

First Liver Health Population Study Shows
Over 40% of Healthy HK People Have Non-alcoholic Fatty Liver Disease
Higher Waist Circumference, Higher Risk

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Introduction by

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Overview of Non-Alcoholic Fatty Liver Disease (NAFLD)

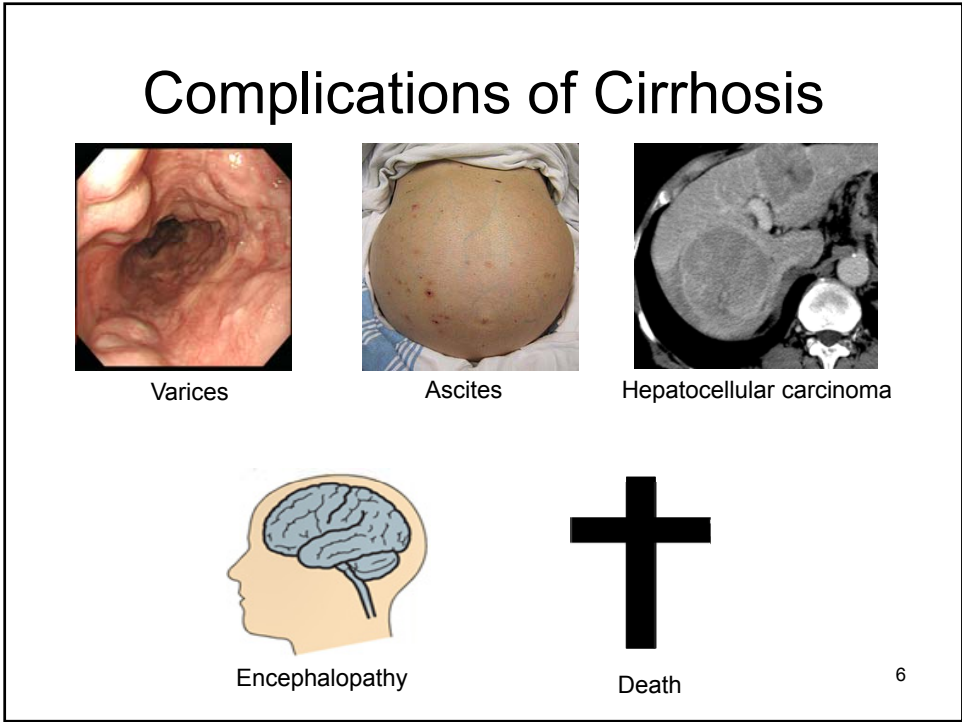
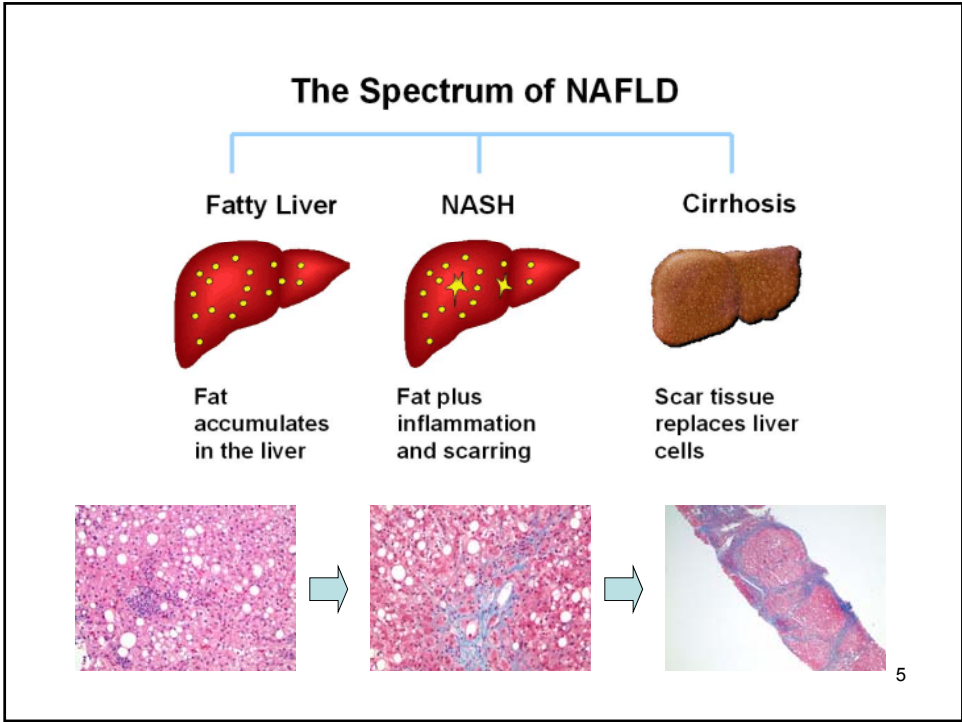
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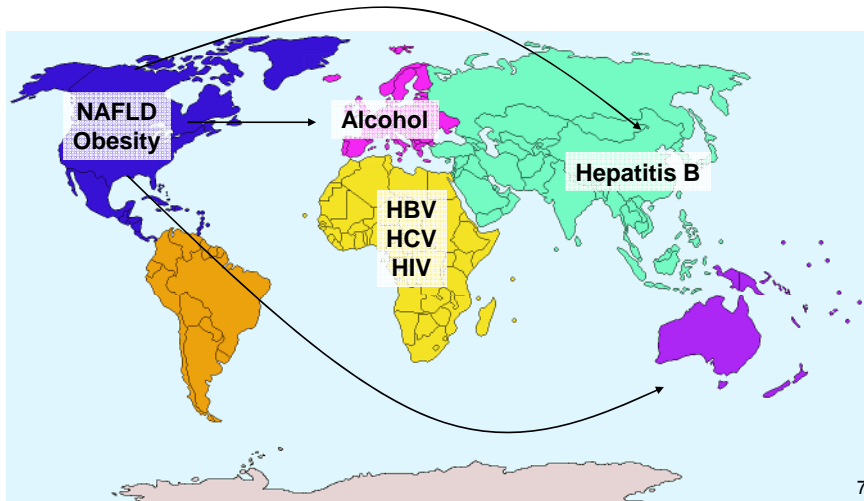
Non-Alcoholic Fatty Liver Disease (NAFLD)

- Fatty liver disease is the accumulation of fat inside liver cells
- Western medicine believes that that drinking alcohol and hepatitis C infection are the major risk factors for fatty liver disease
- NAFLD is a kind of fatty liver but not caused by alcohol drinking & hepatitis C infection
- NAFLD is known to associate with the risk factors such as obesity, diabetes, and dyslipidemia according to our current medical knowledge

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Worldwide Distribution of Liver Diseases



Current Trends in Hong Kong

- Hong Kong is affected by the global epidemic of obesity
- Local data suggests:

	Men	Women
Overweight (BMI >25)	20.1%	15.9%
Obese (BMI ≥30)	22.3%	20.0%

BMI=body weight (kg) / height² (m²)

Is fatty liver disease increasing in Hong Kong ?

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Prevalence of Non-Alcoholic Fatty Liver Disease in Hong Kong

The Hong Kong Liver Health Census Study



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The Liver Health Census Study Objectives

- To determine the prevalence of NAFLD in a large population of healthy Chinese subjects
- To identify significant risk factors associated with NAFLD
- To determine the severity of liver disease in those with NAFLD

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The Liver Health Census Study Population

- 2,493 subjects recruited (Aug 2010-Mar 2012)
 - Blood donors from the Hong Kong Red Cross Blood Transfusion Service
 - Volunteers from the general population
- **All subjects were screened negative for hepatitis B and C infection**
- **All subjects included have no reported significant alcohol intake**

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The Liver Health Census Study Method

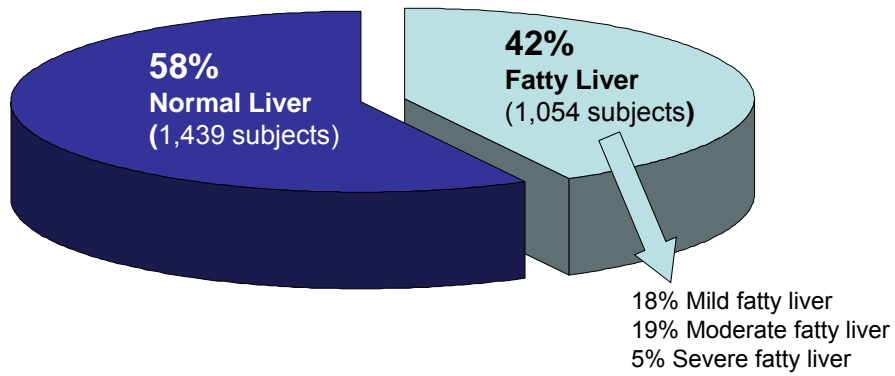
- All 2,493 subjects underwent
 - Ultrasound scan of liver
 - Fibroscan of liver
 - Blood testing
 - Fasting glucose and cholesterol
 - Liver enzymes
 - Measurement of weight, height, waist and hip circumferences, blood pressure
 - Detailed questionnaire

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The Liver Health Census Study Result

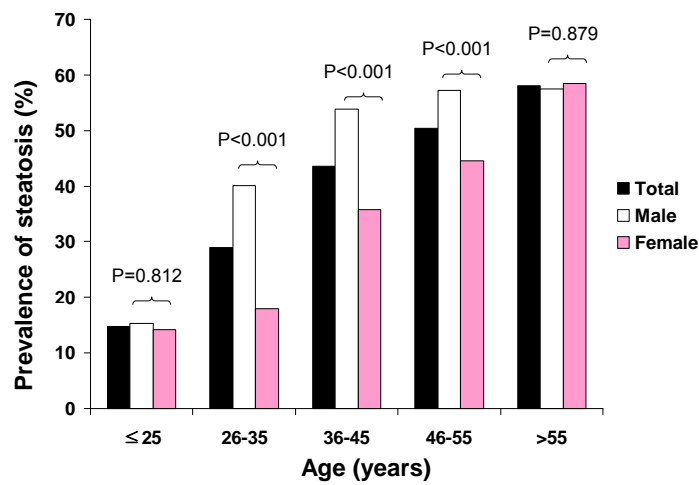
Prevalence of NAFLD in General Population in Hong Kong

Total: 2,493 subjects



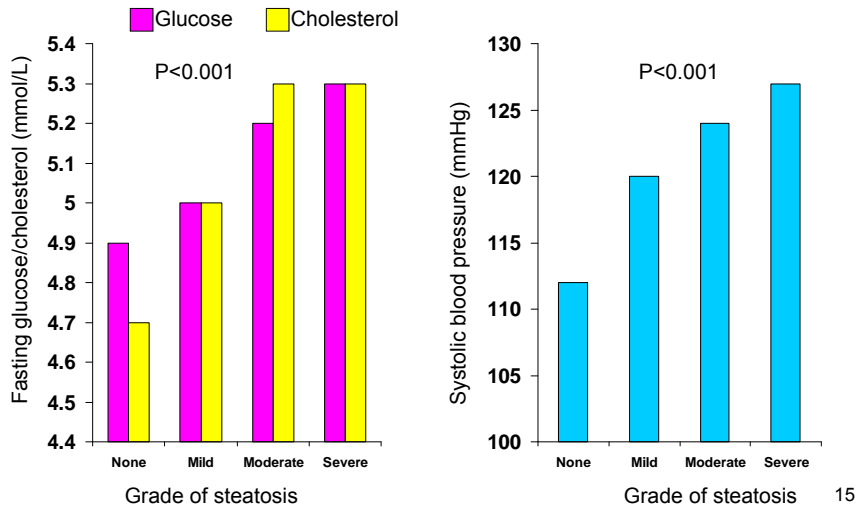
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Higher Prevalence of NAFLD in Males

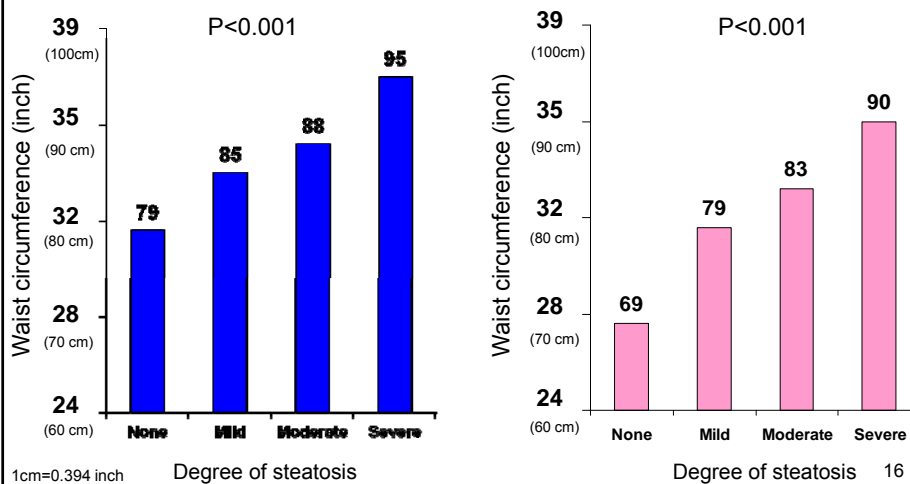


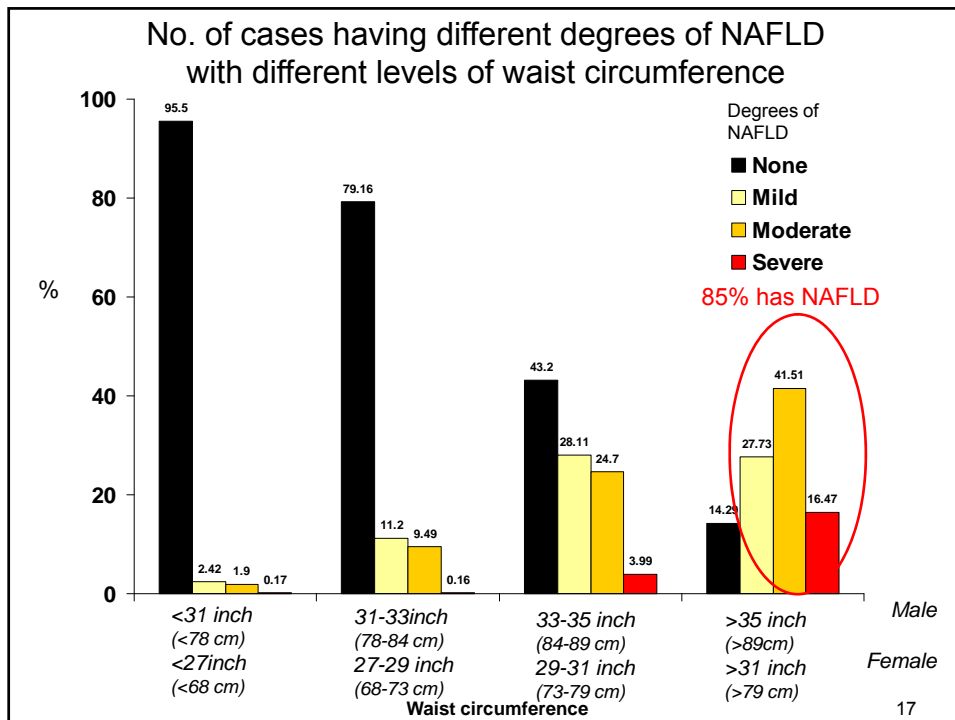
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Severe Steatosis (Fatty Liver) Associated with Higher Glucose, Cholesterol and Blood Pressure



Severe Steatosis (Fatty Liver) Associated with Higher Waist Circumference





Risk Factors for NAFLD

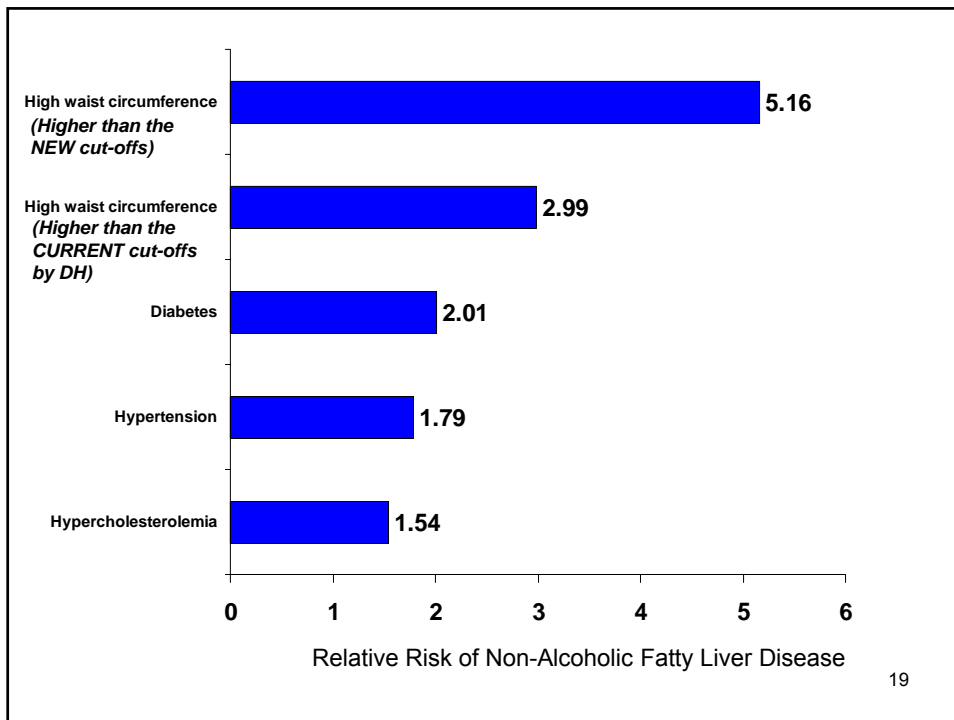
- Risk factors associated with NAFLD
 - Waist circumference, diabetes, high cholesterol
- Waist circumference was the most important risk factor
- The current waist circumference cut-off recommended by Department of Health is Males: 36 inch (90cm) and females: 32 inch (80cm)

New optimal cut-off identified from the current study

Males : 36 inch → **33 inch** (90cm → 84cm)

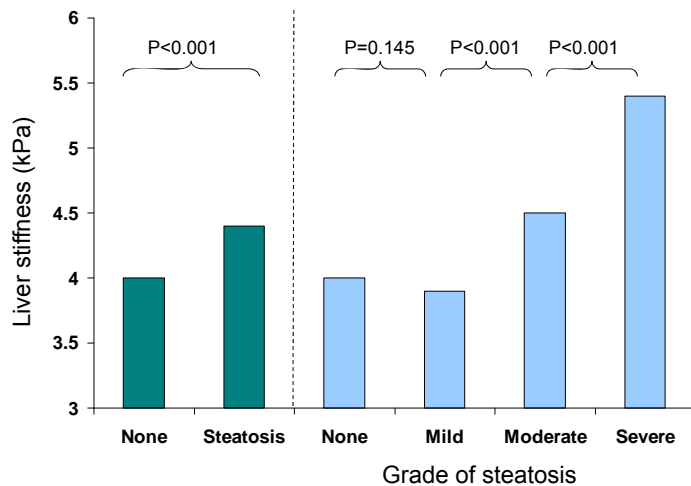
Females : 32 inch → **29 inch** (80cm → 74cm)

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What is the Severity of Liver Disease in Subjects with NAFLD?

Higher Liver Stiffness with More Severe Steatosis (Fatty liver)



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Prevalence of Fibrosis and Cirrhosis in NAFLD

	No. of Subjects
Severe fibrosis (8.7 kPa)	28 (1.2%)
Cirrhosis (10.3 kPa)	4 (0.17%)

***Though NAFLD has high prevalence in HK, fortunately only 1.2% of subjects with NAFLD have evidence of significant liver fibrosis and 0.17% have cirrhosis**

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Key Findings and Implications of the Study

- This is the **first large liver health population study** in Hong Kong of over 2,400 healthy subjects
- There is a high prevalence of NAFLD in Hong Kong, with 42% of the population being affected
- Risk factors for fatty liver disease include males, older age, and higher waist circumference, systolic blood pressure, fasting cholesterol and glucose levels
- Higher the waist circumference, higher the chance of developing NAFLD

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Key Findings and Implications of the Study

- As the major risk factor is waist circumference, it is important to realise that the current healthy recommendation by Department of Health may still be too loose
- People with waist circumference higher than the new optimal cut-off (male: 33 inch, female: 29 inch) have **5 times** higher risk in developing NAFLD



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Impact and Importance of Study

- The new optimal waist circumference cut-off was found to be **33 inch and 29 inch** (84cm and 74cm) for male and female respectively
- The prevalence of severe fibrosis and cirrhosis in those with NAFLD is currently low compared to Western countries
- As fatty liver disease can lead to fibrosis, cirrhosis, and hepatocellular carcinoma, it is important to modify the risk factors associated with fatty liver, and raise the public awareness

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Case Sharing-Ms Man

- 63 year-old, 34 inch waist circumference, weight 132 lbs, diagnosed with NAFLD
- Regular blood donor, joined the research and underwent liver check up
- Diagnosed with NAFLD but without obvious symptoms

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