



# 進食魚生的風險及 香港相關法例

業界諮詢論壇

二零一八年十月十一日

# 進食魚生的風險

- 擬供生吃：未經加熱處理，存有風險
- 微生物危害
  - 細菌
  - 寄生蟲




# 細菌

- ▶ 在捕獲時可能污染魚類的兩大類細菌
  - ▶ (i) 通常或偶然存在於水生環境中，稱為原生微生物羣  
例子：副溶血性弧菌、霍亂弧菌、創傷弧菌及李斯特菌
  - ▶ (ii) 隨家居及 / 或工業廢物污染環境進入水中  
例子：沙門氏菌及大腸桿菌

# 控制致病性弧菌

- ▶ 食品法典委員會《關於採用《食品衛生通用原則》防控海產品中 致病性弧菌的準則》(CAC/GL 73-2010)
- ▶ 副溶血性弧菌：熱帶至溫帶的河口及沿岸
  - ▶ 本港最常見的食物中毒病原體之一
- ▶ 食物鏈各個環節的控制措施，例如避免污染和減少弧菌生長

# 寄生蟲

- ▶ 聯合國糧食及農業組織：野外捕獲的水產及人工養殖的魚類如投餵的飼料含有寄生蟲，較大可能帶有寄生蟲
  - ▶ 例子
    - ▶ 鯪魚、大頭魚：中華肝吸蟲
    - ▶ 三文魚、鱒魚：闊節裂頭絛蟲(魚闊節絛蟲)
    - ▶ 三文魚、鱒魚、鮭魚、鱈魚：海獸胃線蟲(蛔蟲之一)
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- ▶ 適當的水產養殖方法或冷藏處理可控制和減低寄生蟲風險

# 源頭控制

- ▶ 寄生蟲的生命周期各有不同，視乎種類而定
  - ▶ 例子：吸蟲需在螺內經過不同的發展階段，然後才沾染在人類食用的食物傳播媒介
- ▶ 良好的寄生蟲防控計劃，例如不含寄生蟲的魚類飼料及受監控的水產養殖環境

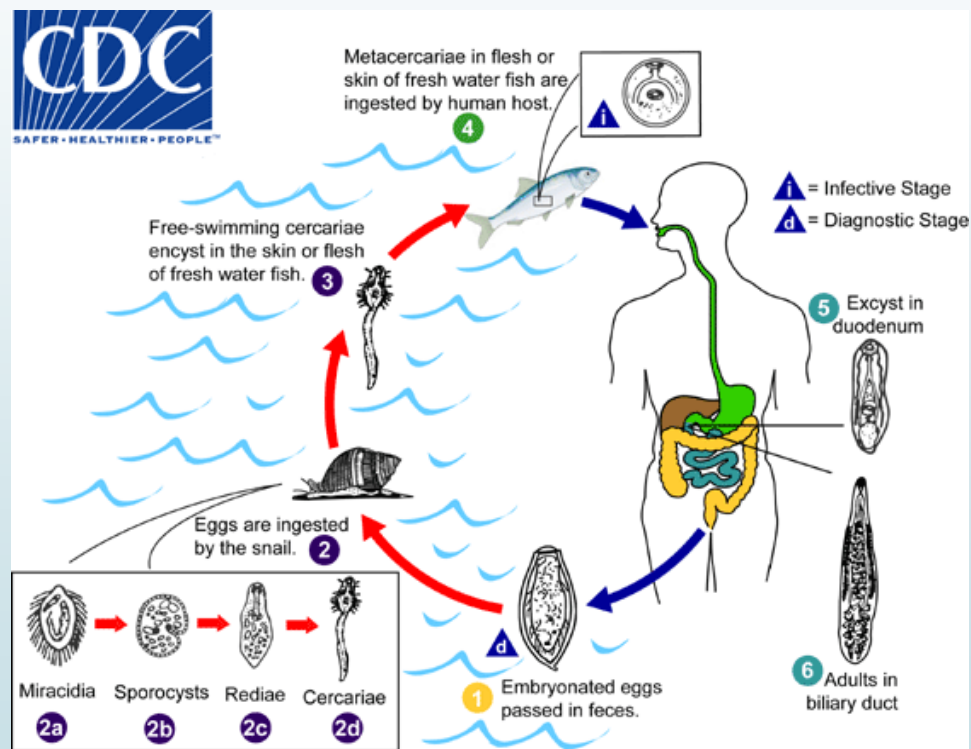


Image from US CDC: Clonorchiasis  
<https://www.cdc.gov/dpdx/clonorchiasis/index.html>

# 在食物鏈下游採取控制措施

- ▶ 野生魚類的生長環境無從控制，因此必須在食物鏈下游採取措施
- ▶ 冷藏處理：把用作壽司及刺身材料的生海產冷藏於攝氏零下20度24小時，一般能殺死魚內的常見寄生蟲
  - ▶ 殺死吸蟲需要較長時間或較低溫度
- ▶ 傳統的醃製及冷熏不足以殺死魚內的寄生蟲

# 本地規定(I)

- ▶ 《公眾衛生及市政條例》(第132章)
  - ▶ 任何在香港出售的進口或本地生產擬供人食用的食物，必須適宜供人食用
- ▶ 根據《食物業規例》(第132X章)附表一，中國菜式的魚生被列為禁售的食物。



## 本地規定(II)

- 獲食環署發出相關牌照 / 許可證，才可製造和 / 或售賣壽司及刺身



- 由可靠的供應商提供附有出口國有關當局所發衛生證明書的魚類產品



#### IV. Sanitary Attestation / Declaración Sanitaria

The undersigned official inspector hereby certifies that the fishery or aquaculture products described in point I are fit for human consumption and;

El inspector oficial abajo firmante, certifica que los productos de la pesca y/o acuicultura identificados en el punto I son aptos para consumo humano y;

1. The establishment described in point II is approved by SERNAPESCA, and is under official control.  
El establecimiento mencionado en el punto II, está aprobado por SERNAPESCA y se encuentra bajo el control oficial.
2. The products fulfil organoleptic, parasitological, chemical and microbiological requirements established by:  
Los productos cumplen satisfactoriamente los estándares organolépticos, parasitológicos, químicos y microbiológicos establecidos por:
  - 2.1 The National Fisheries and Aquaculture Service of Chile, SERNAPESCA or,  
El Servicio Nacional de Pesca y Acuicultura de Chile, SERNAPESCA o,
  - 2.2 Provisions of agreements between the National Fisheries Service and the Competent Authority of the country of destination.  
Los acuerdos adquiridos entre Sernapesca y la Autoridad Competente del país destino.
3. The fishery or aquaculture products do not come from toxic species, and in case of marine biotoxins susceptible species, these products fulfil international requirements recommended by Codex Alimentarius.  
Los productos de la pesca o acuicultura no provienen de especies tóxicas y en el caso de especies susceptibles a biotoxinas marinas, los requerimientos de certificación se basan en estándares internacionales recomendados por el Codex Alimentarius.

#### V. Remarks <sup>(2)</sup> / Observaciones <sup>(2)</sup>.

The aquatic products have been handled, prepared or processed, identified, stored and transported under a competent sanitary programme consistently implemented and in accordance with the requirements laid down in Codex Code of Practice for Fish and Fishery Products.

# 虹鱒

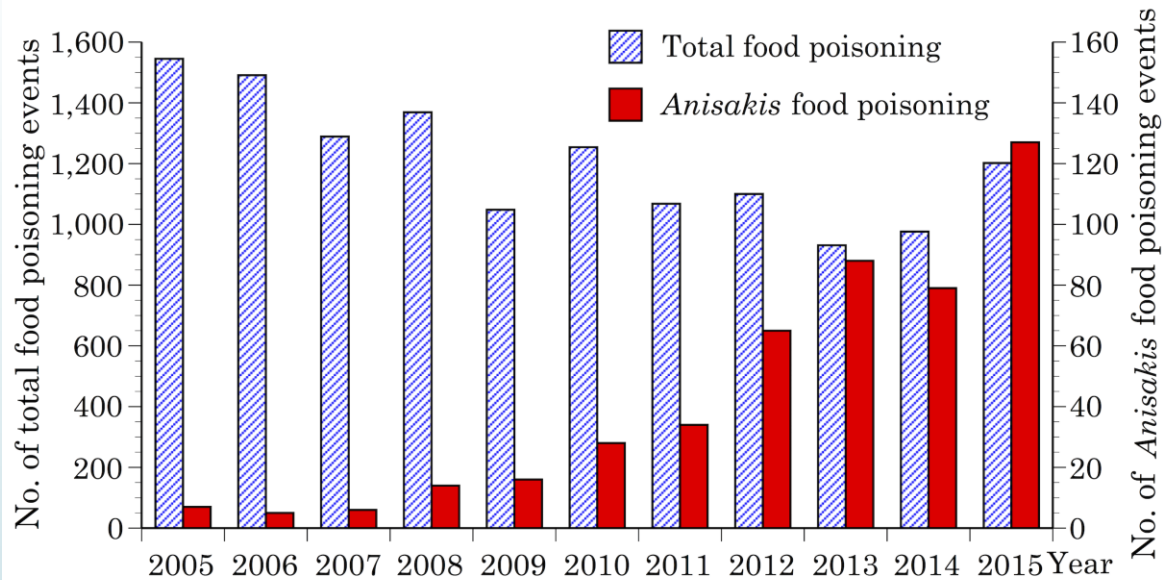
- ▶ 虹鱒泛指學名為*Oncorhynchus mykiss*的魚類，與擬供生吃的其他魚類一樣，都存有風險
  - ▶ 適當的水產養殖方法或冷藏處理可控制和減低寄生蟲風險
- ▶ 避免進食生或未經煮熟的魚類，尤其是高危人士

# 總結

- 進食魚生存有微生物風險(細菌及寄生蟲)，應對之道是徹底煮熟
- 細菌來源：原生微生物羣及環境污染
  - 控制措施：在食物鏈各個環節避免污染和減少細菌生長
- 適當的水產養殖方法或冷藏處理可控制和減低寄生蟲風險

# 在海外吃魚生風險較低？

Figure. Reported number of total food poisoning events and *Anisakis* food poisoning events



(Statistics of Food Poisoning in Japan, Ministry of Health, Labour and Welfare)

**IASR**  
Infectious Agents Surveillance Report

Foodborne helminthiases in Japan  
(IASR Vol. 38 p69-70: April, 2017)

URL: <https://www.niid.go.jp/niid/en/iasr-vol33-e/865-iasr/7225-446te.html>

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謝謝

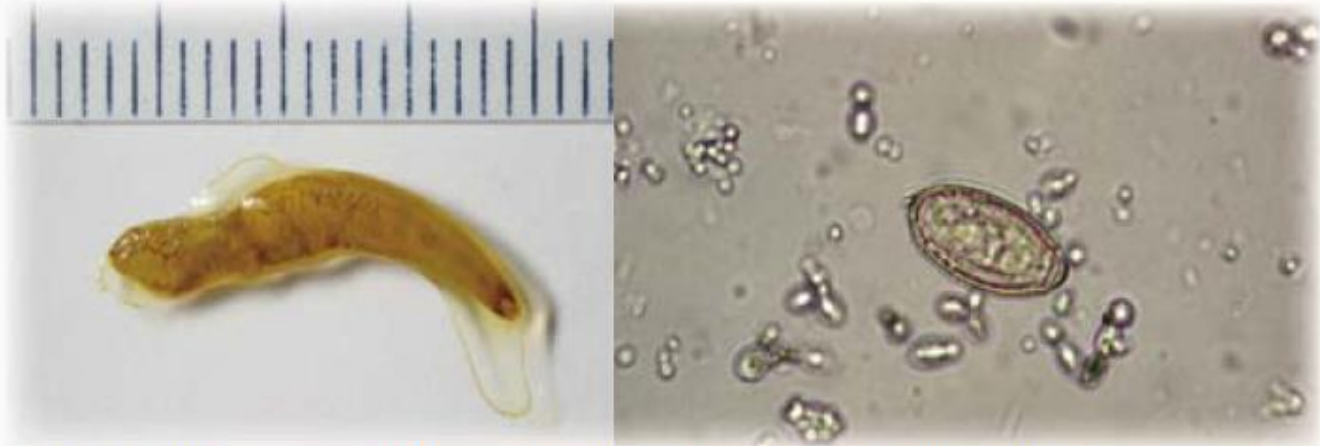


食物環境衛生署  
Food and Environmental  
Hygiene Department



食物安全中心  
Centre for Food Safety

## 鯪魚、大頭魚 中華肝吸蟲



中華肝吸蟲:(左)成蟲及(右)蟲卵(照片來源:香港大學微生物學系黃世賢醫生)

*Clonorchis sinensis*: (left) adult and (right) egg (Photo: Dr. Samson S.Y. Wong, Department of Microbiology, University of Hong Kong)



## 三文魚、鱒魚 闊節裂頭絛蟲 (魚闊節絛蟲)



Wood print depicting a man passing a strobila of a broad tapeworm. The caption (not shown) said, **“The man ate masu salmon. After a time, a strange object emerged from the anus and was pulled out: it turned out to be 2–3 m long.”**

From *Shinsen Yamaino Soushi*, by Daizenosuke Koan (1850). Courtesy of the Tohoku University Medical Library.



Figure A: Section of an adult *D. latum* containing many proglottids. The scolex was not present in this specimen. Image courtesy of the Florida State Public Health Laboratory.

Image from US CDC, available from [URL:https://www.cdc.gov/dpdx/diphyllobothriasis/index.html](https://www.cdc.gov/dpdx/diphyllobothriasis/index.html)

Arizono, Naoki et al. “Diphyllobothriasis Associated with Eating Raw Pacific Salmon.” *Emerging Infectious Diseases* 15.6 (2009): 866–870. PMC. Web. 8 Oct. 2018.

# 三文魚、鱒魚、鮭魚、鱈魚 海獸胃線蟲(蛔蟲)



**Figure 5.10** *Anisakis simplex* (left) and *Pseudoterranova dicipiens* (right) both in cod (photos courtesy of Dr. Stig Mellergaard).

FAO FISHERIES TECHNICAL PAPER 444  
Assessment and Management of Seafood Safety and Quality  
<http://www.fao.org/docrep/006/y4743e/y4743e0c.htm>