

# **CHILD DEFENESTRATION: AN UNEXPECTED COLLATERAL EFFECT OF THE FIRST COVID-19 LOCKDOWN!**

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- ❑ In order to fight Covid-19 → total lockdown implemented between March 17<sup>th</sup> and May 11<sup>th</sup> in 2020 in France.
  - Restriction of travel and closure of schools
- ❑ ↑ proportion or number of domestic accidents and their severity in children during the first lockdown (Rigou et al., 2020 ; Bressan et al.,2021; Rozenfeld et al., 2021; Wong et al.,2021; Claudet et al.,2020)
- ❑ ↑ admissions for defenestration of pediatric ED (Emergency Departement) at the Toulouse Hospital (Claudet et al.,2020 )
- ❑ Reports of pediatric defenestration by physicians of the *Permanent Survey on Injuries in Everyday Life* (EPAC) network



Implementation of a study on defenestration of children during the lockdown period in France


To describe the effects of the first lockdown on the use of ED for defenestration among children under 15 years old

Comparison of the frequencies and characteristics of emergency admissions for defenestration recorded over the period 17<sup>th</sup> March to 11<sup>th</sup> May 2020, with those recorded over the same period 2016-2019

## Data sources

- 9 French ED from *Permanent Survey on Injuries in Everyday Life* (EPAC)
- Exhaustive daily collection of data on admissions in ED for Home and Leisure Injuries (HLI) including domestic accidents

## Inclusion Criteria and Case Selection

- All non-intentional falls from a window, balcony or terrace of children under 15 years of age were included
- Data included the demographic characteristics of the victims, the circumstances of the accident and medical information
- Additional data on the accident were collected by questionnaire from the ED via  BlueFiles
  - ☐ Circumstances of the accident (*type of housing, height of the fall, etc*)
  - ☐ Clinical parameters at emergency admission (*weight, blood pressure, neurological status, etc.*)

# RESULTS: Number of cases between march 17th and may 11th 2016-2020

## 2016-2019 March 17th to May 11th

40,899 Admissions **for HLI** in ED  
in children under 15 y. old

16,593 Admissions for **domestic accidents** in children under 15 y. old

**N=17 defenestrations**

## 2020 March 17th to May 11th

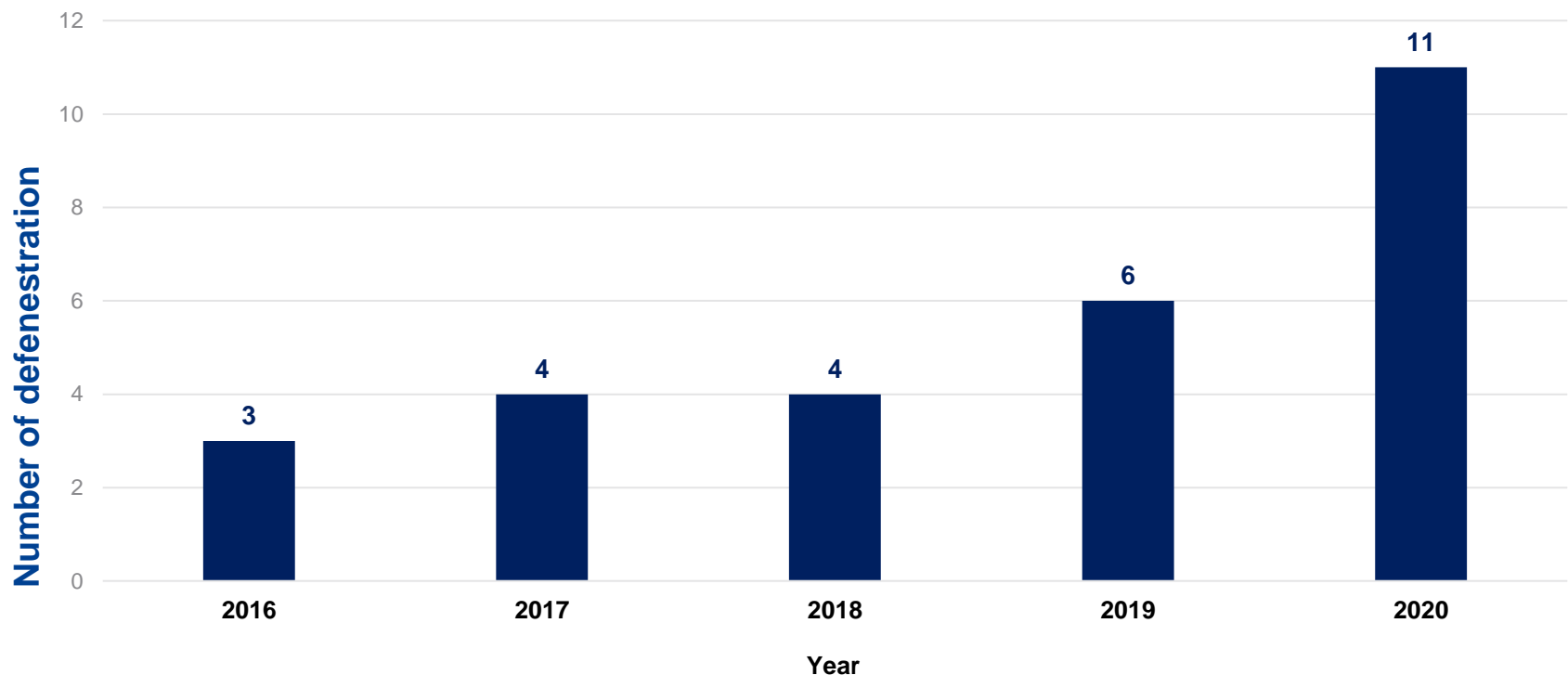
4,309 Admissions for **HLI** in ED  
in children under 15 y. old

3,410 Admissions for **domestics accidents** in children under 15 y. old

**N=11 defenestrations**

- ❑ ↓ Number of admissions for HLI in ED in children under 15 years old
- ❑ Among HLI, ↑ proportion of admissions in ED for domestic accidents : 41% vs 79% (OR=5.56 [5.15-6.00],  $p<0.0001$ )
- ❑ Significant rise in defenestration cases : 3.2-fold increase in risk [95%CI: 1.48-6.74],  $p=0,002$

**COVID-19 lockdown (March 17 to May 11, 2020)-related emergency admissions for defenestration among children compared with the same period in the past 4 years (EPAC, 9 ED)**



↑ increase in admissions for defenestrations during the lockdown (OR=3,16 [95% CI : 1,48-6,74], p=0,002)

# RESULTS

Admissions in ED for defenestrations, <15 ans during the lockdown compared to the same period in 2016-2019 (EPAC, 9 ED)

Characteristics	2016-2019 (n=17)	2020 (n=11)	p*	OR [IC95%]
<b>Gender n (%)</b>			1.00	
Boys	11 (65)	<b>8 (73)</b>	0.66	1.45 [0.28-7.64]
Girls	6 (35)	<b>3 (27)</b>	0.66	0.69 [0.13-3.61]
<b>Age (years)</b>	5.4±4.6	4.8±4.2	0.78	
[median]	[2.7]	[2.5]		
<b>Mean age Boys (years)</b>	4.1±3.2	<b>3.6±2.8</b>	0.80	
<b>Mean age Girls (years)</b>	7.8±6.2	<b>7.8±6.4</b>	1.00	
<b>Age group (years), n (%)</b>			0.76	
[0-2[	7 (41)	4 (36)	0.80	0.82 [0.17-3.90]
[2-5[	3 (18)	3 (27)	0.55	1.75 [0.28-10.81]
[5-10[	3 (18)	3 (27)	0.55	1.75 [0.28-10.81]
[10-15]	4 (24)	1 (9)	0.35	0.33 [0.03-3.38]
<b>Supplementary health insurance, n(%)</b>			0.14	
Mutual/Insurance/Pension Institution	7 (41)	1 (9)	0.09	0.14 [0.01-1.38]
Supplementary universal health coverage	2 (12)	1 (9)	0.82	0.75 [0.06-9.42]
<b>No supplementary health insurance</b>	<b>5 (29)</b>	<b>8 (73)</b>	<b>0.03</b>	6.40 [1.18-34.61]
Unknown	3 (18)	1 (9)	0.53	0.47 [0.04-5.17]

# RESULTS

Characteristics	2016-2019 (n=17)	2020 (n=11)	p*	OR [IC95%]
<b>Day of accident, n (%)</b>			0.67	
Week	13 (76)	<b>7 (64)</b>	0.47	0.54 [0.10-2.84]
Weekend	4 (24)	4 (36)	0.47	1.86 [0.35-9.80]
<b>Type of housing, n (%)</b>			0.60	
House	6 (35)	<b>6 (55)</b>	0.32	2.20 [0.47-10.35]
Apartment	9 (53)	5 (45)	0.70	0.74 [0.16-3.39]
Other	0 (0)	0 (0)		
Non specify	2 (12)	0 (0)		
<b>Height of fall, n (%)</b>			1.00	
1st floor	15 (88)	<b>10 (91)</b>	0.82	1.33 [0.11-16.74]
2nd floor	1 (6)	0 (0)		
>2 floor	1 (6)	1 (9)	0.75	1.60 [0.09-28.57]
<b>ED treatment and follow up, n (%)</b>			0.80	
Hospitalised	12 (70)	7 (64)	0.70	0.73 [0.15-3.65]
<b>-Admission to paediatric intensive care unit</b>	<b>2* (17)</b>	<b>4 (57)</b>	<b>0.08</b>	<b>6.67 [0.79-56.22]</b>
Discharged home	4 (24)	4 (36)	0.47	1.86 [0.35-9.80]
Other	1 (6)	0 (0)		
Deaths	0 (0)	0 (0)		

\* Both cases admitted in intensive care died within 12 hours after admissions



# RESULTS

Characteristics	2016-2019 (n=17)	2020 (n=11)	p*	OR [IC95%]
Injury site, n(%)			0.05	
Head	6 (35)	<b>5 (45)</b>	0.59	1.53 [0.32-7.19]
Torso	2 (12)	3 (27)	0.30	2.81 [0.39-20.46]
Thorax	0 (0)	2 (18)		
Upper limbs	2 (12)	1 (9)	0.82	0.75 [0.06-9.42]
Lower limbs	7 (41)	0 (0)		
Type of main injury, n (%)			0.23	
Head trauma	6 (35)	<b>3 (27)</b>	0.66	0.69 [0.13-3.61]
Contusion, bruising	2 (12)	<b>3 (27)</b>	0.31	2.81 [0.39-20.46]
Fracture	7 (41)	2 (18)	0.21	0.32 [0.05-1.94]
Wound	0 (0)	2 (18)		
Cerebral extra-dural haemorrhage	0 (0)	1 (9)		
Sprain, luxation	2 (12)	0 (0)		

## ❑ Discussion/Conclusion:

### Descriptive study

Results confirmed what physicians reported on pediatric defenestration

- ↑ proportion of admissions in ED for domestic accidents among HLI
- ↑ in defenestration cases : 3.2-fold increase in risk
- Among hospitalizations (7 out of 11 cases in 2020), more than half of defenestration victims were admitted to paediatric intensive care unit

## ❑ Recommendations

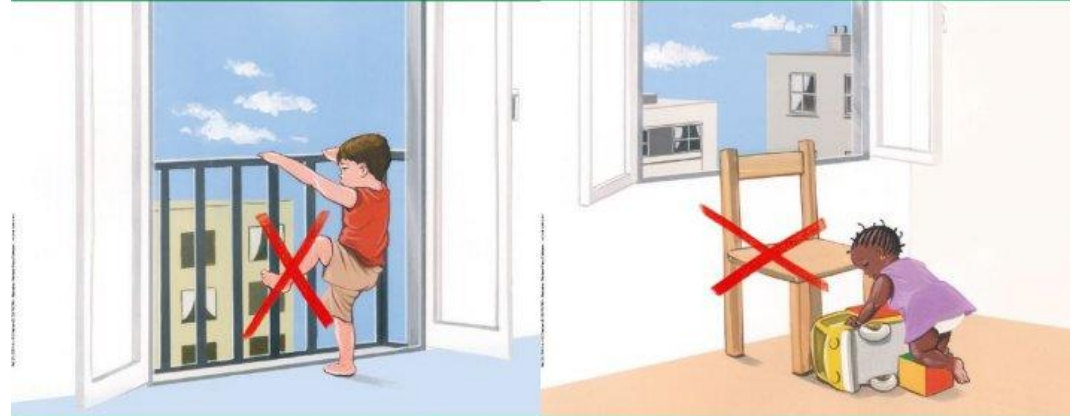
- Take into account the impact on children of certain recommendations such as the ventilation of housing in the epidemic context
- Inform parents of young children to take precautions
- Prevention messages should not focus solely on biomedical aspects

**THANK YOU FOR YOUR ATTENTION !**



**FENÊTRE OUVERTE  
= DANGER**

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**NE LAISSEZ JAMAIS UN ENFANT SEUL PRÈS  
D'UNE FENÊTRE OUVERTE OU SUR UN BALCON.**

Chaque année, des enfants meurent ou se blessent gravement  
en tombant d'une fenêtre ou d'un balcon.

**NE LAISSEZ JAMAIS DE MEUBLES OU D'OBJETS  
SOUS LES FENÊTRES.**

Chaque année, des enfants meurent ou se blessent gravement  
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