





**Low back pain.  
Occupational injuries and diseases.  
Observations in France and prevention proposals**

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pour la prévention des accidents du travail et des maladies professionnelles

<b>Low Back Pain – Disc pathology</b>		pmsi 2010
24 millions hospital stays		Medical information informatized prog Damon et al. Rev med ass mal, 2000,4,19-27 Deyo et al back surgery Has 2000, protheses discales Garreau de lobresse aca de médecine 2009 Ramamurti analyst frost&sullivan
1,08 millions about musculoskeletal pathologies		
	½ articular diseases	
182 500 back disorders		
- spine surgery	<b>85 000</b>	
	fractures 7 500	
	discs 62 000	<b>lumbar 15 000</b>
	others 18 000	
- traumatic pathology	<b>28 000</b> lumbar spine and pelvic fractures	
- medical therapeutic	<b>85 000</b> back pain	
	fractures 27 000	
	<b>lumbar disc + sciatica 13 000</b>	
	LBP, lumbago + sciatica 11 300	<b>sciatica 35000</b>
	sciatica alone 11 500	
	low back pain 21 500	





work as a risk factor				
	LBP ? yes/no	sciatica < knee	off work (%)	off work duration (d)
controle	64,4	4,8	5,1	7,0
exposed	71,5	9,8	28,9	20,2
	p > 0.1	p = 0.06	p < 0.01	p = 0.08


in % of a male working population (n = 642)

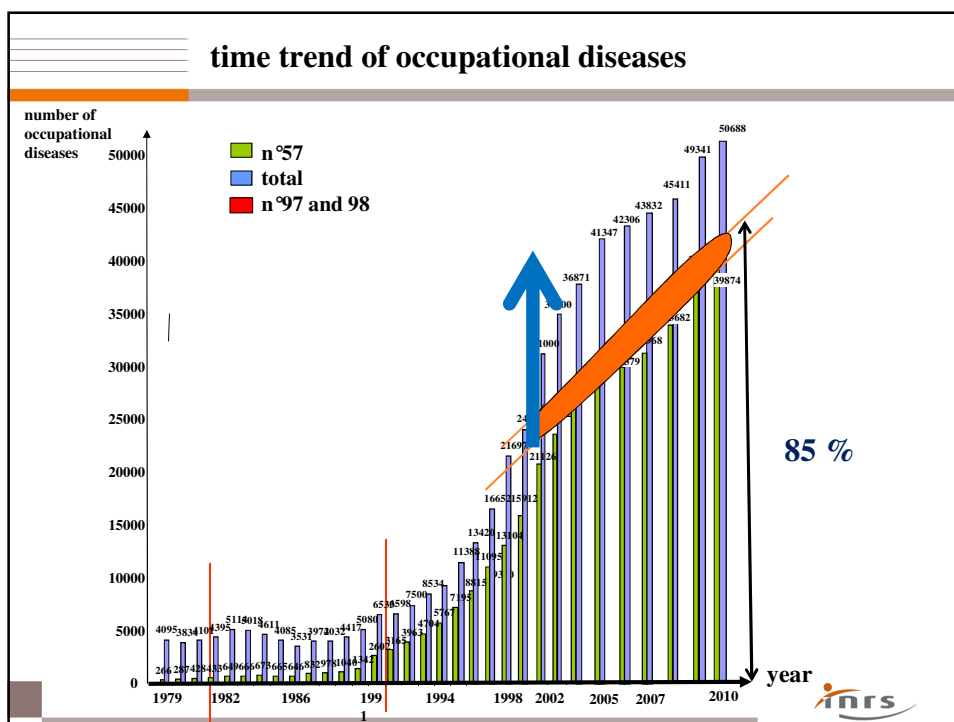
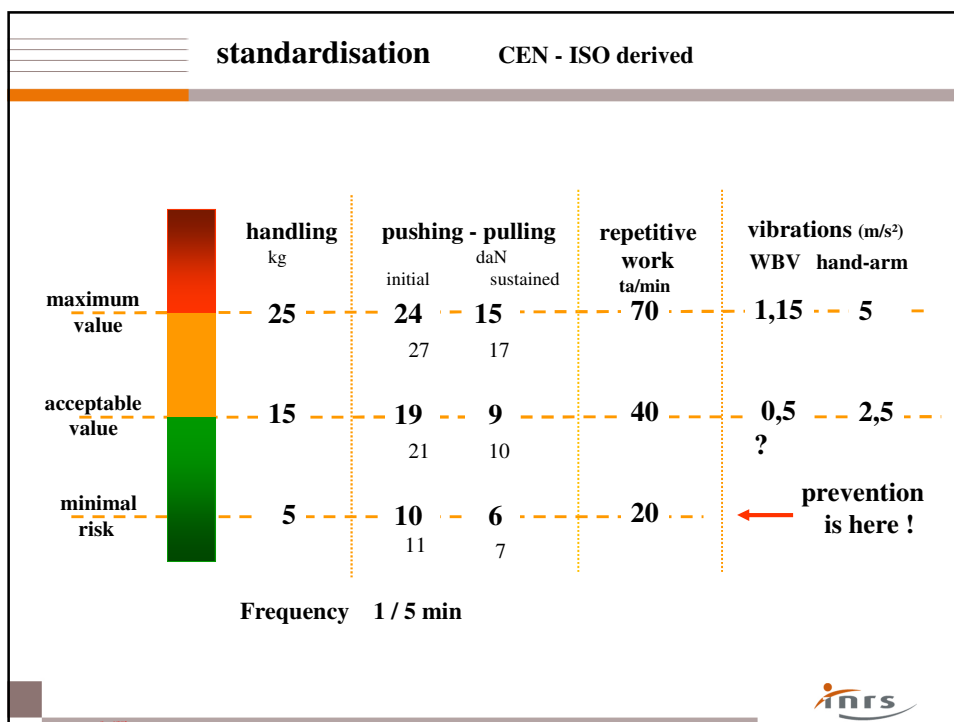


compensated back pathologies		cnam-ts statistics
in 2010		
- occupational injuries	660 000	
involving low back	110 000	17 % of the total
of work duration	lumbago	59,3 days
	all	56,4 days
- occupational diseases	(tables 97 & 98)	
	- chronic back pain with sciatica <b>and</b> concordant disc hernia	
Whole body vibration	350	
Manual handling	2500	almost the same since 1999




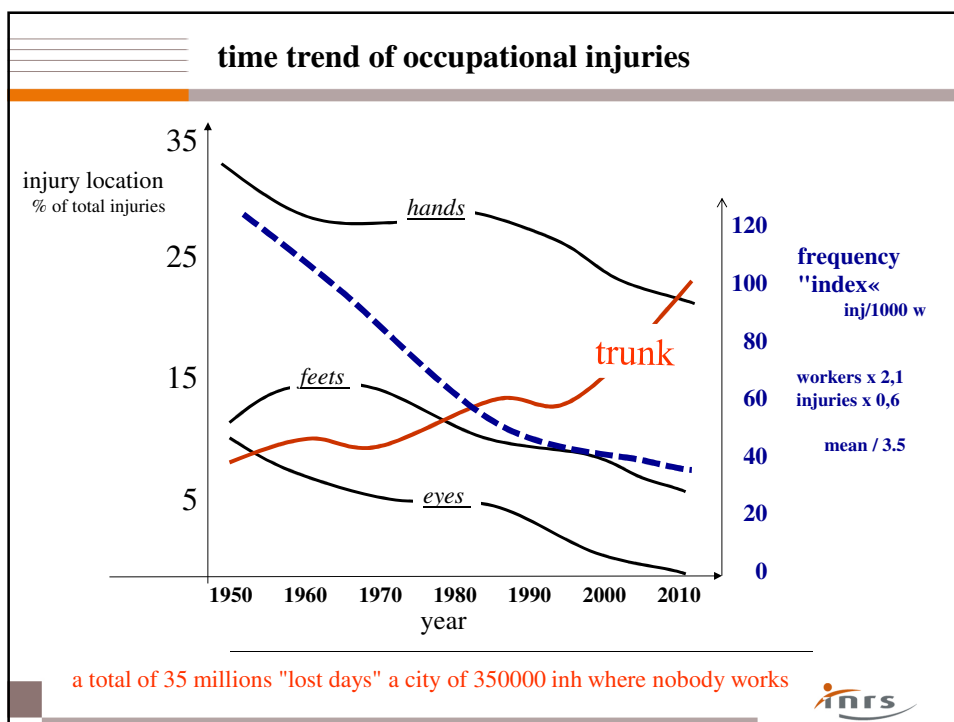
occupational disease tables 97 and 98		
		(published 15/02/99)
chronic disorders of the lumbar spine induced by :		
trg 97 : exposure to WBV of low and medium frequencies		
clinical aspect	time	tasks
diseases sciatica due to disc hernia at L <sub>4</sub> -L <sub>5</sub> or L <sub>5</sub> -S <sub>1</sub> level with a <b>concordant</b> level of nerve compression	delay to declare: 6 months exposure time > 5 y	- using or driving earth moving machines, loader, excavator, leveller, road roller, tip cart, forklift, scourer, caterpillar tractor, agricultural or forestry tractor: - using or driving industrial moving machines: forklift, cranes, standing on vibrating machines - lorry driving.
crural radiculopathy due to disc hernia at disc level L <sub>2</sub> -L <sub>3</sub> or L <sub>3</sub> -L <sub>4</sub> or L <sub>4</sub> -L <sub>5</sub> with a <b>concordant</b> level of nerve compression		- road, sea, and railway transportation, building, public works, mines and quarry ; garbage and industrial scraps collection; furniture remover and keeper, slaughter house and quartering; loading and unloading during manufacturing, or delivering including activity for others; industrial, agricultural, forestry and food products storing and distribution; health care and paramedic activities including handling and moving of persons by stretcher; funeral works.
trg 98 : manual handling of heavy loads		
<b>limitative list of tasks</b>		
		

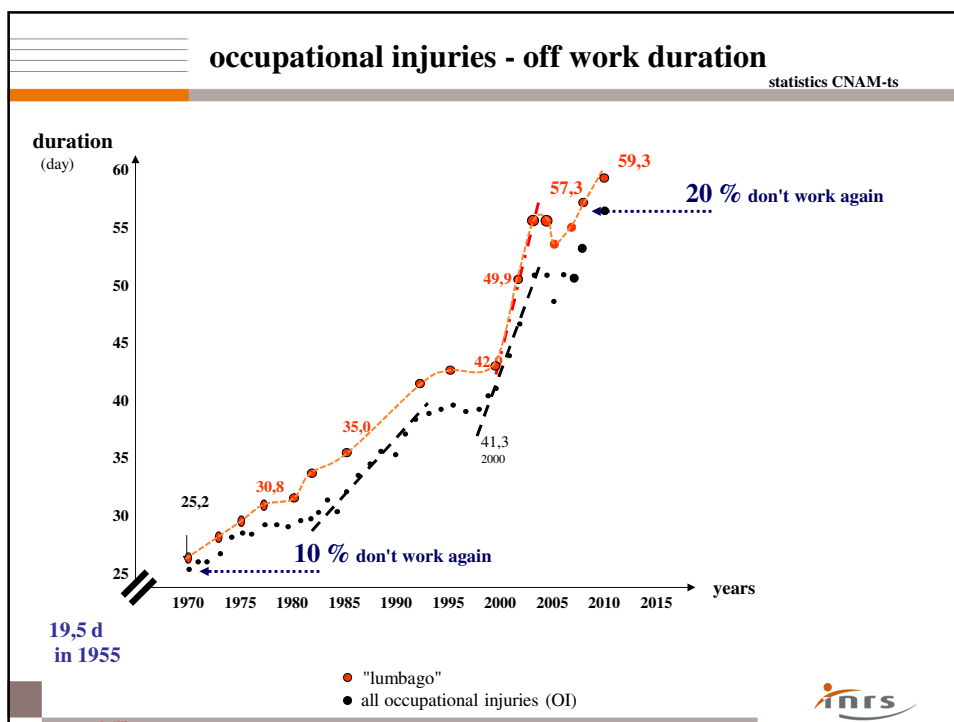
what brings occupational compensation ?	
- better economic and social support for the worker	
- awariness from the employers more attention to prevention direct cost	
- manual handling prevention campaigns	
- vibration, MH, postures are part of the work hardness evaluation ageing and hardness are new legal work agreement	
- standards <i>vibrations, handling, repetitive tasks</i>	
	



### locomotor occupational diseases 2010

	"MSDlimbs"	vibrations hand/arm	meniscus	chronic lombo-sciatica	
				WBVib	MHandling
n°	57	69	79	97	98
number	39874	131	422	381	2433
days lost(million)	8,2	0,036	0,084	0,144	0,919
off work d/case	<b>207</b>	<b>277</b>	<b>198</b>	<b>379</b>	<b>378</b>
<b>2006 figures</b>	<b>+ 25</b>	<b>10</b>	<b>27</b>	<b>9 %</b>	
off work d/case	<b>166</b>	<b>252</b>	<b>156</b>	<b>349</b>	<b>349</b>



### medical knowledge when no red flags

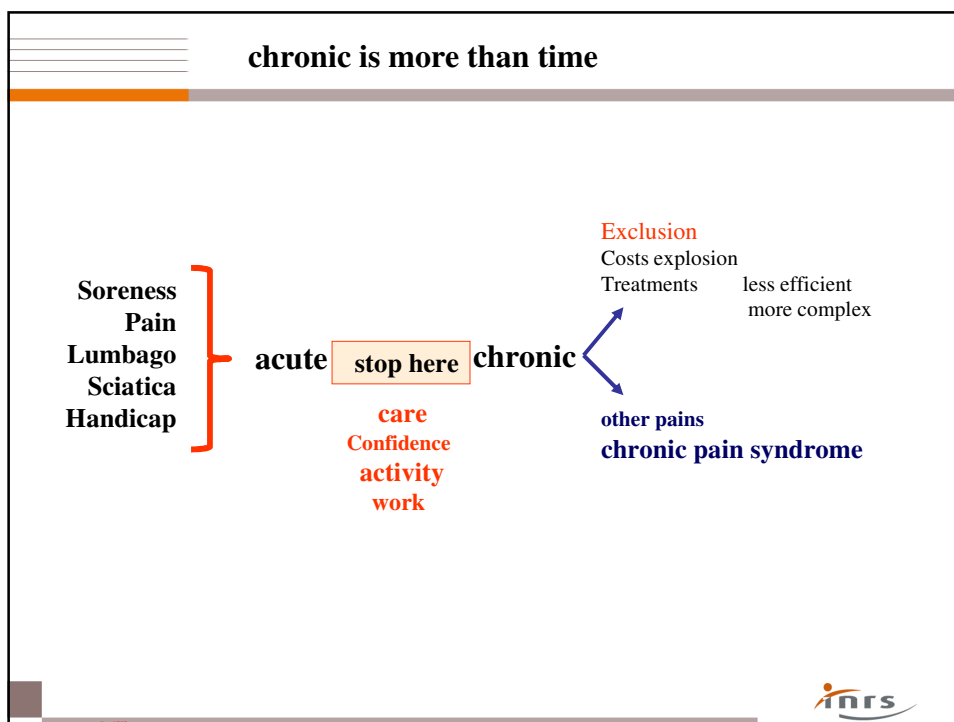
#### move

"I will just ask for some tests to be covered by my insurance"

Deyo in spine 1996

- *clinical observations*, epidemiology of return to activity  
5, 2 and 0 day rest
- *imagery*, most often (*red flags*), no information - pain reaction  
**at age 60, 60 % of pain free have "bad" RX**
- *sport medicine*, space, animal models, lumbar physiology & biomechanics  
knowledge of the 80th : muscle/tendon healing, proprioception,  
**early loading limits scar fibrosis; enforce muscle/tendon**
- *motor control* muscle coactivities are rapidly less efficient  
small functional changes but frequent relapses ++
- *psychology* moving makes confident, helps to manage pain  
leave the pain vicious circle  
progressive exposure to risk factors

how say "stay active" ?



### do work make enough ?

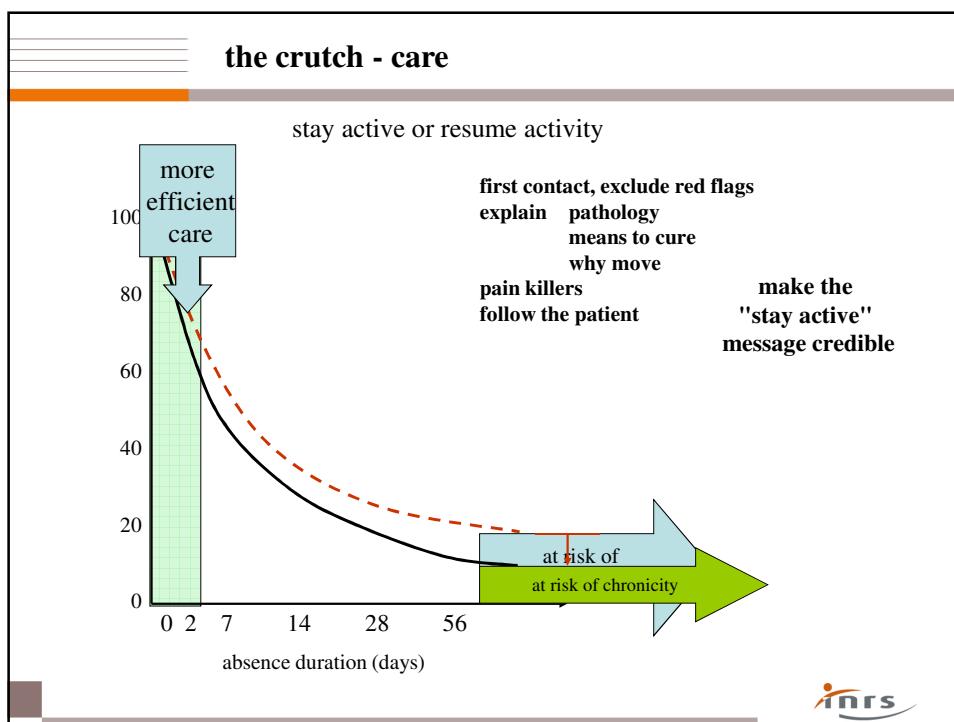
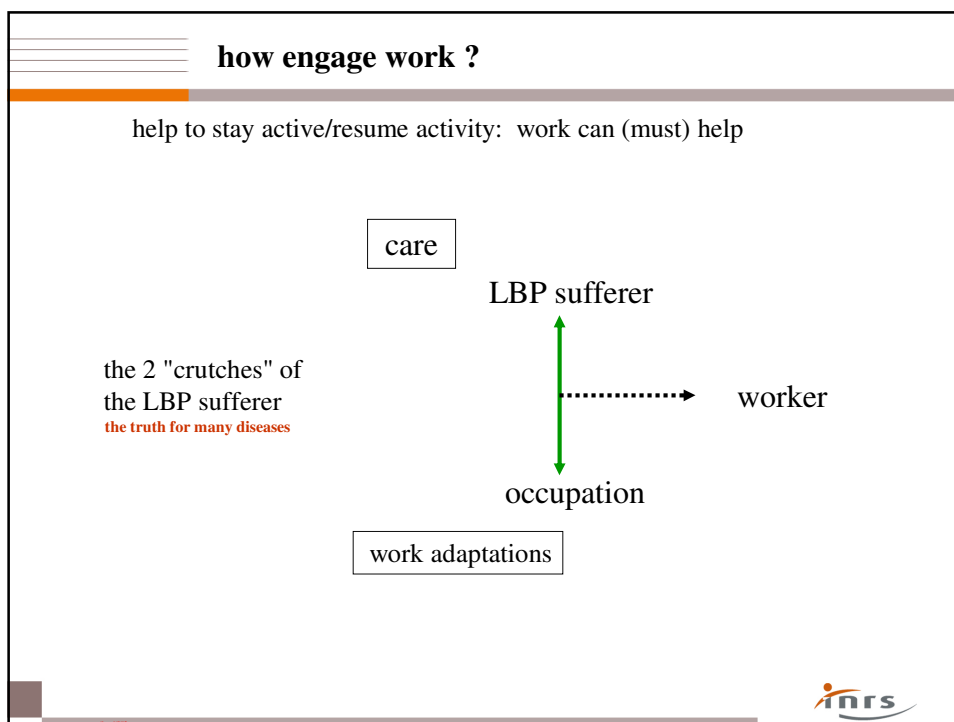
**no**

how to engage companies in a prevention process ?

- comprehensible
- possible costs, means, compagny history
- credible science based
- faisable at their own

bringing more than low back treatment

**inrs**





### the crutch - work

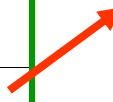

a green frame

MHandling		
load (kg)	5	
tonnage (t/d)	3	
push - pull		
load to move (kg)	100 (4 wheels)	
repetitive work		
	40 TechAct/min	
heavy work		
	HR cost <30 bpm/ 1 h HR peaks <0,85(220-age)	
posture		
	"no" bending (<20 °) "no" posture (rests)	
WBV		
	< 0,5 m.s <sup>-2</sup> < 1 h / day	
falls		
	"no" obstacle "no" level changes "no" urge more informations	
psychosocial		
	8-21 d "welcome"	

objective : start in the frame

**Factors of RTW success**

- good therapeutic explanations
- connexion care - work
- welcome at work
- confident
- work adaptation, schedule

### why at work ?

company      efficient group, decision, means to do    or to get help  
work makes handicap

do it by yourself    external expert has not (always) the good  
or most adapted or acceptable idea ...

workforce health is part of :


company social role economic success workforce management	<div style="border: 1px solid blue; padding: 5px; display: inline-block;">           social agreement         </div>
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**RTW**    is treatment, it must be a collaboration between work and care  
is a gold standard of healing success

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**for the worker, work supports :**    social and financial life  
self confidence  
acknowledgment



project communication [www.inrs.fr](http://www.inrs.fr)

2 flyers a booklet work and low back pain from risk to care factor

employers

employees

ED 6057

ED 6040

ED 6087

"preventors physicians"

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conclusion

**Work for all. for those with back pain as well.**  
alf nachemson (clin orthop relat res, 1983, 179, 77-85)

- disc hernia can be a severe clinical form  
its far to be the only one becoming severe
- efficient prevention needs improvement of working conditions  
scientific knowledge and standards makes this easier
- the «green frame» is an experimental process proposed to guide  
companies to built a **socially accepted** early RTW possibility  
to help care & rehabilitation for their workers with severe LBP

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with good communication, it's not expensive  
it's just better care

and better prevention through work adaptation for all