TRT Forum
睪固酮論壇

11/10
13:30-17:30

TRT Forum-Beyond TRT, Sexual Behaviour Therapy

台中永豐棧酒店3樓牛津廳

會場地址：台中市西屯區台灣大道二段689號

主辦單位：台灣男性學醫學會
台灣性功能障礙諮詢暨訓練委員會

協辦單位：友華生技醫藥股份有限公司

台灣男性學醫學會
The Taiwanese Association of Andrology

台灣性功能障礙諮詢暨訓練委員會
TAIWAN SDACT

台灣男性學醫學會
The Taiwanese Association of Andrology

睪固酮論壇

TRT Forum-Beyond TRT, Sexual Behavior Therapy (Part I)

台灣性功能障礙諮詢暨訓練委員會
Taiwan SDACT

活動日期：2018 年 11 月 10 日(六) 13:30-17:30
活動地點：台中永豐棧酒店 3 樓牛津廳(台中市西屯區台灣大道二段 689 號)
主辦單位：台灣男性學醫學會、台灣性功能障礙諮詢暨訓練委員會
協辦單位：友華生技醫藥股份有限公司
教育積分：外科 10 分、泌尿科 3 分及家醫科 3 分

Time	Agenda	Speaker	Moderator
13:30~14:00	Registration		
14:00~14:10	Opening Remarks	SDACT 主任委員 彰化基督教醫院 張進寶醫師	
14:10~14:30	Diagnosis of Psychosexual Disorder in the DSM-5	台大醫院 張宏江醫師	義大大昌醫院 王起杰醫師 高雄榮民總醫院 簡邦平醫師
14:30-14:50	Techniques of Sex-related Assessment (性相關之評估技巧)	新北雙和醫院 吳佳璋醫師	
14:50~15:10	What is Sexual Anorexia? Symptom_ Causes_ Therapy (性無感之定義，症狀與治療)	馬偕紀念醫院 蔡維恭醫師	
15:10~15:30	Theory and Methods of Sex-related Behavior Therapy 性心理治療的理論與方法	新店耕莘醫院 黃旭澤醫師	
15:30~15:50	Coffee Break		
15:50~16:30	Starting and Stopping Testosterone Therapy	高雄榮民總醫院 簡邦平醫師	彰化基督教醫院 張進寶醫師
16:30~17:10	Obesity: Unhealthy and Unmanly	高雄市立大同醫院 蔡嘉駿醫師	衛福部屏東醫院 劉家駒醫師
17:10~17:30	Panel Discussion and Closing Remarks	台灣男性學醫學會 張宏江理事長	

Diagnosis of Psychosexual Disorder in the DSM-5

張宏江 理事長

DSM-5

- The ***Diagnostic and Statistical Manual of Mental Disorders*** (**DSM**) is published by the American Psychiatric Association (APA) and offers a common language and standard criteria for the classification of mental disorders.

Sexual Dysfunctions

終生-後天，一般性-情境性，輕度-中度-重度

- Delayed Ejaculation 遲洩
- Erectile Disorder 勃起障礙症
- Female Orgasmic Disorder 女性高潮障礙症
- Female Sexual Interest/Arousal Disorder 女性性興趣/興奮障礙症
- Genito-Pelvic Pain/Penetration Disorder 骨盆性器疼痛/插入障礙症
- Male Hypoactive Sexual Desire Disorder 男性性慾低落障礙症
- Premature (Early) Ejaculation 早洩
- Substance/Medication-Induced Sexual Dysfunction 物質/醫藥引發的性功能障礙
- Other Specified Sexual Dysfunction
- Unspecified Sexual Dysfunction

Paraphilic disorders(性偏好症)

- Voyeuristic disorder 窺視症(spying on others in private activities)
- Exhibitionistic disorder 暴露症(exposing the genitals)
- Frotteuristic disorder 摩擦症(touching or rubbing against a nonconsenting individual)
- Sexual masochism disorder 性被虐症(undergoing humiliation, bondage, or suffering)
- Sexual sadism disorder 性虐待症 (inflicting humiliation, bondage, or suffering)
- Pedophilic disorder 戀童症 (sexual focus on children)
- Fetishistic disorder 戀物症(using nonliving objects or having a highly specific focus on nongenital body parts)
- Transvestic disorder 異裝症(engaging in sexually arousing cross-dressing)
- Other Specified Paraphilic Disorder | Unspecified Paraphilic Disorder

Voyeuristic disorder 窺視症

- Over a period of at least 6 months,
- Recurrent and intense sexual arousal from observing an unsuspecting person(不知情的他人) who is naked, in the process of disrobing, or engaging in sexual activity, as manifested by fantasies, urges, or behaviors.
- The individual has acted on these sexual urges with a nonconsenting person(未經同意者), or the sexual urges or fantasies cause clinically significant distress or impairment(苦惱與減損) in social, occupational, or other important areas of functioning.
- The individual experiencing the arousal and/or acting on the urges is at least 18 years of age.

Voyeuristic disorder 窺視症

Prevalence

- Voyeuristic acts are the most common of potentially law-breaking sexual behaviors.
- The population prevalence of voyeuristic disorder is unknown. However, based on voyeuristic sexual

acts in nonclinical, the highest possible lifetime prevalence for voyeuristic disorder is approximately 12% in males and 4% in females.

Exhibitionistic disorder 暴露症

- Over a period of at least 6 months, recurrent and intense sexual arousal from the exposure of one's genitals to an unsuspecting (未預期此情境) person, as manifested by fantasies, urges, or behaviors.
- The individual has acted on these sexual urges with a nonconsenting(未同意者) person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Exhibitionistic disorder 暴露症

Specify whether

- Sexually aroused by exposing genitals to prepubertal children
- Sexually aroused by exposing genitals to physically mature individuals
- Sexually aroused by exposing genitals to prepubertal children and to physically mature individuals

Frotteuristic disorder 摩擦症

- Over a period of at least 6 months, recurrent and intense sexual arousal from touching or rubbing against a nonconsenting person, as manifested by fantasies, urges, or behaviors.
- The individual has acted on these sexual urges with a nonconsenting person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Frotteuristic disorder 摩擦症

- Frotteuristic acts, including the uninvited sexual touching of or rubbing against another individual, may occur in up to 30% of adult males in the general population
- There appear to be substantially fewer females with frotteuristic sexual preferences than males

Sexual masochism disorder 性被虐症

- Over a period of at least 6 months, recurrent and intense sexual arousal from the act of being humiliated(羞辱), beaten, bound, or otherwise made to suffer, as manifested by fantasies, urges, or behaviors.
- The fantasies, sexual urges, or behaviors cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Sexual masochism disorder 性被虐症

Specify if:

- **With asphyxiophilia(偏好窒息):** If the individual engages in the practice of achieving sexual arousal related to restriction of breathing.
- **In a controlled environment:** This specifier is primarily applicable to individuals living in institutional or other settings where opportunities to engage in masochistic sexual behaviors are restricted.
- **In full remission:** There has been no distress or impairment in social, occupational, or other areas of functioning for at least 5 years while in an uncontrolled environment.

Sexual masochism disorder 性被虐症

Prevalence

- The population prevalence of sexual masochism disorder is. In Australia, it has been estimated that 2.2% of males and 1.3% of females had been involved in bondage and discipline, sadomasochism 虐戀, or dominance and submission in the past 12 months.

Sexual sadism disorder 性虐待症

- Inflicting humiliation, bondage, or suffering
- Over a period of at least 6 months, recurrent and intense sexual arousal from the physical or psychological suffering of another person, as manifested by fantasies, urges, or behaviors.
- The individual has acted on these sexual urges with a nonconsenting person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Sexual sadism disorder 性虐待症

Prevalence

- Depending on the criteria for sexual sadism, prevalence varies widely, from 2% to 30%.
- Among civilly committed sexual offenders in the United States, less than 10% have sexual sadism. Among individuals who have committed sexually motivated homicides, rates of sexual sadism disorder range from 37% to 75%.

Pedophilic disorder 戀童症

- sexual focus on children
- Over a period of at least 6 months, recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving sexual activity with a prepubescent child or children (generally age 13 years or younger).
- The individual has acted on these sexual urges, or the sexual urges or fantasies cause marked distress or interpersonal difficulty.
- The individual is at least age 16 years and at least 5 years older than the child or children in Criterion A.

Pedophilic disorder 戀童症

Specify whether:

- **Exclusive type** (attracted only to children)
- **Nonexclusive type**
- *Specify* if:
- **Sexually attracted to males**
- **Sexually attracted to females**
- **Sexually attracted to both**

Pedophilic disorder 戀童症

Prevalence

- The population prevalence of pedophilic disorder is unknown.
- The highest possible prevalence for pedophilic disorder in the male population is approximately 3%–5%.
- The population prevalence of pedophilic disorder in females is even more uncertain, but it is likely a small fraction of the prevalence in .

Paraphilic disorders(性偏好症)

- Fetishistic disorder 戀物症 (using nonliving objects or having a highly specific focus on nongenital body parts)
- Transvestic disorder 異裝症(engaging in sexually arousing cross-dressing)
- Other Specified Paraphilic Disorder | Unspecified Paraphilic Disorder

Techniques of Sex-related Assessment
(性相關之評估技巧)

雙和醫院
吳佳璋
107/11/10

Purpose of assessment for sexual dysfunction

BOX 1 Aims of clinical assessment

- To define the dysfunction
- To assess whether it is organic or non-organic
- To assess immediate causes
- To assess resources and motivation
- To decide on correct management and prognosis

Principle of assessment

- Interview should be conducted in a private space
- Don't tell therapist anything that the individual would not wish to share with their partner

Possible factor about sex dysfunction

- Biological factors
- Psychological factors
- Social (including cultural and interpersonal) factors

Possible factor about sex dysfunction

- **Biological factors**
- Physical illness
- Endocrinal abnormalities
- Diabetes
- Hypertension
- Cardiovascular
- Gynaecological
- Urological disorders
- Iatrogenic effects of medication

Possible factor about sex dysfunction

- **Psychological factors**
- Stress
- Poor relationship
- Clinical depression
- Anxiety
- Schizophrenia
- History of sexual abuse
- Low self-esteem
- Other comorbid psychiatric disorders

Possible factor about sex dysfunction

- **Social (including cultural and interpersonal) factors**
- Poor relationship
- Sexual inhibitions
- Affairs and fidelity-related matters(忠誠度)
- Religious and sexual conflict
- Differences in cultural expectations and values
- Child-bearing

- Reasons and motivation for seeking help should be explored
- Detailed interview with physical exam

Indications for physical examination

BOX 2 Indications for physical examination

- Recent history of physical ill health, presence of physical symptoms apart from sexual dysfunction
- Pain or discomfort during sexual activity
- Recent onset of loss of desire without any apparent cause
- Inability to produce a normal erection while awake (under any circumstances)
- Male aged over 50
- Female with sexual problems peri- or post-menopause
- History of marked menstrual irregularity and infertility
- History of abnormal puberty or endocrine disorder

- Assessment interview may be started with both partners together, followed by individual interviews, and finally joint information-sharing, assessment and treatment advice

Broad headings for history-taking

- 1 Sociodemographic factors: age, sexual orientation, marital status, sexual activity
- 2 Presenting complaints: Why here? Why now? Past interventions, if any. Precise nature of the problem
- 3 History of sexual problem
- 4 Nature of general relationship with partner
- 5 Psychiatric history, including alcohol and substance misuse
- 6 Medical history, including smoking

Broad headings for history-taking

- 7 Contraceptive history
- 8 Menstrual history
- 9 Sexual history – developmental, masturbation, schooling
- Sexual fantasy
- Sexual behaviour
- 10 Attitudes to the problem – religious beliefs, sexual knowledge
- 11 Attitudes to the intervention
- 12 Formulation

Suggested laboratory investigations

- **Males**
- Blood count and erythrocyte sedimentation rate (ESR)
- Serum testosterone: total and free
- Sex hormone binding globulin (SHBG)
- Thyroid function test
- Liver function tests
- Renal function tests
- Lipid profiles
- Blood glucose levels

Suggested laboratory investigations

- **Females**
- Blood count and ESR
- Thyroid function test
- Liver function tests
- Renal function tests
- Serum oestradiol
- Follicle stimulating hormone levels
- Prolactin levels
- Luteinising hormone levels
- Blood glucose levels

Detailed investigation of male

- Doppler sonography
- Phalloarteriography
- Cavernosometry
- Penile plethysmography
- Nocturnal penile tumescence testing

Other assessment tools

TABLE 4 **A selection of assessment instruments**

Condition	Instrument	Gender
Sexual desire	Arizona Sexual Experiences Scale (McGahuey 2000)	Both
	Changes in Sexual Functioning Questionnaire (Clayton 1997)	Both
	Female Sexual Function Index (Rosen 2000)	Female
	Derogatis Interview for Sexual Functioning (Derogatis 1997)	Both
Sexual arousal	Profile of Female Sexual Function (Derogatis 2004; McHorney 2004)	Female
	Sexual Function Questionnaire (Quirk 2002)	Female
Orgasm	Index of Premature Ejaculation (Althof 2006)	Male
	International Index of Erectile Function (Rosen 1997)	Male
Sexual distress	Female Sexual Distress Scale (Derogatis 2002, 2008)	Female
Overall ratings	Golombok–Rust Inventory of Sexual Satisfaction (Golombok 1985)	Both
	Golombok–Rust Inventory of Marital State (Rust 1989)	Both
	Sexual Interest and Desire Inventory – Female (Clayton 2006)	Female
	Short Personal Experiences Questionnaire (Dennerstein 2001)	Female

Conclusion

- Sexual dysfunction affects relationships and at least two people are involved
- A comfortable atmosphere and total privacy for interviews and physical examination are essential
- Developmental history, past sexual abuse or assault, and sexual orientation need to be explored gently and thoroughly
- Thorough assessment will lead to optimal treatment

What is Sexual Anorexia?

Symptom_ Causes_Therapy

馬偕紀念醫院泌尿科
蔡維恭 醫師

Definition

Sexual anorexia

Sexual anorexia is a pathological loss of "appetite" for romantic-sexual interaction, often the result of a fear of intimacy to the point that the person has severe anxiety surrounding sexual activity and emotional aspects

Carnes, Patrick J. (December 1998).

The concept of **sexual anorexia** was first mentioned by psychologist Nathan Hare in 1975, in an unpublished dissertation submitted in partial fulfillment for a Ph.D. at the California School of Professional Psychology

DSM-5

(American Psychiatric Association, 2013)

Male Hypoactive Sexual Desire Disorder

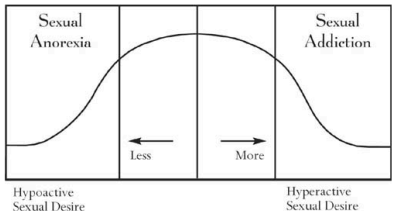
- Deficient or absent sexual thoughts or fantasies
- Deficient or absent desire for sexual activity
- Must be of 6 months duration or longer
- Must cause clinically significant distress

DSM-5

Female Hypoactive Sexual Desire Disorder

- Absent or reduced interest in sexual activity
- Absent or reduced sexual or erotic thoughts or fantasies
- Absent or reduced initiation of sexual activity and typically being nonresponsive to the partner's attempts to initiate sexual activity
- Absent or reduced sexual excitement or pleasure during sexual activity 75%—100% of the time during sexual activity
- Absent or reduced sexual interest or arousal in response to internal or external sexual or erotic stimuli (e.g. written, verbal, visual)
- Absent or reduced genital or nongenital sensations during sexual activity in 75%-100% of sexual encounters
- Must have persisted for a minimum duration of 6 months
- Must cause significant distress to the individual.

Sexual anorexia and sexual addiction are but two of the anchor sites available to the addictive-compulsive process.



The Sexual Curve

Carnes PhD, Patrick. Sexual Anorexia: Overcoming Sexual Self-Hatred

Cause

Physical and **emotional** problems can lead to sexual anorexia.

Common Physical causes:

- Hormone imbalances
- Recent childbirth
- Breast-feeding
- Medication use
- Exhaustion
- Common emotional causes include:

Common emotional causes:

- Sexual abuse
- Rape
- A negative attitude toward sex
- Strict religious upbringing about sex
- Power struggles with a partner or a loved one
- Communication problems

Symptoms

- The main symptom of sexual anorexia is a lack of sexual desire or interest. You may also feel afraid or angry when the subject of sex comes up.
- Sexual anorexia can be difficult to diagnose. A single test to identify the condition isn't available.

Characteristics of sexual anorexia

- People with sexual anorexia experience much less sexual pleasure and arousal. **Here are six diagnostic aspects:**
  - **Little to no interest** in sexual activity.
  - A lack of **sexual or erotic thoughts**, or very few of them.
  - **Rarely or never initiating sex,** and generally not being interested when a partner tries to initiate it.
  - **Little to no sexual pleasure and arousal** during sexual activity. This happens almost every time (around 75-100%) that a couple has sex.
  - Little to no sexual pleasure and arousal **when it comes to any internal or external invitation to sex** (written, verbal, visual, etc).
  - **Very few genital sensations during sexual activity.** This happens almost every time (around 75-100%) that a couple has sex.
- **These symptoms have to have gone on for at least six months**

Diagnosis & Assessment

- In both diagnoses, the therapist must specify if the disorder is **lifelong** or **acquired**, **generalized** or **situational** and whether it is causing mild, moderate or severe **distress** (DSM V.)
- **Medical**, **psychological** and **lifestyle factors** are associated with the lack of desire in men and should be considered in the assessment.

Treatment

Principle of treatment

The principle of treatment is

(1) to identify the individual, relational, lifestyle and contextual factors suppressing desire,

(2) to move them through the appropriate treatment modalities and strategies and

(3) simultaneously to promote elements that enhance sexual desire.

Weeks, Gerald. A Clinician's Guide to Systemic Sex Therapy (p. 97). Taylor and Francis.

- It is always important to understand the meaning or interpretation of absent/ low desire by the partner with the greater desire.
- Women generally assume that a man always has desire and men generally believe they should always feel desire.
- **Assessment** is key in determining how treatment is approached. The number of factors is staggering.

5 big factors-

to the treatment of low sexual desire

- **Couple-based** factors. Like sexual issues, or the health of one partner.
- **Relationship-based factors.** Like problems communicating, or when one person has more or less sexual desire.
- **Individual vulnerability-based factors.** Like negative **body image**, a history of sexual or emotional abuse, depression, anxiety, stress, losing a job, pain…
- **Cultural and religious factors**. Like not having sex because it's taboo or having a negative attitude towards sex.
- **Medical factors.** They're especially important when it comes to the prognosis, or how they'll treat the disorder.

Medical treatment

- **Hormone therapy** is an effective form of treatment for some people with sexual anorexia.
- Adults who suffer from inhibited sexual desire because of low testosterone or estrogen levels may benefit from medical treatment.
- This can be especially helpful for men with lack of sexual interest related to erectile dysfunction.
- Menopausal women with low desire may also benefit from hormone replacement therapy to help boost libido.

Strategies and Techniques

Providing Bibliotherapy and Education

- The therapist must always be diligent in listening for misinformation or sexual mythology.

Overcoming Pessimism and Skepticism –

- It is imperative that the therapist demonstrates an optimistic attitude, which the couple can use to feel hopeful.

Addressing Relationship Considerations

- If relationship problems are fueling the sexual dysfunction, the couple will need to work on identifying, reducing or eliminating these issues in order to be able to feel desire.

Reducing Response Anxiety

- When they feel they do not have enough desire in sexual situations, response anxiety further suppresses their motivation.

Conducting Cognitive Work

- researchers have now demonstrated that one of the major factors in lack of desire is having negative thoughts about sexuality and experiencing distracting thoughts during sex.
- We ask both partners to list their negative sexual/relational thoughts about self, partner, the relationship and anything else.

Defining Oneself as a Sexual Person

- a technique known as the Sexual Bill of Rights . The therapist asks the client to write about what he or she is entitled to feel sexually , to experience , to receive and to give .

Increasing Sexual Fantasies

- The primary function of sexual fantasies is to increase a person's sexual desire or to help maintain desire.
- Erotic literature, visual erotica and other materials may be used to help

Using Therapeutic Reframes .

- to change the meaning of a problem or situation, usually from something viewed as negative to positive and from an individual to systemic perspective.

Working with Intimacy Fears

- Unfortunately, the fears are usually unconscious and must be inferred from the behavior and from the client's history

Promoting Communication

- Couples who articulate what is desired and what feels good are more likely to have a better sexual relationship.

Assessing for Other Sexual Disorders

- Men with Erectile Disorder (Corona et al., 2004) frequently experience lack of desire. Some women with Genito-Pelvic Pain/Penetration Disorder eventually lose desire.

Considering Medical Issues

- Psychotropic medications for depression and anxiety.

Assigning Appropriate Homework

- making time for dating and other enjoyable activities. Physical touch exercises .
- the absent/low desire partner should focus on the pleasant sensations without the pressure of having orgasm
- learning how to create a sensual environment.

天主教耕莘醫療財團法人
耕莘醫院
Cardinal Tien Hospital

性心理治療的理論與方法

耕莘醫院 黃旭澤

TUA Guideline

早洩治療的建議

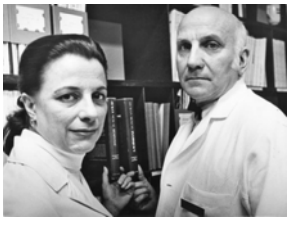
建議	證據等級	建議等級
勃起障礙或其他性障礙及泌尿道感染（如前列腺炎）需先進行治療	2a	B
藥物療法應為先天性早洩的第一線治療	1a	A
藥物治療包括性行為前服用的 Dapoxetine 或其他 off-Label 的抗憂鬱藥物如每日使用的 SSRI/clomipramine，藥物治療停止後，早洩可能復發	1a	A
off-Label 的局部藥物可提供口服藥物外的另一項選擇	1b	A
行為治療和性治療對後天性早洩的治療有其角色存在。建議與藥物治療合併使用較合宜	3	C
精神或行為治療	3	C

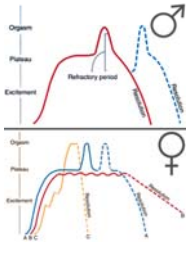
性治療
沒有統合性的學派或治療指引

Master & Johnson (1960s)

性治療(Sex Therapy)創始者

提出”性反應週期”





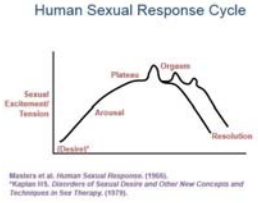
Master & Johnson (1960s)

- 首創為期兩週的短期性治療療程
- Dual-Sex Therapy：
  一男一女兩位治療師與伴侶進行治療
- 著重於認知教育
  – 不深度處理心理/伴侶衝突

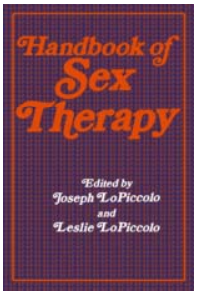
Leonore Tiefer, *SEX is Not A Natural Act*, ch.4 (1995,Westview)

Helen Singer Kaplan (1970s)

- 為性反應週期增加了性欲期 (Desire)
  - –DSM-III: 性慾障礙
- “The New Sex Therapy” 處理深層議題



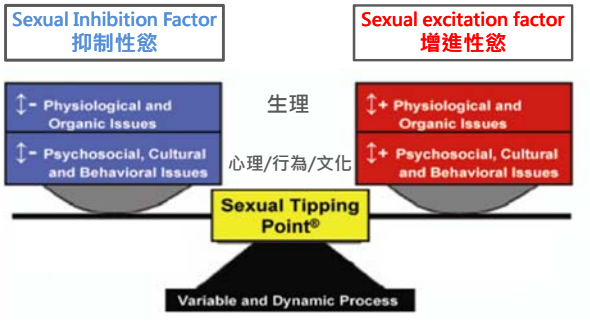
Joseph LoPiccolo (1990s)



後現代性治療

“性治療要面對所有可能造成性功能障礙的問題，**盡可能使用各種療法**”

Bancroft (2005)
性欲雙控模式 (Dual control model)



Pfaus, J Sex Med, 2009

性困擾/性功能障礙 的整合式評估

Jack Annon ：PLISST模式 (1976)
性治療的介入流程

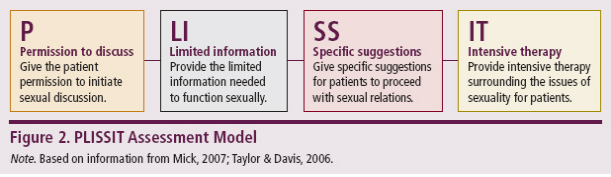


Figure 2. PLISSIT Assessment Model

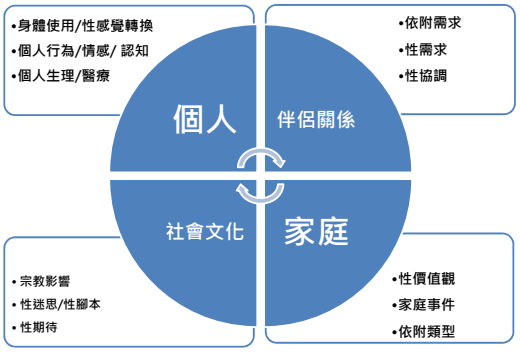
Note. Based on information from Mick, 2007; Taylor & Davis, 2006.

允許討論

- 建立信任關係
- 鼓勵案主陳述
- 不評價、肯定案主困境

- 某些個案在可以開口討論以後，困擾感即獲得解除
  - 對自己的性癖感到羞恥的男性
  - 外遇丈夫對親密關係的懷念

允許討論/整合式評估



個人系統

- 不理性的性想法
- 性迷思
- 性資訊管道

- 舉例：
  - 80%的女性做愛的時候會高潮
  - 男生做愛至少要半個小時才算夠長

社會文化系統

- 宗教信仰對性的看法
- 族群/文化對性的看法

- 舉例
  - 信仰/文化對性的看法
    (ex: 夫唱婦隨)
    (ex:基督教認為首次性行為應該在婚後)

家庭系統

- 性腳本的發展
- 對於性的詮釋與解讀
- 性創傷

- 舉例
  - 成長過程中，家庭對性的教導
    (ex: 看到爸媽性愛影片的小孩)

伴侶系統

- 性歷史
- 性溝通
- 性模式

- 舉例
  - 說說你們在一起之後親密互動的過程
  - 做愛前後，你們如何溝通？
  - 一般做愛的方式是？

Jack Annon ：PLISST模式 (1976)
性治療的介入流程

P	LI	SS	IT
Permission to discuss Give the patient permission to initiate sexual discussion.	**Limited information** Provide the limited information needed to function sexually.	**Specific suggestions** Give specific suggestions for patients to proceed with sexual relations.	**Intensive therapy** Provide intensive therapy surrounding the issues of sexuality for patients.

Figure 2. PLISSIT Assessment Model

Note. Based on information from Mick, 2007; Taylor & Davis, 2006.

P 允許討論 → LI 適量知識 → SS 明確建議 → IT 密集治療

適量知識

- 藉由**針對性**的性教育，拓展案主的性認知，改變僵化的性行為模式
- **避免一次給予過多資訊**，可以分階段給予
- 舉例：性困擾有時是因為對性缺乏瞭解、缺乏想像力，
  - 在做愛中無法達到性高潮的女性
  - 主訴早洩的男性，認為做愛要超過20分鐘

明確建議+積極治療
性治療介入的兩大方式

性諮商 sex consultation	性教練(sex coaching)
	
運用各家心理治療取向對個案的情緒、心理需求、伴侶關係進行調整	運用性身體心理技術，改變個案的性感覺與性反應

常見的性諮商取向-百花齊放

- 精神分析取向
- 人本取向
- 認知行為療法 (CBT)
- 情緒取向關係療法 (EFT)
- 眼動療法 (EMDR)
- 正念療法

依照治療師的學派決定

常用性諮商方法—性愛溝通技術

引導伴侶瞭解彼此的性愛需求與不滿

- 性愛的口語溝通：性興奮、性期待、性憂慮
- 性愛非口語溝通：感覺集中、親密按摩

關鍵：伴侶關係/衝突
(需要時進行伴侶諮商介入)

性教練—Sex coaching

- 聚焦在個案當下的需求，協助達成目標
- 不處理過去議題/深層情緒
- 常用性教練方法
  - 性技巧教學
  - 性感覺重塑
  - 身體感覺開發
  - 性感覺集中

性技巧教學

異物梗色
HEDGEHOG IN MY TENT

性感覺重塑

- 用於處理因緊張、焦慮等負向情緒產生的感覺轉換障礙
  - 各種觸感(舔摸轉滑切頂磨壓)被轉換成搔癢感/疼痛感/沒有感覺
- 運用**感覺停留**、**感覺分辨**、**感覺同步**等方式讓感覺與刺激恢復對應

身體感覺開發

- 藉由撫摸身體非性感帶的部位，將注意力帶回身體，提高感官覺察力

性感覺集中

- 提高感官覺察能力/性興奮變化的覺察
- 撫摸性敏感帶與性器官並集中注意力在其上
  - **由輕微的刺激慢慢爬升到強烈的刺激**

泌尿科與性治療的合作

優勢	挑戰
專業互補	缺乏認證
教學相長	個案意願
幫助病患	自費價格
節省時間	資安隱私

Take Home Message

- 性慾 是抑制/刺激系統 動態平衡的結果
- 性慾抑制/刺激因子 因人而異 需要整體評估
- 性治療模式：性諮商(深層議題)/性教練 (觀念行為)
- 未來挑戰 ：治療師認證 / 與泌尿科的合作模式

特別感謝 心向性健康管理中心 Satisfy Health Coaching Center 曾寶瑩博士
十全教育醫療財團法人 十全醫院 泌尿外科 黃旭澤

Starting and Stopping Testosterone Therapy

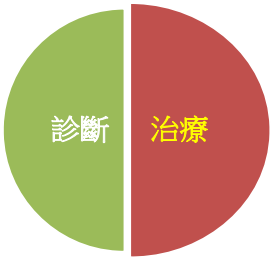
15 : 50 – 16 : 30 10-Nov-2018

大綱

- Start
  - Problems in the diagnosis
  - Optimizing Therapy
- Stop
  - Timing of "stop"
  - Is it ok to "stop"?

1. Challenges in Diagnosis

診治Testosterone Deficiency 寶貴的看診時間該花在哪裡?



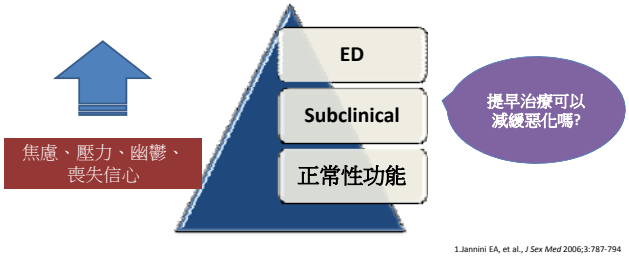
有無睪固酮低下症 (糖尿病) 有甚差別?

Hypogonadal → ? → Eugonadal

Normal → Glucose intolerance → Diabetes mellitus

Subclinical ED

- 慢性疾病都是從正常慢慢惡化，在發展成疾病以前有過渡期 (subclinical)



1.Jannini EA, et al., *J Sex Med* 2006;3:787-794
2.Rosen RC, et al., Urol Clin North Am 2001;28:269-78
3.Carosa E, et al., Int J Impot Res 2002;14:93-99

睪固酮低下症狀

憂鬱(Depression)
- 心情沮喪
- 認知障礙

心血管問題
- 高血脂
- 高血壓

身體狀態衰退
- 骨質流失
- 疲倦、活力程度減退
- 肌肉鬆弛與肌耐力衰退

代謝失調
- 腰部肥胖
- 胰島素調控變差
- 血糖控制差

性相關障礙
- 性慾降低、性活動減少
- 性功能障礙

Wang C, Nieschlag E, Swerdloff R, et al. Eur J Endocrinol 2008; 159:507– 514.
Maggi M, Schulman C, Quinton R, et al. J Sex Med 2007;4:1056–1069.

補充荷爾蒙的好處

- 情慾與勃起功能恢復
- 體力增加
- 情緒改善
- 身體成份改善 (肌肉增加、肥肉減少)
- 骨密度穩定/增加……

身體健康
心理健康
性功能正常

AACE Hypogonadism Task Force. Endocr Pract 2002;8:439-56.
Bhasin et al., J Clin Endocrinol Metab 2006;91:1995-2010.
Nieschlag et al., Eur Urol 2005;48:1-4.

Considerations before starting T therapy

- *Potential risk vs. Benefits*
- *Disease-centered vs. Patient-centered*
- *Medical dysfunction vs. Consumer product*
- *Symptoms relief vs. Disease treatment*
- *Under-treatment vs. Over-treatment*
- *Alternative treatment vs. Unique choice*

Diagnostic criteria for hypogonadism

Low T level	• TT, free T, bioavailable T • Normogram not established • Variation in determination
Associated symptoms	• No validated questionnaire for evaluation • Obesity, metabolic syndrome, bone mineral density
Responses to treatment	• Adequate treatment for a period • Assessment method?

A trial of testosterone therapy

- There is no absolute T concentration that reliably distinguishes who will or will not respond to treatment and because of substantial interindividual variations in T physiology
- A 3- to 6-month trial of empiric T therapy can be considered in men with suggestive symptoms but without definitive diagnostic blood test results

1. Khera M et al., Diagnosis and treatment of testosterone deficiency: recommendations from the Fourth International Consultation for Sexual Medicine. *J Sex Med* 2016;13:1787-1804
2. Buvat J et al., Testosterone deficiency in men: systematic review and standard operating procedures for diagnosis and treatment. *J Sex Med* 2013;10:245-284

2. Optimizing Treatment

常見問題

- 對治療結果失望
- 高比率退出治療
- 害怕副作用
- 睪固酮正常值為何

與病患在治療前的溝通

項次	說明
1	不需拘泥於診斷條件，能從治療獲得好處才重要(風險有限為前提)
2	鼓勵患者讓荷爾蒙正常一段時間，看帶來哪些好處
3	荷爾蒙作用全身，勃起功能改善效果不佳
4	補充時間愈久愈好，需要時補充是天大的錯誤
5	病患的困擾與期待為何
6	製劑選擇

Medication Adherence and Treatment Patterns for Hypogonadal Patients Treated with Topical Testosterone Therapy: A Retrospective Medical Claims Analysis

- 15,435 hypogonadal men, from the Thomson Reuters MakerScan Database, who had an initial topical T prescription in 2009 and who were followed for 12 months
- Discontinuation rates are high among hypogonadal men treated with testosterone gels, irrespective of their age, diagnosis, and index dose

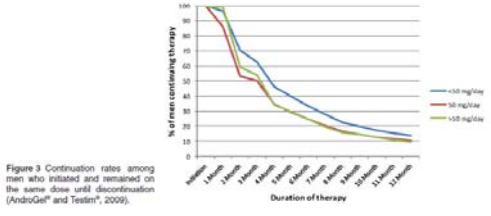
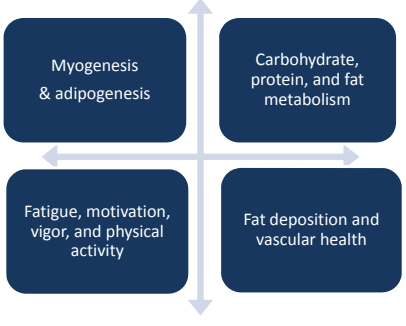


Figure 3 Continuation rates among men who initiated and remained on the same dose until discontinuation (AndroGel® and Testim®, 2009).

Schoenfeld et al. J Sex Med 2013;10:1401-1409

Effects of testosterone therapy on weight loss



Traish AM. Testosterone and weight loss: the evidence. Current Opinion in Endocrinology, diabetes, and obesity 2014;21:313-322

睪固酮補充治療症狀預期改善時間

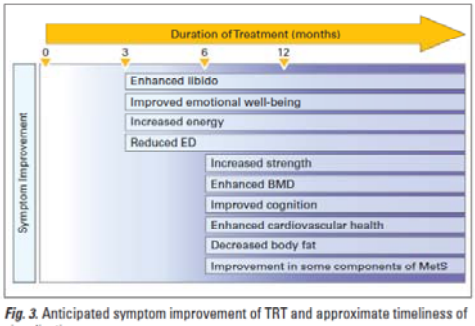


Fig. 3. Anticipated symptom improvement of TRT and approximate timeliness of visualization.

Morales et al., A practical guide to diagnosis, management and treatment of testosterone deficiency for Canadian physicians. *Can Urol Assoc J* 2010;4:269-75

補充目的	同時挫施
減重(消化脂肪)	飲食控制、運動
勃起功能障礙	PDE5 inhibitors
情慾	健康、壓力、環境
DM、HT、Dyslipidemia	獨立治療

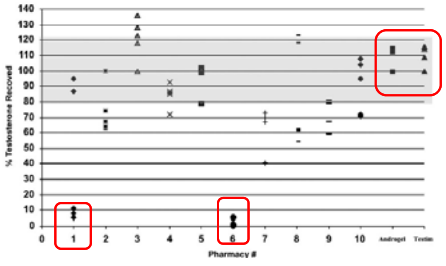
台灣男性荷爾蒙製劑

途徑	成分(劑量)	投予頻率	特點
口服	T undecanoate (40 mg)	1天3–4次	需伴隨高脂食物
經皮膚	T gel (50 mg)	1天1次	注意傳遞給他人 可調整劑量
肌肉注射	T enanthate (50–250 mg)	每2–4週1次	經常注射、濃度高低起伏、價格低
	T undecanoate (1000 mg)	每 3月1次	穩定濃度、文獻支持長期效果與安全性

* 口服甲基睾固酮製劑不建議

Accuracy of Testosterone Concentrations in Compounded Testosterone Products

- 10 testosterone gels and creams were evaluated for the accuracy of T concentrations in Canada
- Only the concentration of testosterone within **Androgel and Testim** was consistent and accurate.



Grober et al., *J Sex Med* 2015;12:1381-1388

How to assess the response of TRT?

Outcome	Measures
Patient-reported outcomes for general	Aging Males' Symptoms Scale (AMS) Androgen Deficiency in Aging Male (ADAM)
Patient-reported outcomes for sexual function	International Index of Erectile Function (IIEF)
Obesity	Body weight, Body Mass Index, Waist circumference, Hip/Waist circumference ratio
Dual-energy X-ray absorptiometry (DXA)	Bone mineral density, Fat free mass, Lean tissue mass
Total mass and distribution of body components	CT and MRI
Metabolic Profiles	Total and free T levels, Lipid profiles, Insulin sensitivity

Monitoring and Assessing Response

Items	Timing
Response and adverse effects	3 & 6 months after onset of therapy
Testosterone levels	3 & 6 months after onset of therapy and then annually thereafter if stable
Hct	At baseline, 3 & 6 months after onset of therapy and then annually
PSA	At baseline, 3 & 6 months after onset of therapy and then annually
Digital rectal examination	At baseline, 6 months and then annually following onset of treatment

抽血檢驗睪固酮濃度需考量：目的、藥物動力學、投予時間與實驗室變異

Morales, et al., *Diagnosis and management of testosterone deficiency syndrome in men: clinical practice guideline.* CMAJ 2015;18:187

The DSM Diagnostic Criteria for Hypoactive Sexual Desire Disorder in Men

- Prevalence of low desire in men : positive correlation with age
- Neither total nor free testosterone is a reliable indicator of sexual drive among men with ED [Ansong *J Urol* 1999]
- The association between HSDD (hypoactive sexual desire disorder) and low testosterone was significant only in the youngest quartile of men (ages 17-42 years) [Corona *Int J Androl* 1999]
- Treatment which increase testosterone have variable effects on men's sexual desire [Emmelot-Vonk *Int J Impot Res* 2009]

Brotto LA. *J Sex Med* 2010;7:2015-30

3. 停止治療

When to stop therapy

- Treatment-emergent AE
- Diagnosis of prostate cancer
- Wants to have a baby
- Symptoms resolve?

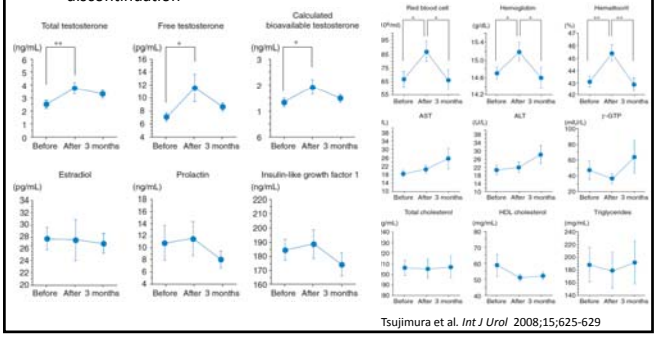
男性荷爾蒙補充 副作用

- 不會 刺激攝護腺(良性與惡性)增生
- 不會 增加心血管疾病風險
- 紅血球增生
- 傳遞給他人

Khera M et al., Diagnosis and treatment of testosterone deficiency: recommendations from the Fourth International Consultation for Sexual Medicine. *J Sex Med* 2016;13:1787-1804

Is discontinuation of hormone replacement therapy possible for patients with late-onset hypogonadism?

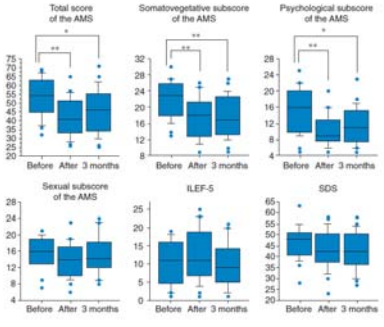
- 25 hypogondal men who had effective TRT had follow-up 3-months after discontinuation



Tsujimura et al. *Int J Urol* 2008;15;625-629

Is discontinuation of hormone replacement therapy possible for patients with late-onset hypogonadism?

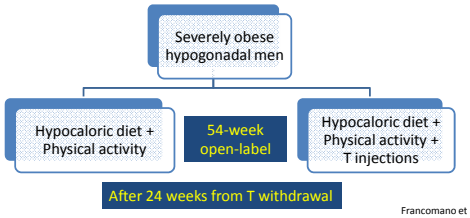
- 25 hypogondal men who had effective TRT had follow-up 3-months after discontinuation
- Laboratory and hormonal profiles returned to pretreatment but symptoms remained



Tsujimura et al. *Int J Urol* 2008;15;625-629

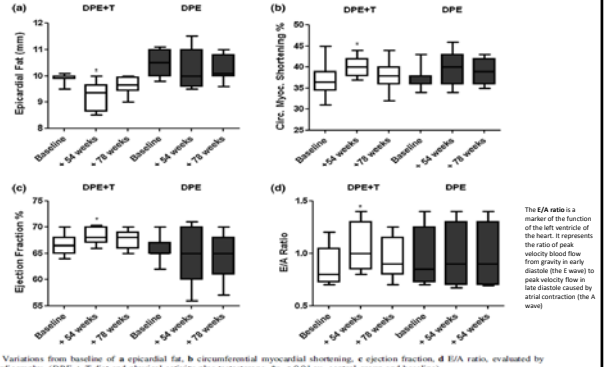
Effects of testosterone undecanoate replacement and withdrawal on cardio-metabolic, hormonal and body composition outcomes in severely obese hypogonadal men: a pilot study

- T withdrawal determines a return back to hypogonadism within 6 months, with loss of cardiovascular and some body composition improvements attained.
- TRT is beneficial on cardiac function in severely obese patients and that withdrawal is not a good prevention strategy for reducing CV risk.



Francomano et al. *J Endocrinol Invest* 2014;37:401-411

CV risks returned after cessation of TR



The **E/A ratio** is a marker of the function of the left ventricle of the heart. It represents the ratio of peak velocity blood flow from gravity in early diastole (the E wave) to peak velocity flow in late diastole caused by atrial contraction (the A wave)

Fig. 1 Variations from baseline of **a** epicardial fat, **b** circumferential myocardial shortening, **c** ejection fraction, **d** E/A ratio, evaluated by echocardiography. (*DPE + T* diet and physical activity plus testosterone. *$p < 0.01$ vs. control group and baseline)

Francomano et al. *J Endocrinol Invest* 2014;37:401-411

Reversibility of T-induced azoospermia

- Mean time to become azoospermic with T injection: 120 days
- The median time from azooseprmia
  - to recovery (sperm ≥ 20 million/ml): 3.7 months
  - to baseline : 6.7 months

WHO Task Force on Methods for the Regulation of Male Infertility Lancet 1990;336:955-959
Ismaeel et al. Testosterone replacement-freedom from symptoms or hormonal shackles? Sex Med Rev 2017;5:81-86

結論

- TTh in the physiologic range in men with TD imparts great benefits to men's health as demonstrated by the improvement in glycometabolic and cardiometabolic function, improved sexual function, body composition, and BMD, amelioration of anemia, and improvement in overall quality of life
- Transdermal TRT can replace testosterone in men with hypogonadism and restore a steady testosterone concentration in the blood.

Obesity：Unhealthy and Unmanly

台灣男性學醫學會副秘書長
蔡嘉駿醫師

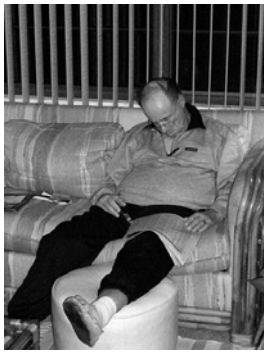
107年11月10日

What is a real man?

Fifty Shades of Grey

Fast and Furious 7

可是大多是像這樣 ~~



家庭暴力

男性性功能障礙

中廣肥胖
代謝症候群

都是男性荷爾蒙惹的禍？

你老了嗎?

- 越看越遠，越尿越近。
- 坐[redacted]肚子越來越大
- 往事忘不掉，新事記不住。
- [redacted]弟弟越來越小
- 以前硬著等，現在等著硬

簡大師名言金句

國人近年整體過重及肥胖比率變化

單位：%

時間	合計	男	女
2008年	37.48	46.18	28.37
2009年	37.98	47.73	27.87
2010年	38.53	48.53	28.04
2011年	38.95	48.86	28.56
2012年	39.30	49.06	29.35
2013年	40.12	49.64	30.52
2014年	39.69	49.77	29.72
2015年	40.17	49.99	30.49
2016年	43	-	-

註：根據衛福部公告標準，24≦BMI＜27為過重，BMI≧27即屬肥胖

資料來源：衛福部國健署　　製表：黃天如

目前國人各年齡層過重及肥胖比率

單位：%

年齡層	合計	男	女
18~24歲	23.20	31.09	14.53
25~34歲	31.74	44.48	18.48
35~44歲	40.09	55.66	24.72
45~54歲	44.64	56.09	33.80
55~64歲	48.32	56.06	40.73
65歲以上	47.88	49.22	46.70

註1：上述結果摘自衛福部2017年出版之「健康促進統計年報」

註2：依衛福部公告，過重標準為24≦BMI＜27，肥胖標準則為BMI≧27

註3：標示紅字部分為國內整體或男、女個別觀察後，過重及肥胖率最高的年齡層及比率

資料來源：衛福部國健署　　製表：黃天如

【BMI 測試】

成人肥胖定義	身體質量指數(BMI)(kg/m^2)	腰圍(cm)
體重過輕	BMI<18.5	
健康體位	18.5<=BMI<24	
體位異常	過重：24<=BMI<27 輕度肥胖：27 <= BMI < 30 中度肥胖：30 <= BMI < 35 重度肥胖：BMI >= 35	男性：>= 90 公分 女性：>= 80 公分

※ $BMI=\frac{體重(公斤)}{身高^2(公尺^2)}$

BMI ＝ obesity & Body Fat Ratio

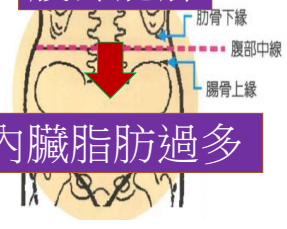
155cm ; 65kg　　BMI 27　　172cm ; 80kg

性別	理想腰圍範圍
成人男性	小於90公分(35英吋)
成人女性	小於80公分(31英吋)

腰圍過粗

腰圍測試

腹部肥胖



內臟脂肪過多

萬惡淵藪

睪固酮 (男性賀爾蒙、雄性素)

- 30歲以前（主要促進發育成長）

男性化及第二性徵、增加蛋白質同化作用、生殖

- 30歲以後(維持生理功能的正常運作)

生殖功能及性功能
肌肉力量及體力、骨骼強度
精神健康及情緒穩定

新陳代謝(胰島素、葡萄糖、三酸甘油酯、造血)

男性荷爾蒙低下之原因

- 睪丸異常或受損：外傷、隱睪症、發炎、腫瘤、電療
- 其他賀爾蒙異常
- 基因問題
- 藥物:毒品、類固醇、抑制男性賀爾蒙藥物、化療
- 健康及生活問題: 菸酒、**過度肥胖**、**慢性疾病(T2DM)**
- **正常老化(男性更年期)**

Total and Bioavailable Testosterone

- Total Testosterone = FT(free)+ Alb-bound-T+ [SHBG]-bound-T
- **Bio Testosterone = FT(free)+ Alb-bound-T**

Free & Bioavailable Testosterone calculator

These calculated parameters more accurately reflect the level of bioactive testosterone than does the sole measurement of total s ,bound to specific plasma proteins (sex hormone-binding globulin SHBG) and weakly bound to nonspecific proteins such as albu testosterone measures the free fraction, bioavailable testosterone includes free plus weakly bound to albumin.

Albumin 4.3 g/dL
SHBG nmol/L
Testosterone ng/dL
Calculate Explanation and examples

Free Testosterone
Bioavailable Testosterone

http://www.issam.ch/freetesto.htm

J Clin Endocrinol Metab 1999;84:3666-72

Male Hypogonadism

- Tes… syn…

Total T < 12 nmol/L

✓Measure testosterone bef… 00 AM, preferably in the fasting state. (LE:2,GR:A)

Free T < 243 pmol/L

✓Re… (LE:1,GR:A)

✓Measure the FT level in men with ：(LE:1,GR:A)

1. T…
2. Abnormal SHBG levels.

Total T < 8 nmol/L

國際治療指引: TT<8 nmol/L(230.4ng/dl)需要治療

Table 1 Current guidelines on hypogonadism

Organisation	Recommendation	TT Levels	Follow-up	Monitoring
ISSM 2015 [14] BSSM 2011 [13]	Symptomatic HG. ED and low desire	<8 nmol/L is likely to benefit. 8–12 nmol/L check FT. Consider 6-month trial of therapy if symptoms troublesome and continue if substantial benefit. Prolactin if TT below 5.2 nmol/L. TT >12 nmol/L unlikely to benefit	3–6 months, then annually	Baseline DRE. PSA 1.4 ng/dL rise in any year or 0.4 per year velocity. Haematocrit 54 %. Aim at T level above 15 nmol/L
EAU 2014 [12]	Decreased muscle mass or BMD. Decreased libido or erection	<8 nmol/L or 8–12 nmol/L check FT. Consider 6-month trial of therapy	3–6 months, then annually	Baseline DRE. PSA 1.4 % rise. Baseline assessed 6 months after commencement. Haematocrit 54 %. Aim at T level above 15 nmol/L
Endocrine Society 2010 [15]	Symptomatic HG with unequivocal low T. Low desire and ED. High-risk groups identified, but screening not recommended	200–250 ng/dL = Frank hypogonadism. Prolactin if TT below 5.2 nmol/L	3–6 months, then annually	Baseline DRE. DRE plus PSA 3–6 months, PSA 1.4 nmol/L. Haematocrit 54 %. Aim at T level 400–700 ng/dL
ISSAM, ISA 2015 [11]	Symptomatic HG. ED and low desire	<8 nmol/L 8–12 nmol/L FT <225 pmol/L. Consider 3- to 6-month trial of therapy	3–6 months, then annually	Baseline DRE. DRE plus PSA 3–6 months, PSA 1.4 nmol/L. Haematocrit 52.55 %

BSSM British Society for Sexual Medicine, *EAU* European Association of Urology, *ED* erectile dysfunction, *FT* free testosterone, *ISSAM* International Society for Study of the Aging Male, *ISSM* International Society for Sexual Medicine, *T* testosterone, *TT* total testosterone

Drug Saf 2015

抽血檢測標準

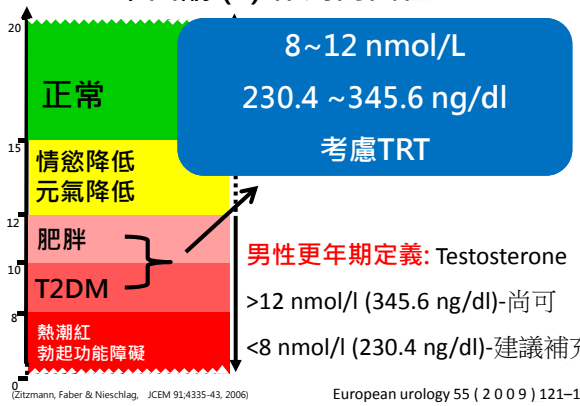
Total T >12 nmol/L (345.6 ng/dL) → 尚可

Total T < 8 nmol/L (230.4 ng/dL) → 接受補充療法有助益

→ Testosterone replacement therapy (TRT)

4. Wang C, Nieschlag E, Swerdloff R, et al. Eur J Endocrinol 2008; 159:507– 514.

睾固酮 (T) 作用的閥值



(Zitzmann, Faber & Nieschlag, JCEM 91;4335-43, 2006)

European urology 55 (2 0 0 9) 121–130

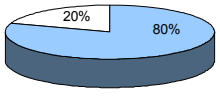
40歲以上的台灣男性，1/4有睾固酮低下症

根據台灣男性學醫學會於2004年所做的「男性健康管理研究」

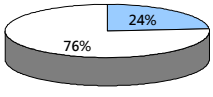
650名40-80 歲有效樣本以聖路易大學老化男人睾固酮低下症問卷評量項目測試：

- 高達80%的樣本具有睾固酮低下症的症狀。
- 抽血檢驗結果 (Total T, Free T, Bio-available T, SHBG, FSH, LH, and Prolactin) 顯示24%的樣本確認Bio-available T低下。

80% self-evaluated having hypogonadism syndromes



24% clinically-approved having hypogonadism



1.Int J Impot Res. 2006(18);343-7

Total Testosterone screening between August to September of 2017

Primary care sites for TT screening:

- 聖母聯合診所
- 芯悅診所
- 東豐診所
- 林修名診所
- 安昱診所
- 南恩內科診所
- 大雄泌尿科診所
- 虎尾台全診所
- 吳鴻均泌尿科診所
- 鳳山高美泌尿科診所

Primary objective

Questionaire:
- ADAM
- IIEF
- IPSS
- Concomitant medications of HTN/DM/Dyslipidemia

Parameters:
- Age
- BMI
- Waist circumference
- Blood pressure
- Total Testosterone

Inclusion criteria :
- 40~59 years old male
- Informed consent

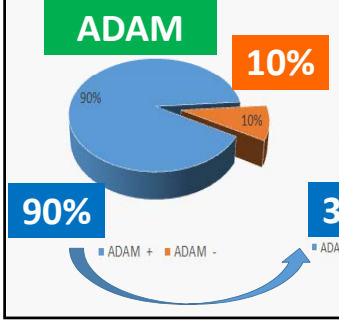
Exclusion criteria :
- TRT within last year
- Ongoing hormonal therapy or 5ARI
- Prostate cancer
- Childbearing
- Unsuitable to initiate TRT

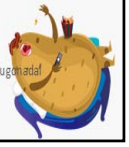
Taiwan local data of male hypogonadism in 2017

According to TAA and SDACT data from blood screening project on 250 male sample recruited with age 40 to 60 :

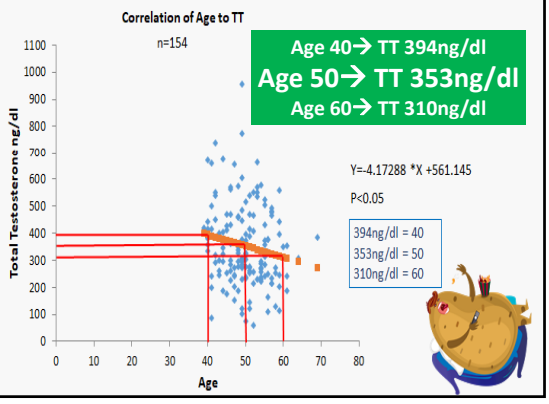
1) ADAM questionnaire : 90% subjects self evaluated with symptoms of hypogonadism

2) Total T blood screening : 33% of ADAM positive male confirmed with low T (<300ng/dl)

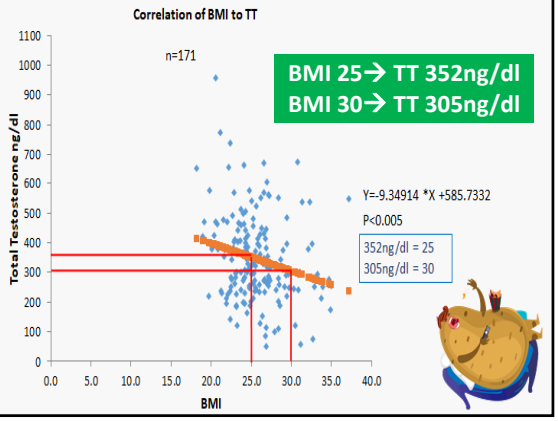




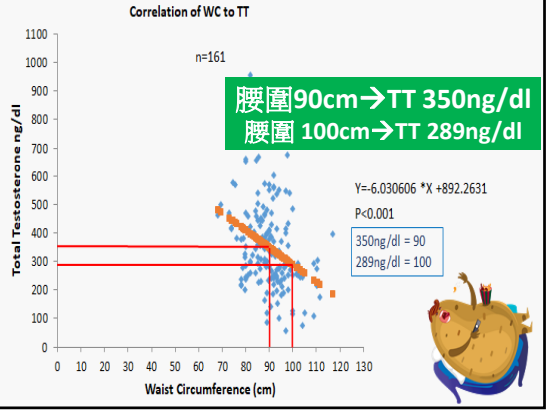
Age increase every 10 years, TT decrease 42ng/dl



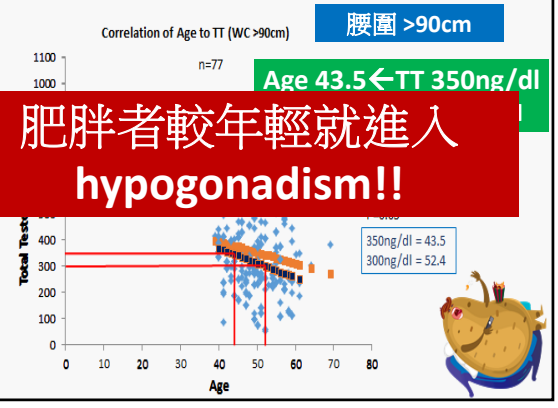
BMI "Overweight" segment match grey area of hypogonadism



WC increase every 10cm, TT decrease 60ng/dl



Grey area of TT with WC>90cm ranged from age 44~52
TT lower 14ng/dl more



Hypogonadism = clinical S/S + biochemical evidence

Plasma Free and Non-Sex-Hormone-Binding-Globulin Bound Testosterone Are Decreased in

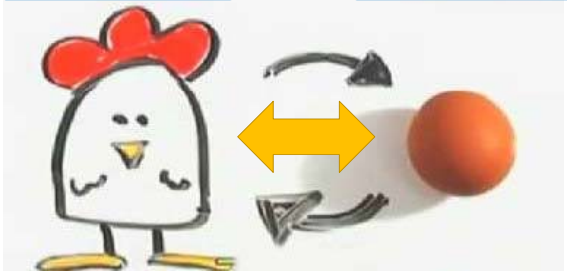
Taiwan local data showed 25%~33% men with hypogonadism, especially old age, high BMI and large WC

- A
- With increased abnormal obesity and BMI, the hypogonadal status progress (both T & free T)

J Clin Endocrinol Metab. 1990 Oct;71(4):929-31.

睪固酮低下症與肥胖症

Hypogonadism -OR- Obesity

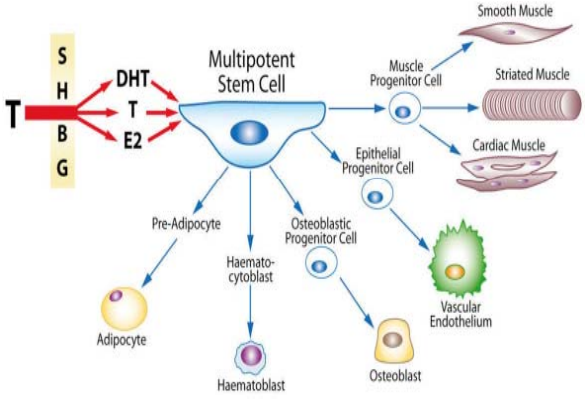


有以下疾病的男性，罹患睪固酮低下症的比例與相對風險

疾病	睪固酮低下症比例 (95% C.I.)	相對風險 (95% C.I.)
肥胖	52.4 (47.9 – 56.9	2.38 (1.93 - 2.93)
糖尿病	50.0 (45.4 – 54.5)	2.09 (1.70 - 2.58)
高血壓	42.4 (39.6 – 45.2)	1.84 (1.53 - 2.22)
類風濕關節炎	47.3 (34.1 – 60.5)	1.59 (0.92 - 2.72)
高血脂	40.4 (37.6 – 43.3)	1.47 (1.23 - 1.76)
骨質疏鬆症	44.4 (25.5 – 64.7)	1.41 (0.64 - 3.01)
氣喘/ COPD	43.5 (36.8 – 50.3)	1.40 (1.04 - 1.86)
攝護腺相關疾病	41.3 (36.4 – 46.2)	1.29 (1.03 - 1.62)
慢性疼痛	38.8 (33.7 – 44.0)	1.13 (0.89 - 1.44)

Mulligan T et al. Int J Clin Pract 60: 762-769 (2006)

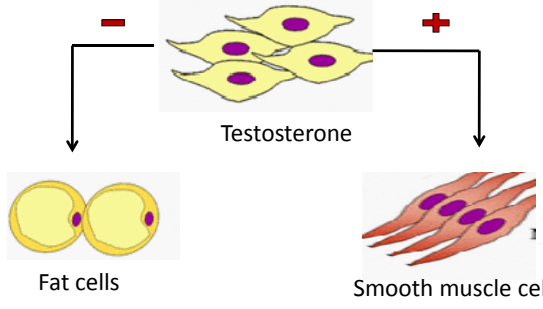
Testosterone efficacy



Sex Med Rev. 2018;6:86-105

Testosterone efficacy

Mesenchymal stem cells



Endocrinology2003;144(11):5081-5088

Medical Hypotheses (1999) 52(1), 49–51
© 1999 Harcourt Brace & Co. Ltd
Article No. mehy.1997.0624

The hypogonadal–obesity cycle: role of aromatase in modulating the testosterone–estradiol shunt – a major factor in the genesis of morbid obesity

P. G. Cohen
2480 Windy Hill Road SE, Marietta, GA, USA

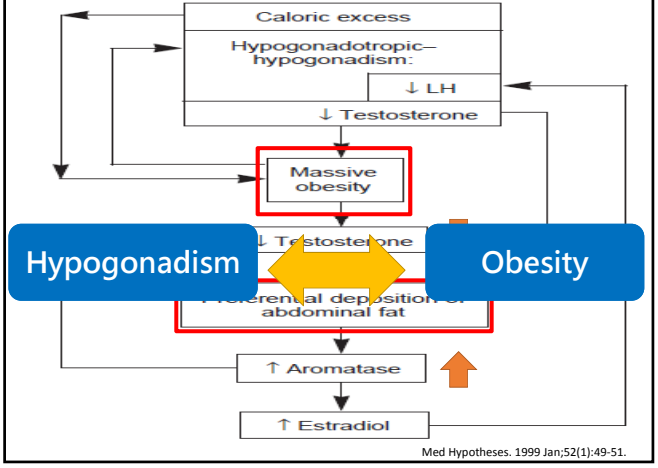
Med Hypotheses. 1999 Jan;52(1):49-51.

Fat tissue

Aromatase

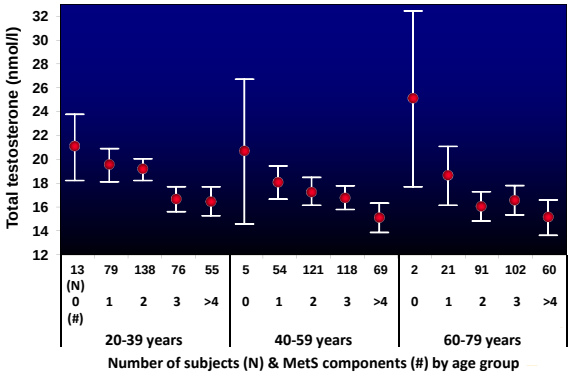
Testosterone → Estradiol

J Clin Endocrinol Metab 1994 Oct;79(4):1086-90.
J Clin Endocrinol Metab 1974; 38: 476–479.
J Clin Endocrinol Metab 1979; 48: 633–638.



Med Hypotheses. 1999 Jan;52(1):49-51.

睪固酮濃度隨著代謝症候群的數目增加而降低



7. Haring R et al. Diab 58: 2027-2031 (2009)

The Potential Impact of Metabolic Syndrome on Erectile Dysfunction in Aging Taiwanese Males

Yung-Chin Lee, MD,* Chia-Chu Liu, MD,† Chun-Nung Huang, MD, PhD,‡ Wei-Ming Li, MD,§ Wen-Jeng Wu, MD, PhD,¶ Hsin-Chih Yeh, MD,** Chii-Jye Wang, MD, PhD,†† Chun-Hsiung Huang, MD, PhD,‡‡ and Shu-Pin Huang, MD, PhD§§

*Department of Urology, Kaohsiung Medical University Hospital, Department of urology, Faculty of medicine, College of medicine, Kaohsiung Medical University, Graduate Institute of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan; †Department of Urology, Kaohsiung Medical University Hospital, Graduate Institute of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan; ‡Department of Urology, Kaohsiung Medical University Hospital, Department of urology, Faculty of medicine, College of medicine, Kaohsiung Medical University; §Department of Urology, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan; ¶Department of Urology, Kaohsiung Medical University Hospital, Department of urology, Faculty of medicine, College of medicine, Kaohsiung Medical University, Kaohsiung, Taiwan;

Mean age 55 y/o (40~83) ; N=639

J Sex Med. 2010; 7:3127-34

The association between variables and MtS

	Subjects without MtS n=496	Subjects with MtS n=143	p value
Smoking, n (%)	120 (24.1)	44 (30.0)	0.07
Drinking, n (%)	97 (19.5)	37 (25.8)	0.06
Betel nut, n (%)	14 (2.8)	8 (5.5)	0.09
CAD, n (%)	21 (4.2)	29 (20.2)	***< 0.01***
ED, n (%)	261 (52.6)	111(77.6)	***< 0.01***
Mean (SD)			
Age, years	54.8 (4.7)	58.7 (7.3)	***<0.01***
BMI, kg/m2	24.5 (2.6)	26.9 (3.1)	***<0.01***
IPSS	9.3 (6.8)	9.8 (7.2)	0.49
IIEF-5 score	19.8 (4.5)	16.4 (6.4)	***<0.01***
QoL score	3.4 (1.3)	3.6 (1.2)	***0.01***
Prostate volume, ml	24.9 (12.0)	27.7 (16.7)	***0.04***
PSA, ng/ml	1.0 (0.7)	1.1 (0.7)	0.21
Testosterone, ng/dl	392.2 (89.1)	346.9 (81.9)	***<0.01***

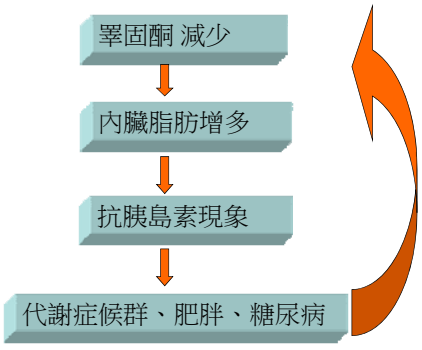
The association between variables & androgen deficiency

	Subjects without AD n=527	Subjects with AD n=112	p value
Smoking (%)	25.8	25.0	0.50
Drinking (%)	20.3	24.1	0.21
Betel nut (%)	3.4	3.5	0.55
CAD (%)	7.4	9.8	0.22
ED (%)	56.1	67.8	***0.01***
MtS (%)	18.8	38.3	***<0.01***
DM (%)	7.9	14.2	***0.02***
Hypertension (%)	22.3	39.2	***<0.01***
Hyperlipidemia (%)	20.8	30.3	***<0.01***
Mean (SD)			
Age, years	55.1(5.1)	58.1 (7.1)	***<0.01***
BMI	24.9 (2.8)	25.7 (3.0)	***<0.01***
IPSS	9.6 (6.8)	8.4 (7.4)	0.08
IIEF-5 score	19.6 (4.5)	16.6 (7.2)	***<0.01***
QoL	3.4 (1.3)	3.4 (1.3)	0.85
PSA, ng/ml	1.0 (0.7)	1.1 (0.8)	0.95
Prostate volume, ml	25.4 (13.2)	25.9 (13.8)	0.89

The prevalence of testosterone level regarding to the number of MtS components

	MtS components No.			
	0~2	**3~4**	**5**	**p value**
N	496	134	9	
ED, %	52.6	76.1	100	***<0.01***
Yes (N)	261	102	9	
No (N)	235	32	0	
IIEF-5 score	19.8 (4.5)	16.6 (6.4)	13.6 (5.5)	***<0.01***
Mean (SD)				
Tetsosterone ng/dl	**392.2** (89.1)	**348.3** (83.2)	**325.9** (57.0)	***< 0.01***
Mean (SD)				

惡性循環



睪固酮低下的症狀

憂鬱(Depression)
- 心情沮喪[4,5]
- 認知障礙[5]

身體狀態衰退
- 骨質流失(BMD)[4,5]
- 疲倦、活力程度減退[4,5]
- 肌肉鬆弛與肌耐力衰退[4,5]

心血管問題
- 高血脂[4]
- 高血壓[4]

代謝失調
- 腰部肥胖[4]
- 胰島素調控變差[4]
- 血糖(glycaemic)控制差[4]

性相關障礙
- 性慾降低、性活動減少[4,5]
- 性功能障礙(ED)[4,5]

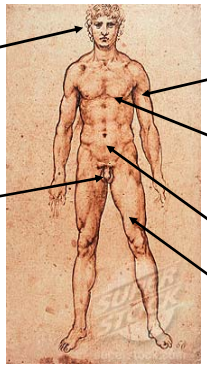
4. Wang C, Nieschlag E, Swerdloff R, et al. Eur J Endocrinol 2008; 159:507–514.
5. Maggi M, Schulman C, Quinton R, et al. J Sex Med 2007;4:1056–1069.

New concepts of actions of testosterone

Traditional

Libido

Sexual and reproductive functions



New

muscle

Cardiovascular health,

Lipid + glucose metabolism

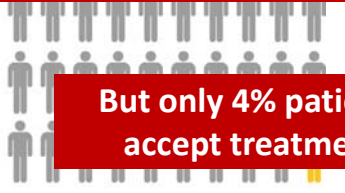
Visceral obesity

Bone

LTW.MKT.12.2015.0121

Testosterone Deficiency Syndrome(TDS)

Androgen deficiency is associated with obesity due to aromatase excess, hyperlipidemia, insulin resistance and metabolic syndrome



僅有4%患者接受治療[3]

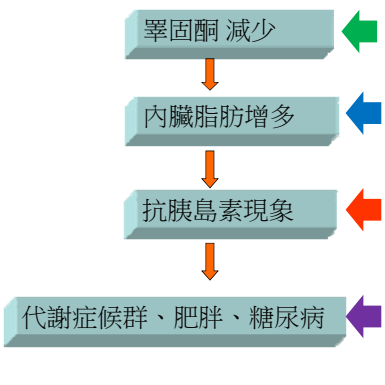
But only 4% patients accept treatment

TDS: Testosterone Deficiency Syndrome

2. Carruthers M. The Aging Male 2009;12(1):21–28. 3. Mulligan T et al. Int J Clin Pract 2006;60(7):762–769.

Testosterone replacement therapy (TRT) in obese patients?

打破惡性循環



Male Hypogonadism

EAU Guidelines 2018

Summary of evidence	LE
Testosterone treatment may improve symptoms, but many hypogonadal men have a chronic illness and are obese. Weight reduction, lifestyle modification and good treatment of comorbidities can increase testosterone and reduce associated risks for diabetes and cardiovascular diseases.	2
Testosterone treatment can improve body composition, bone mineralisation, signs of the metabolic syndrome, male sexual problems, diabetes regulations, memory and depressive symptoms.	3
A reduction in BMI and waist size, improved glycaemic control and lipid profile are observed in hypogonadal men receiving testosterone treatment.	2a

Male Hypogonadism

EAU Guidelines 2018

Recommendations	Strength rating
Improve lifestyle, reduce weight in case of obesity and treat comorbidities before starting testosterone therapy.	Strong
In hypogonadal men with erectile dysfunction start with a phosphodiesterase type 5 inhibitor (PDE5I) as first line treatment and add testosterone in case of a poor response to PDE5I treatment.	Strong

確認睪固酮低下後…

早期發現、早期治療

治療其原有的內科疾病，如控制三高。

飲食改善議(少油少糖多纖維)

運動與減重!

營養補充品?食療?吃蛋補蛋?-未證實有效提升?

戒除抽菸和酗酒!

藥物治療:Testosterone replacement therapy (TRT)

補充男性賀爾蒙與攝護腺

- 目前沒有證據顯示TRT跟攝護腺癌形成有關!

Recommendation 9: prostate cancer and benign prostatic hyperplasia (BPH)

9.1. At the present time, there is no conclusive evidence that testosterone therapy increases the risk of prostate cancer or BPH (66, 67). There is also no evidence that

EAU guideline 2017

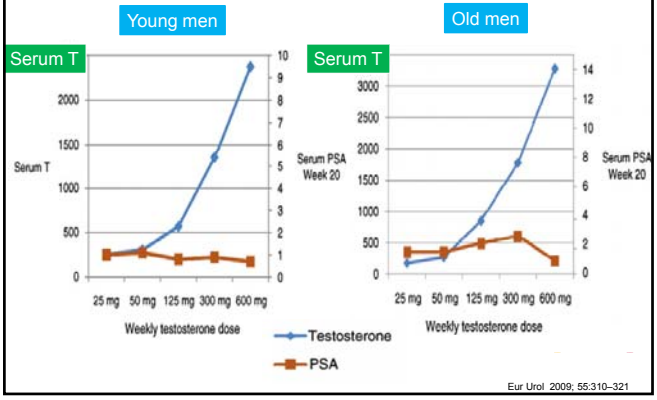
- In population-based observational study, TRT was not associated with increased overall or cancer-specific mortality in men /c prostate cancer history.

J Sex Med. 2014 Apr;11(4):1063-1070.

- **Saturation model !**

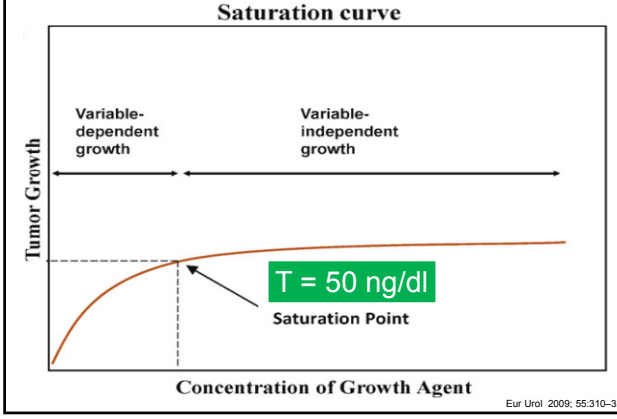
Eur Urol 2009; 55:310–321

Saturation model



Eur Urol 2009; 55:310–321

Saturation model intraprostatic and serum T concentration



Eur Urol 2009; 55:310–321

睪固酮治療(TRT)前須先排除攝護腺癌

- TRT不會增加 prostate cancer risk!
- 必要時攝護腺切片檢查
- 懷疑有攝護腺癌禁止TRT

補TRT要注意是否有潛在prostate cancer，並且密切追蹤!

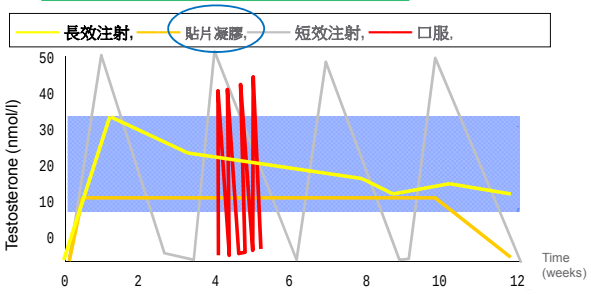
補充睪固酮可能其他副作用

新陳代謝與心血管	1.血紅素過高 **(血紅素>16g/dl or 血比容>54%不建議)** 2.體內體液負擔上升**(嚴重心衰竭者不建議)** 3. 降低↓ HDL cholesterol
干擾睡眠	加重呼吸中止(嚴重呼吸中止症候群者不建議)
睪丸與生殖	精子生成下降**(不孕者不建議使用)**
惡化對雌性素敏感疾病	1. ↑size of prolactinoma 2.加重乳癌**(有乳癌者不可用)**

F/U PSA + DRE ± CBC ± T q3-6 months !

不同製劑血清濃度變化

相對穩定,方便停藥or減藥量

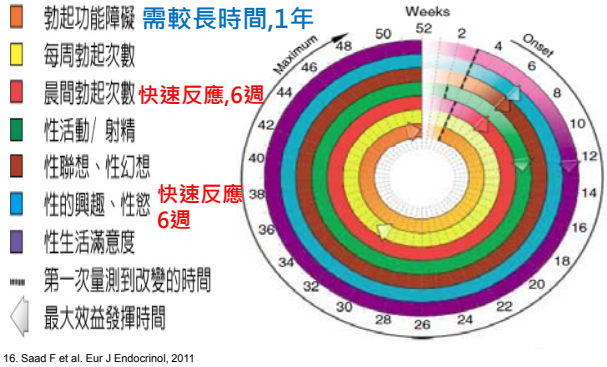


Schubert M, et al. J Clin Endocrinol Metabl 2004;89:5429-34

國內常見的睪固酮補充療法

劑型	給藥方式	藥物動力學	優點	缺點
凝膠	每天1包塗抹	經皮吸收,模擬睪丸每天分泌6~7mg 血中濃度穩定	• **藥效穩定** • **易調整劑量** • 慢性患者適用 • 隨身攜帶, 使用方便	• 需每天擦拭 • 4~6小時內勿肌膚接觸
針劑	短效: 2~3wk/次 **長效:** **10~12wk/次**	注射前後血中濃度差異有時大(短效)	• 藥效穩定(長效) • 劑量調整彈性大 • 無須等候 • 費用較便宜	• 病患情緒等不適症狀起伏明顯(短效) • 需不定期回院看診(短效) • 疼痛感高 • 針頭感染風險
口服	bid/tid	• 半衰期短 • 劑量多種, 血中濃度變化易因人而異	• 健保給付 • 適合國人用藥習慣	• 無法穩定血中濃度 • 藥效不持久 • 有些藥物有肝毒性問題

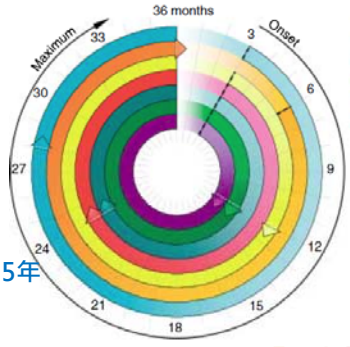
睪固酮療法作用時間：Sexual Parameters



16. Saad F et al. Eur J Endocrinol, 2011

睪固酮療法作用時間：身體組成與肌耐力

- 增加肌肉強度 約1年
- 增加瘦肌肉質量 (lean mass)
- 減少脂肪含量 (fat mass)
- 縮小腰圍 約2年
- 強化運動耐力
- 增加骨質密度
- 降低腰-臀比 (waist hip ratio)
- 第一次量測到改變的時間 約2.5年
- 最大效益發揮時間



16. Saad F et al. Eur J Endocrinol, 2011

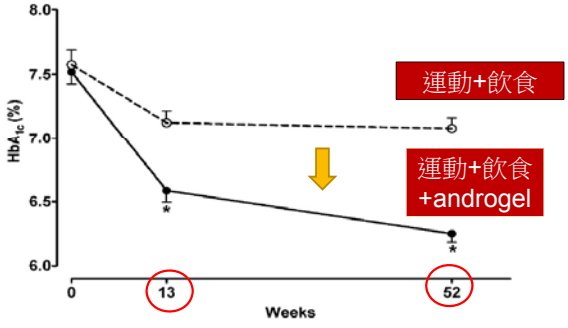
絕非一蹴可及！

不要想著一步登天，試著體會身體逐漸的改變，

循序漸進，將會達到真正的成功

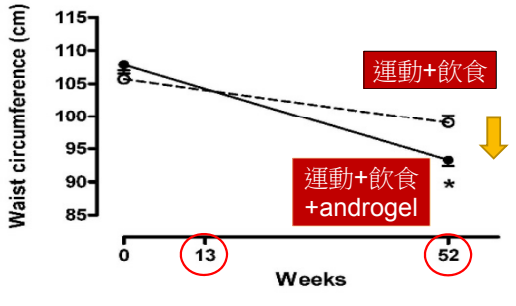
TRT改善
男性性腺低下症患者
肥胖、代謝症候群與糖尿病

治療一年後，HbA1c明顯降低



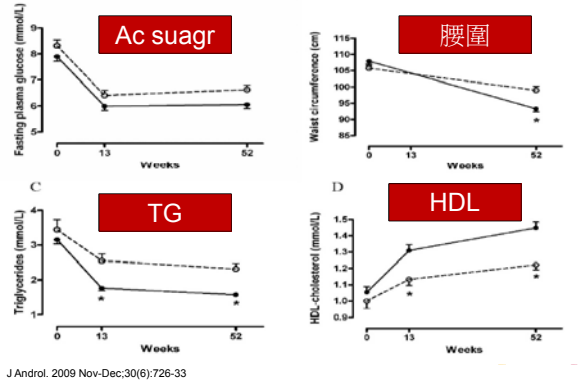
J Androl. 2009 Nov-Dec;30(6):726-33

治療一年後，腰圍即可明顯縮小

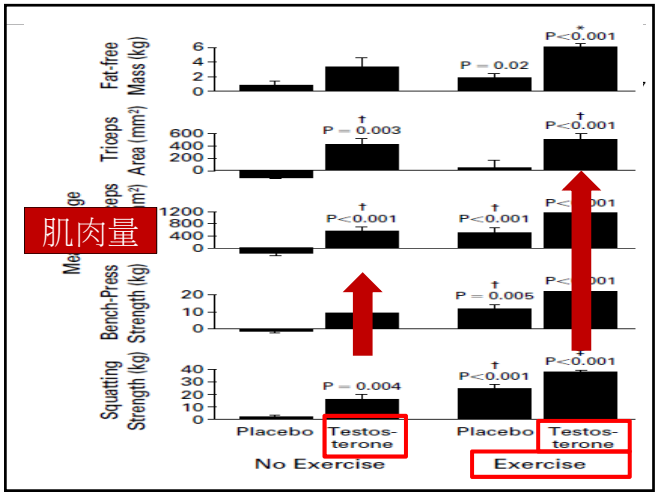


J Androl. 2009 Nov-Dec;30(6):726-33

治療一年後，改善代謝症候群症狀



J Androl. 2009 Nov-Dec;30(6):726-33



Management for obesity

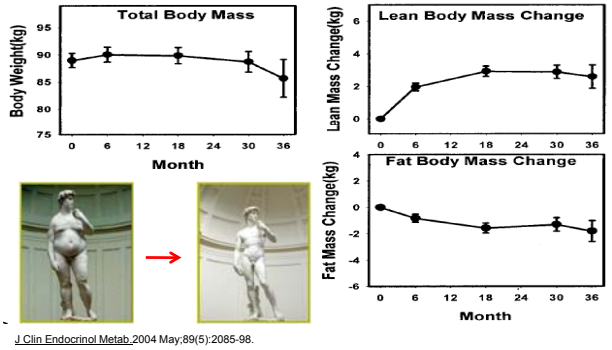
Diet + Exercise

Pharmaco-therapy (TRT)

Bariatric surgery

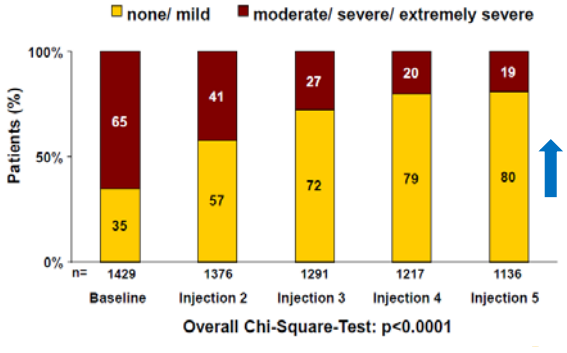
明顯改善換患者身體組成

三年長期androgel治療研究



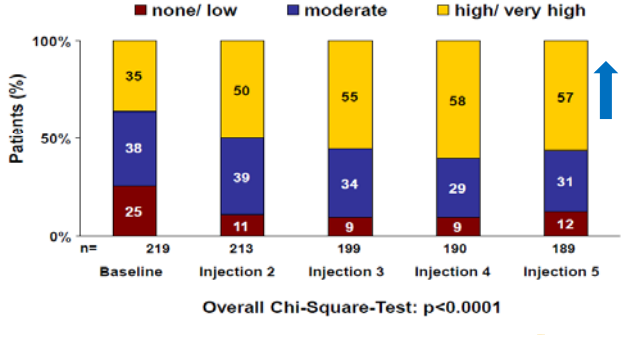
J Clin Endocrinol Metab 2004 May;89(5):2085-98.

TRT治療後，患者勃起功能狀況獲得極大改善



14. Zitzmann M et al. J Sex Med 2013;10:579–588

TRT能提升PDE5i的治療效果



14. Zitzmann M et al. J Sex Med 2013;10:579–588

同時改善其他影響因素

TRT治療目的	同時執行
減重	飲食控制、運動
增加肌肉	運動、高蛋白飲食
勃起功能障礙	PDE5i
情慾	伴侶因素、維持健康 改善壓力、情境營造
慢性疾病	良好獨立治療

Conclusion

Androgen deficiency is highly associated with **obesity and metabolic syndrome**

Comobility control & life modify with TRT is the therapeutic recommendation

Stable & long-term TRT (such as androgel) improve **obesity, T2DM, metabolic syndrome and erectile function**

THANKS FOR YOUR ATTENTION

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