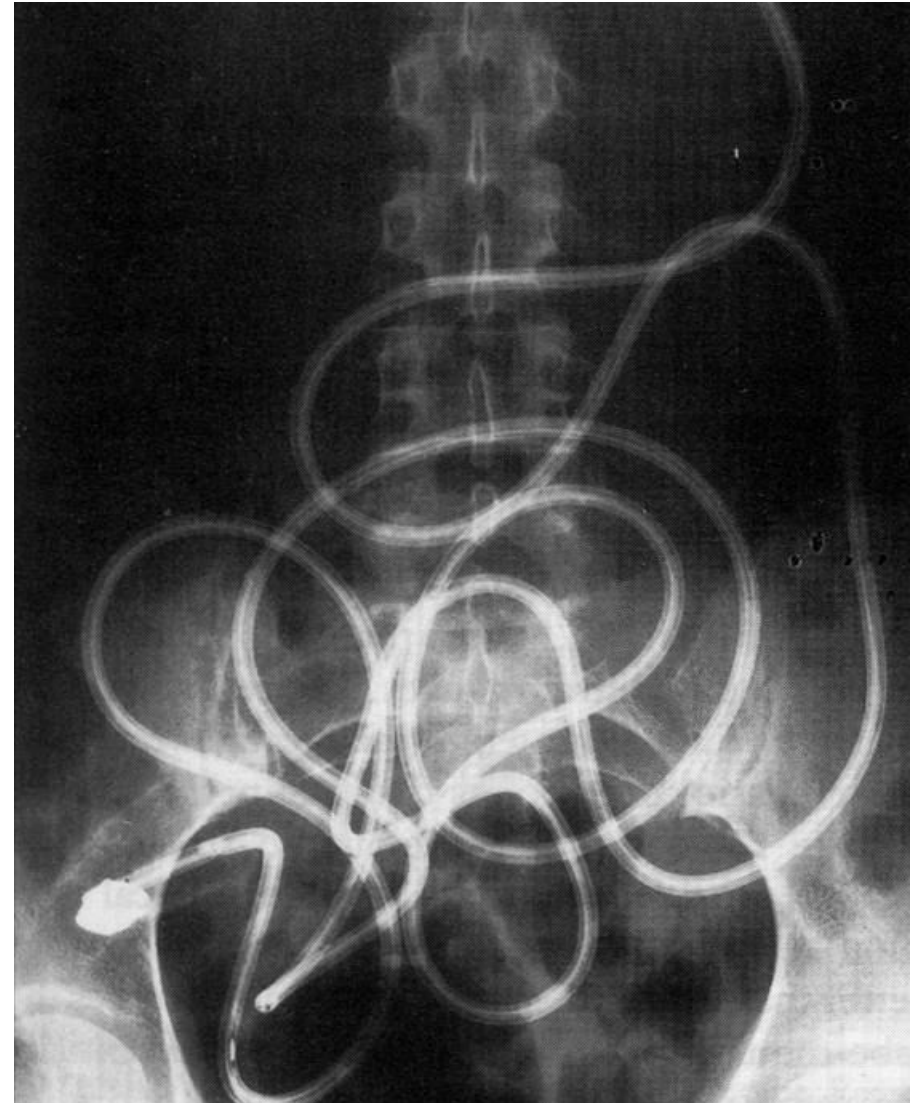
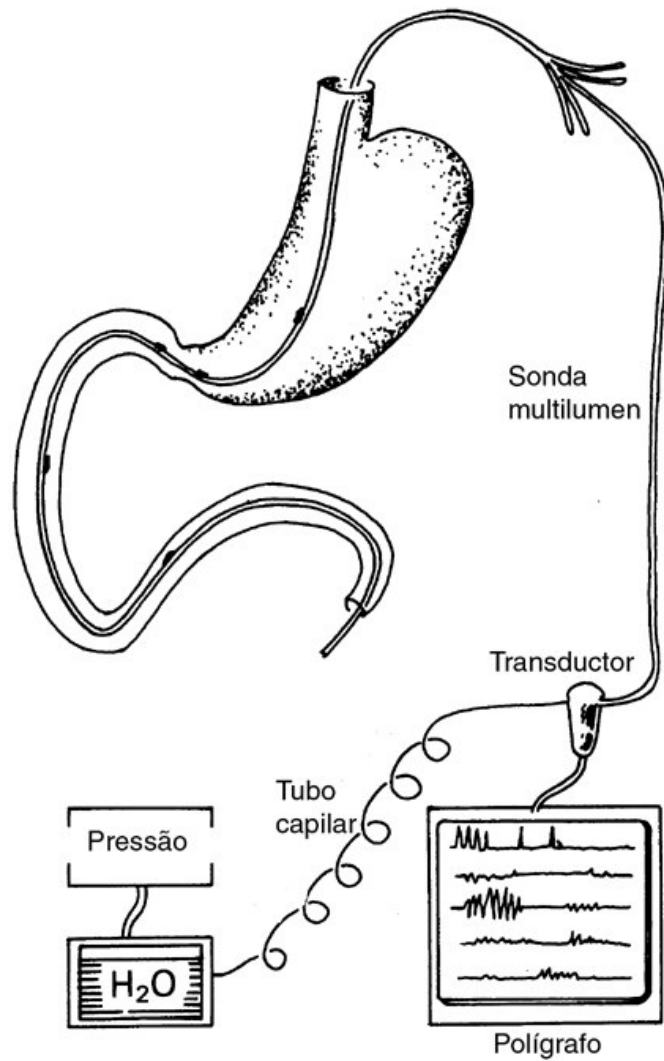
# Estudo do esvaziamento esofago-gástrico



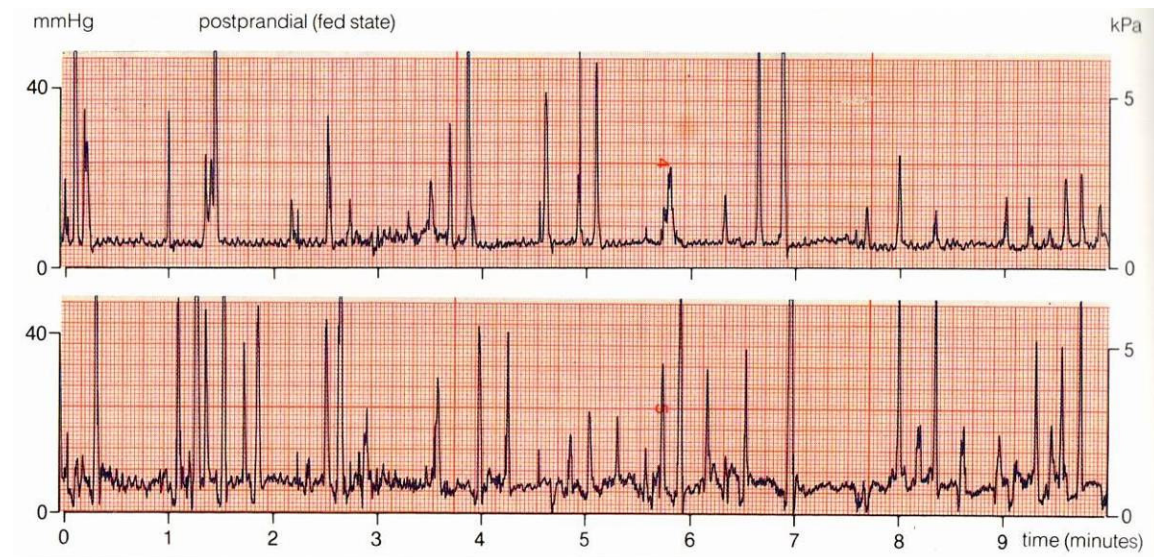
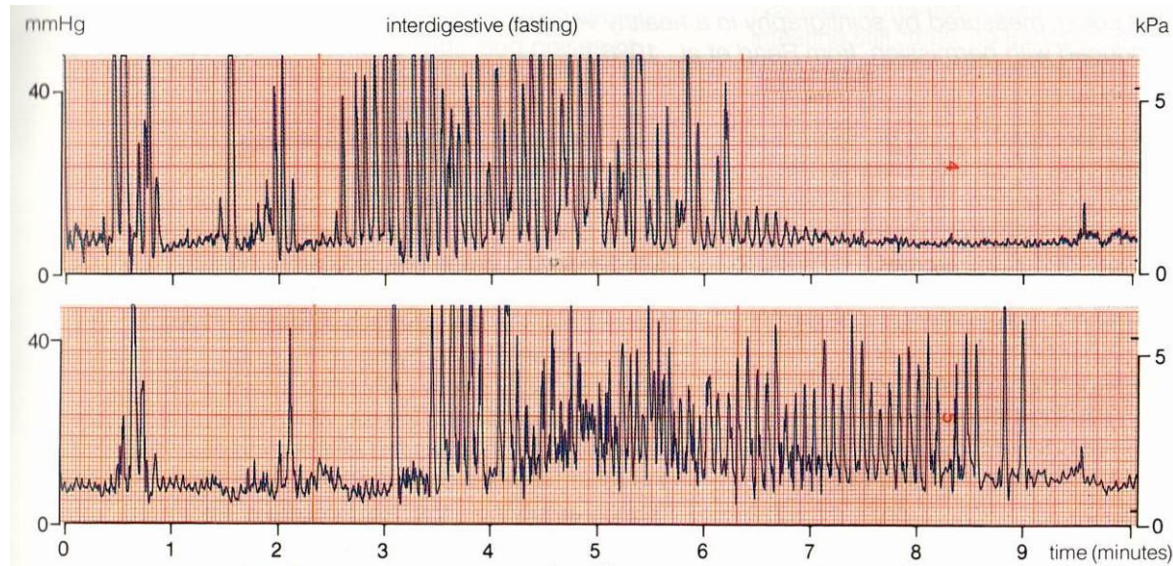




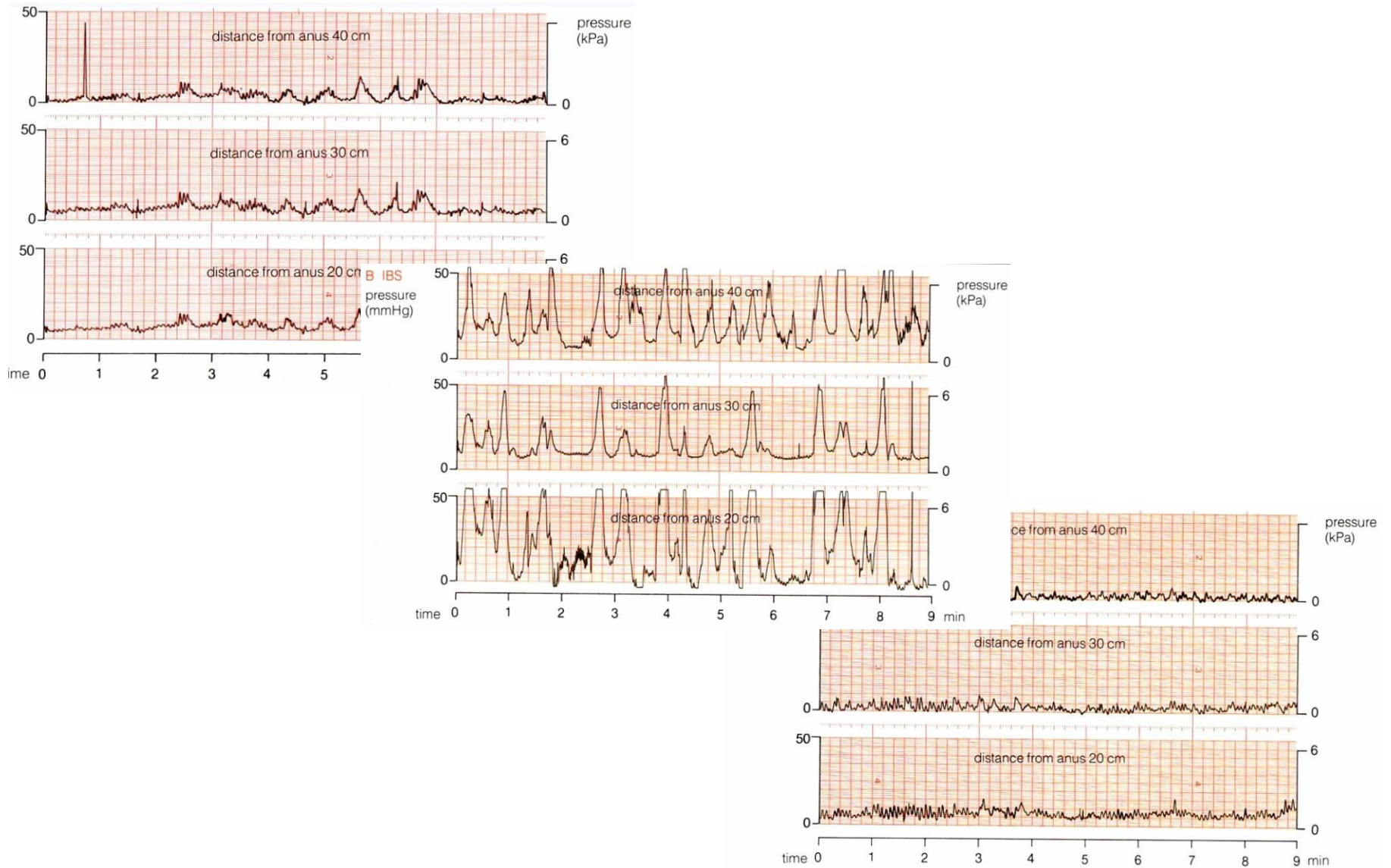
# Manometria do tubo digestivo



# Manometria do intestino delgado



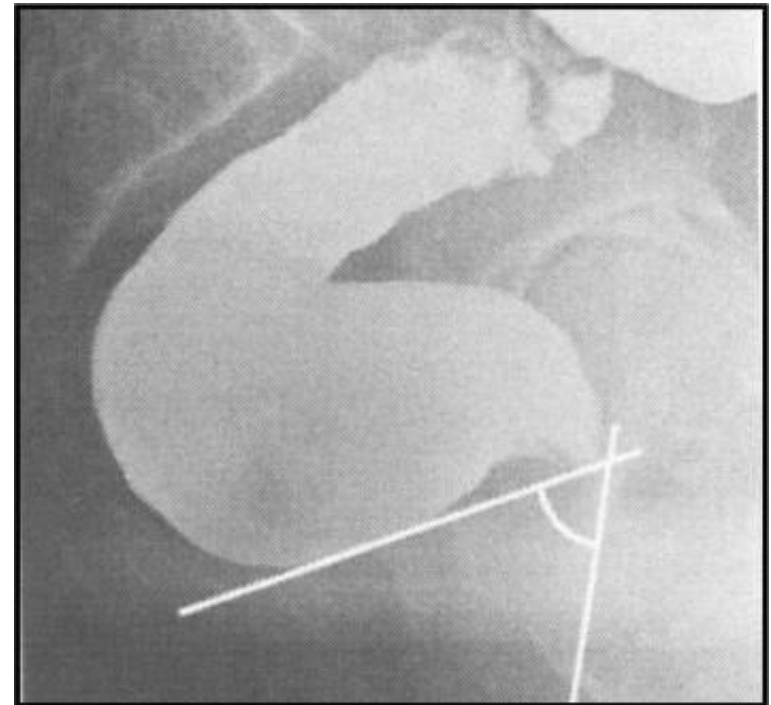
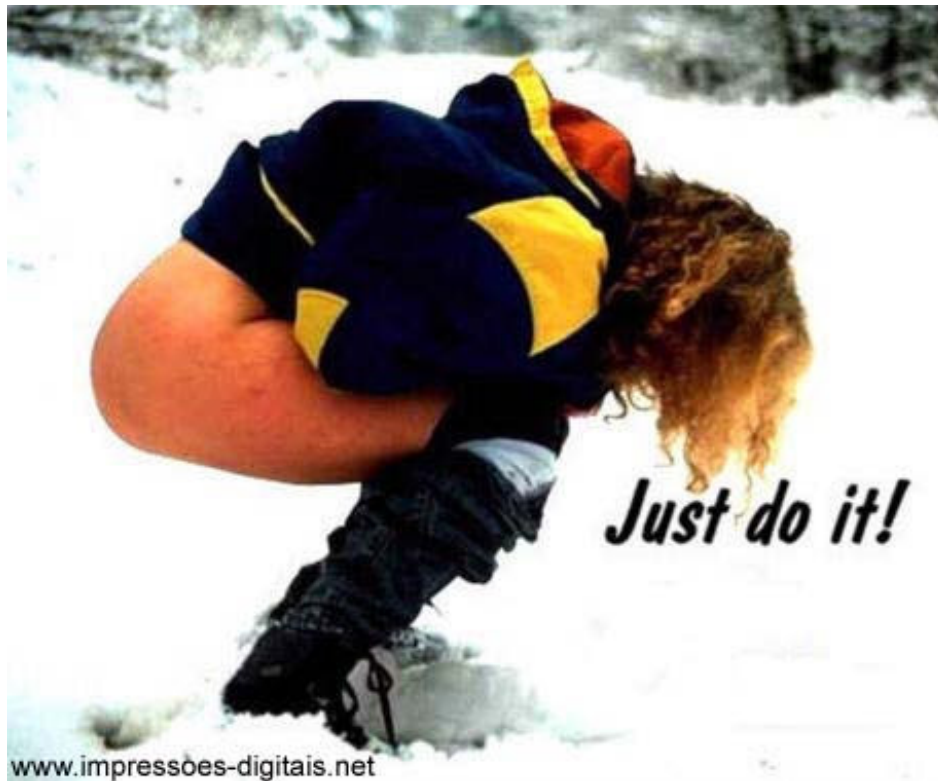
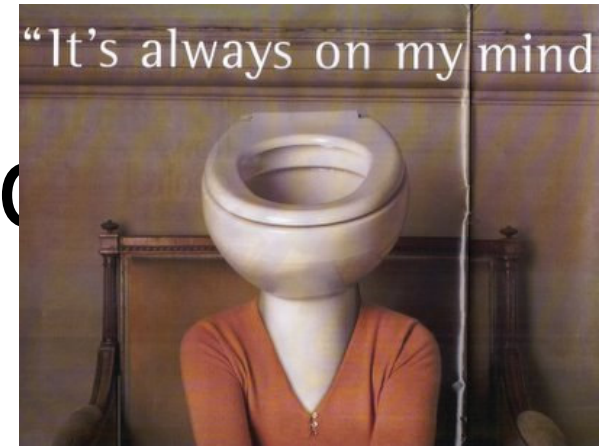
# Manometria do colon



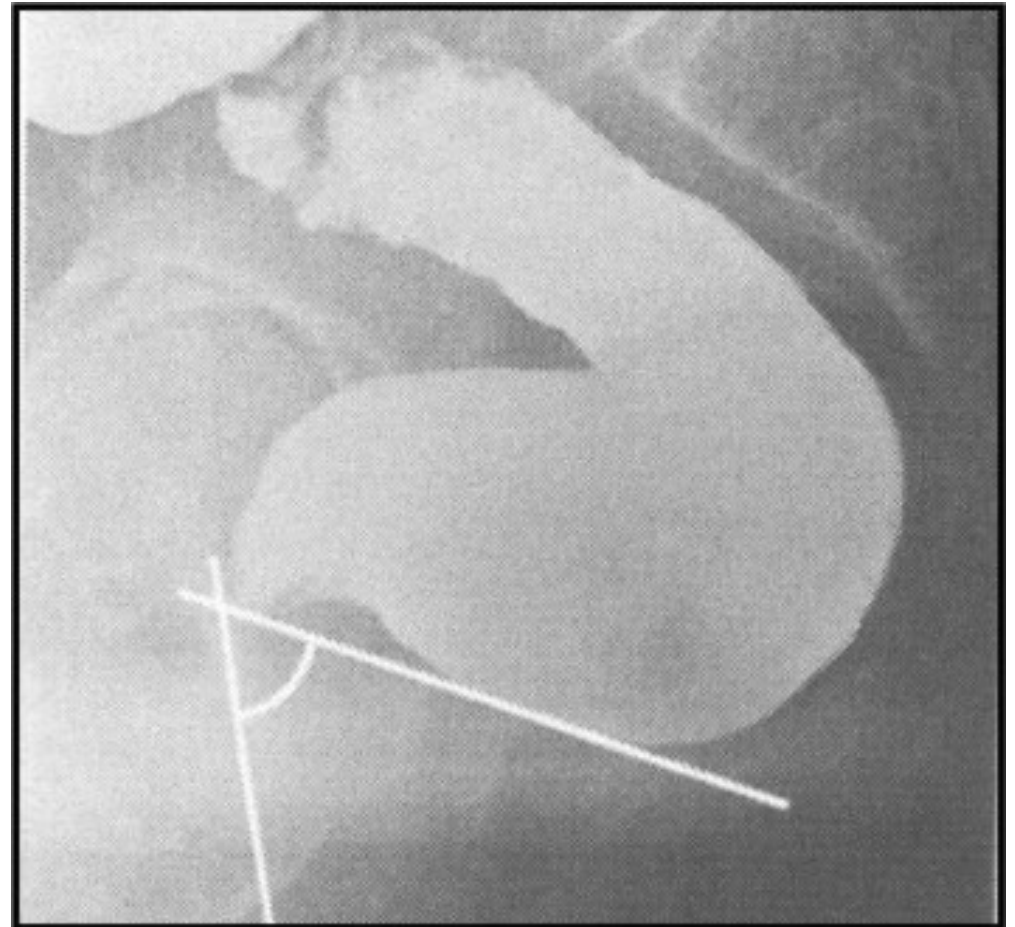
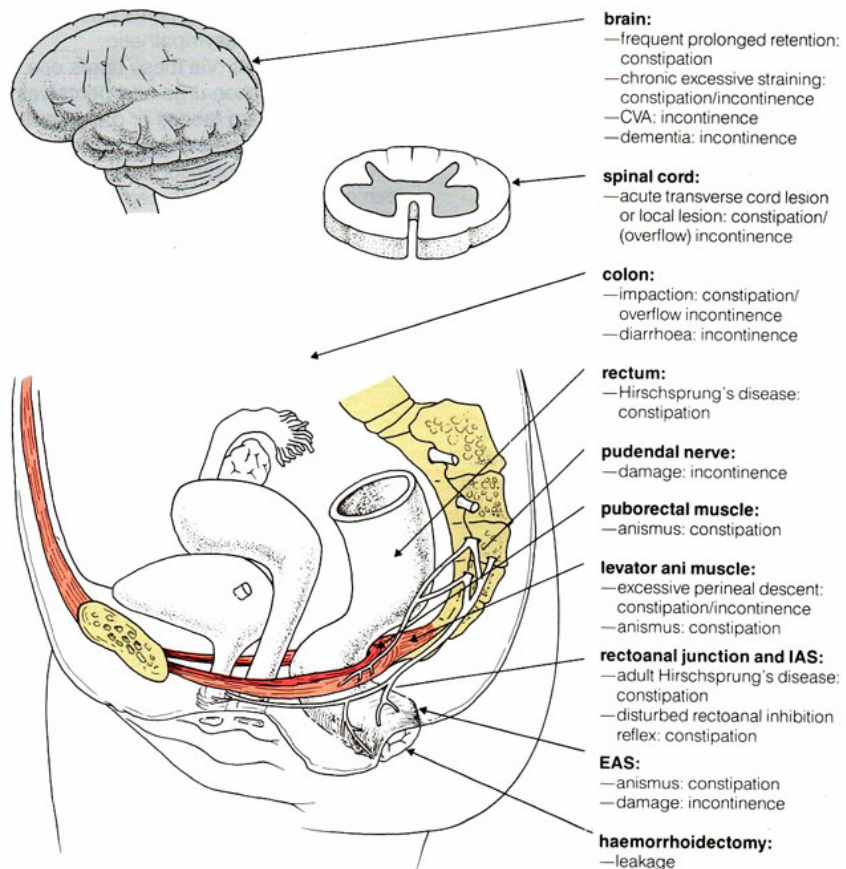
Momento cultural...



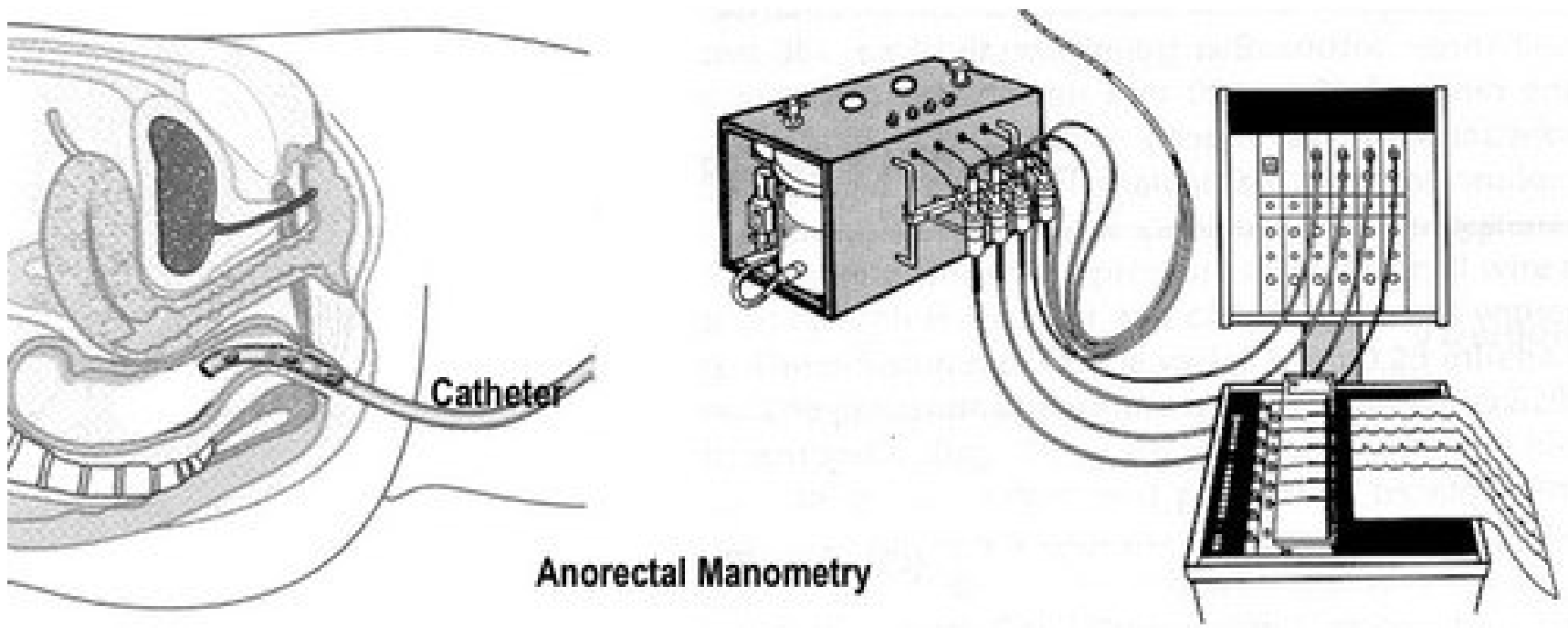
# Alterações defecato



# Alterações defecatórias

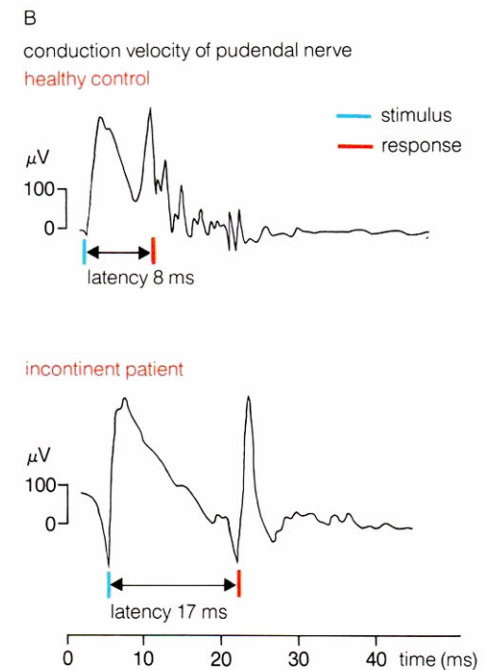
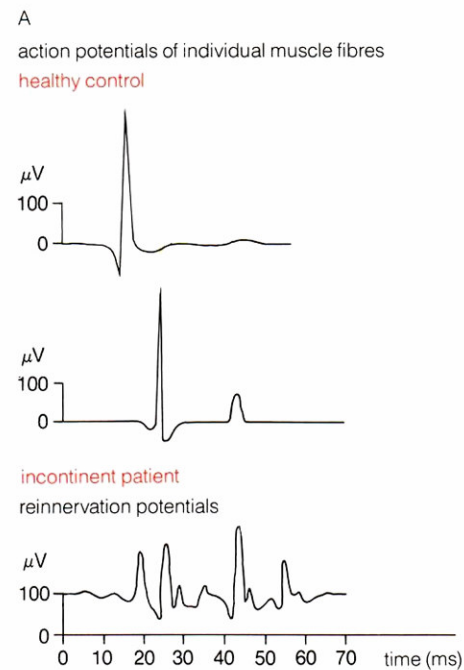
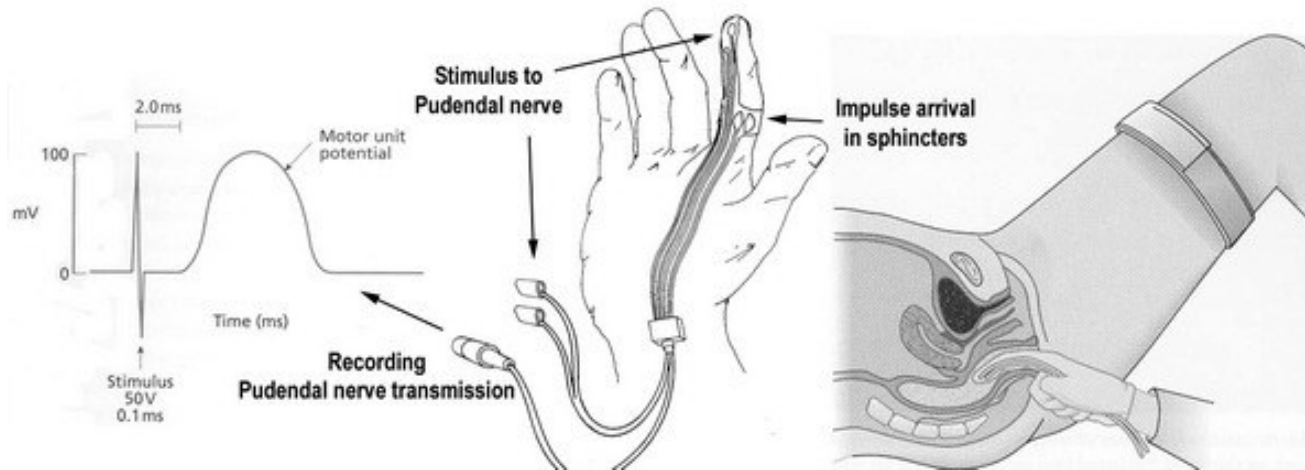


# Manometria anal





# Potenciais evocados



# Exames funcionais digestivos permitem

- Informação diagnóstica
- Guia para tratamento adequado
- Dados para prognóstico
- Não existe exame “universal”



# Resumo 1

	radiology	scintigraphy	ultrasonography	endoscopy	manometry	pH monitoring	EGG	EMG of smooth muscle	EMG of striated muscle	breath hydrogen test
<b>oesophagus:</b>										
motility disorders	(+)	+			++			+		
stenosis, tumour	+			++						
pathological reflux						++				
oesophagitis				++						
<b>stomach:</b>										
gastroparesis					++					
stenosis, tumour, inflammation	+			++						
erosion, ulcer	+			++						
gastric dysrhythmia							++	++		
disturbed gastric emptying	(+)	++	+							

# Resumo 2

	radiology	scintigraphy	ultrasonography	endoscopy	manometry	pH monitoring	EGG	EMG of smooth muscle	EMG of striated muscle	breath hydrogen test
<b>gallbladder and bile ducts:</b>										
gall stones	++		++	+						
disturbed gallbladder emptying	+	+	++							
dyskinesia of sphincter of Oddi		+			++					

