

出國報告（出國類別：開會）

報告主題：

OPRM1 基因 A118G 多態性不同基因型女性患者全膝關節置換術後疼痛控制的嗎啡用量差異顯著

## 2019 葡萄牙歐盟骨科醫學會

服務機關：高雄榮民總醫院骨科部

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派赴國家：葡萄牙

出國期間：2019/06/03-2019/06/09

報告日期：2019/06/14

## 摘要

職被歐盟骨科醫學會 2019 年會接受發表的摘要編號：267，摘要主題：「Female Patients Of Different Genotypes From A118G Polymorphism In OPRM1 Gene Caused Significant Difference Of Morphine Consumption For Postoperative Pain Control After Total Knee Replacement」。發表會場在 Centro de Congressos de Lisboa 會議中心 1F，最佳海報(Jacques Duparc Award) 發表區。發表時段為 2019/06/04-2019/06/06 08:00-18:00。

本研究經 IRB 批准並獲得知情同意書，收錄 112 名接受原發性全膝關節置換術的患者參加。旨在探討 OPRM1 的性別和 A118G 多態性對患者所需的嗎啡的影響，以保持全膝關節置換術後術後疼痛控制的視覺模擬量表 (Visual Analogue Scale)  $\leq 3$ 。藉由 ABI PRISM 310 遺傳分析儀測序，結果發現 A 等位基因的等位基因頻率為 75.5% (女性：77.5%，男性：69.6%)，G 等位基因的等位基因頻率為 24.5% (女性：22.5%，男性：30.4%)。AA 的基因型發生頻率為 61.3%，AG 為 24.3%，GG 為 14.4%。與 AA 和 AG 基因型患者相比，OPRM1 純合子 G118G 的女性患者需要更多來自 PCA 裝置的嗎啡用於術後疼痛控制。對於男性患者，在三種基因型中公開了術後疼痛控制的嗎啡消耗量沒有顯著差異。

於本會議中發表論文有助提高本院骨科部聲望，學習新知，也可增加高雄榮民總醫院的國際能見度。

## 關鍵字

全膝關節置換術、術後疼痛控制、OPRM1、A118G 多態性

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## 一、目的

歐盟骨科醫學會為全球骨科界三大學會之一，其影響力相較於美國骨科醫學會毫不遜色，規模盛大更勝於日本骨科醫學會，在骨骼關節疾病的治療及手術居於全球領先的地位，特別是新研發用品和器材上市時程常先於其他區域。會中將有世界各國骨科醫師及專家學者，能於會中發表論文有助本院骨科部聲望的提高，並學習新知。

## 二、過程

2019/06/03-6/4 飛機航程

2019/06/05

6月05日早上搭乘路面電車 E15 前往 Centro de Congressos de Lisboa 國際會議中心報到註冊，會議中心除了場地寬敞，各種會議必備設施及用品皆很齊全，讓每位參加者都可以輕易參與和利用。因應世界潮流的環保意識抬頭，改變以往每位參加者都發放一大袋會議相關資料的做法，實踐保護地球永續環境的理念，避免浪費紙張和增加垃圾量，會議相關資料都電子化，以 APP 方式提供。連結交通方式有路面電車和多線公車巴士。當然，便利的大眾交通運輸是成為受歡迎會議中心的必備條件。

經工作人員告知及引導，至最佳海報區完成佈置發表論文的海報於指定位置，因為職的海報發表被大會選入「Best Poster」(Jacques Duparc Award)，中午 13:00 在 EFFORT Plaza 接受頒獎。骨科部另有陳俊宇主治醫師、黃盈誠總醫師、李宜軒總醫師參加本次會議發表論文，他們也到頒獎現場，同賀職的獲獎。

本年度主題「“Registries & Impact on Practice”」(臨床執業的註冊及其影響)。近年來在大數據及 AI 風潮下，臨床資料庫在各項軟體應用之技術提升下，帶動大數據研究風潮及 AI 人工智慧(Artificial Intelligence)的發展。EFFORT 2019 德年度主題議朝此發展方向進行。針對共同註冊對物臨床執業的助益，包含診斷、處置、藥物、生命徵象、醫療照護提供者 (providers)、檢驗 (lab results)、人口學資料、死亡率、手術記錄追蹤等，擬共建臨床資料庫提供臨床研究人員使

用，提高資料分析便利性，進而助於創新醫療研發。

下午參加歐盟脊椎學會主辦的研討會，包括當今眾所矚目的課題，微創手術技術研發、骨材研發、電腦導航及微創手術器械研發。會議內容主要領域包括骨折，創傷、脊椎運動醫學、脊椎腫瘤醫學與感染治療、基礎研究。基礎研究包括骨材研發、生物力學、抗生素應用、基因與感染。從各個方向探討脊椎疾病及創傷的預防、診斷和治療。甚多專題討論均為臨床實際問題的解答和決策的重要參考。

本日議程如下：

20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Wednesday 05 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London		
08:30						Comprehensive Course Review									
09:00		Common Problems: Lower Leg Trauma (FP Session)	The Meniscus: Challenges Of Treatment (FP Session)	PJI In THA: State Of The Art (Symposium)	Midfoot Osteoarthritis: Different Presentations And Surgical Treatment (Symposium)		Shoulder & Elbow Arthroplasty (FP Session)	Outcomes THA (FP Session)	Varia Trauma: Current Issues (FP Session)	General Topics 1 (FP Session)	Cervical Disorders & Scoliosis (FP Session)	Knee Joint Kinematics And Dynamic Loading (Symposium)	Hand & Wrist: Miscellaneous (FP Session)		
09:30															
10:00															
10:30		Tibial Nailing (FP Session)	The Role Of Rotating Hinge Implants In Revision TKA (L)	Critical Review Of Short Stems In Primary THA (L)	Flatfoot And Heel Pain (FP Session)		Recurrent Shoulder Dislocation And Associated Rotator Cuff Tear (DF)	Bearing In THA (FP Session)	AOTrauma Session (Specialty & Partner Societies)	Management Of Septic Defects Of The Leg Bones (L)	Clinical Reports Spine Incl. Trauma	Biomechanics (FP Session)	Common Wrist Injuries: Are We Doing The Right Thing? (EBM)		
11:00			Management Of Infected TKA (L)	Head Size In Primary THA (L)						Musculoskeletal Treatment In Hemophilia (L)					
11:30	OPENING SESSION							OPENING SESSION							
12:00	LUNCH BREAK							LUNCH BREAK							
12:30	LUNCH BREAK							LUNCH BREAK							
13:00	LUNCH BREAK							LUNCH BREAK							
13:30	LUNCH BREAK							LUNCH BREAK							
14:00	LUNCH BREAK							LUNCH BREAK							
14:30	LUNCH BREAK							LUNCH BREAK							
15:00															
15:30	Invited Nation Symposium: Metal-On-Metal Hip Arthroplasty Outcomes: Remaining Problems	Very Distal Tibia Fractures: Plates, Nails Or Circular Frames? (Symposium)	Robotic Surgery And Custom-Made Knee Replacement (Symposium)	Risk Factors For Revision In Primary THA (Symposium)	Plantar Fasciitis: Current Concepts (L)			Infected Total Joints (FP Session)	Knee & Lower Leg (FP Session)	Paediatric Fractures: Upper & Lower Limb (FP Session)			ESTROT Session (Specialty & Partner Societies)	3D In Treatment Of Complex Upper Limb Fractures & Malunions (L)	
16:00				Clinical Reports Foot & Ankle Incl. Trauma										Distal Radius (FP Session)	
16:30								SECC Session (Specialty & Partner Societies)				EUROSPINE Session (Specialty & Partner Societies)			
17:00															
17:30	Symposium How And When Registries Make A Difference? (General Topics)	Proximal Tibia Fractures (FP Session)	ACL And Boundaries: The Long-Term Results (FP Session)	When To Revise A THA - Predictors For Second Revision (Symposium)	Hallux (FP Session)			Clinical Reports Musculoskeletal Tumors & Infections	Primary TKA - The World Around (FP Session)	Controversies In Indications, Treatment And Fixation Of Common Paediatric Fractures (Symposium)			3D Printing: From Bench To Operating Theatre (Symposium)	Hand & Wrist Trauma: Miscellaneous (FP Session)	
18:00															
18:30															

2019/06/06

職參加重點為脊椎疾病與手術治療的議程，會議場地位於倫敦會議廳(LONDON Hall)。本日上午是脊椎創傷為主題，包含跨領域照護專題研討會議，從醫、護、技共同訓練；從基層醫療、學校教育、醫院診治、到社會資源、國家政策；從臨床評估、影像診斷、治療決策、手術術式選擇、成效評估、手術併發症診斷與處理、從基礎到臨床研究，鉅細靡遺，見識到歐盟社會主義國家，醫療體系與制度各有不同國家地區因為文化與經濟差異，決策邏輯也因此不同。

20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Thursday 06 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London			
08:00	Full Day on Advanced Total Hip Replacement (THR)	Clinical Reports Upper Limb Trauma (FP Session)	ESSKA Session (Specialty & Partner Societies)	Hip Preservation (FP Session)	EFAS Session (Specialty & Partner Societies)	Patients Safety: Impact Of Smoking On Outcomes After Orthopaedic And Trauma Surgery (Symposium)	Registry: Arthroplasty In Hip Fractures (FP Session)	Prosthetic Joint Infection: One Stage Vs. Two Stage Exchange (CCD)	FESHS Session (Specialty & Partner Societies)	TKA And Related Results (FP Session)	Pelvic And Acetabular Trauma (FP Session)	Paediatric Hip (FP Session)	Emergency Spine Disorders For General Orthopaedic Surgeons (Symposium)			
08:30																
09:00																
09:30																
10:00		Clavicle Trauma (FP Session)		Minimally Invasive Treatment Of Clavicular Fractures (IL)		Hip: Approaches (FP Session)	Hip: Joint Preserving Surgery (FP Session)	Geriatric Patient Perioperative Management (IL)	ESTES Session (Specialty & Partner Societies)	Local Prevention: Treatment Of Infection And Coating Of Implants (FP Session)	EWAS Session (Specialty & Partner Societies)	Pain Management In TKA (Interactive Expert Exchange)	Contemporary Treatment Of Mangled Extremities Reconstruction Vs. Amputation In Lower Limb (Interactive Expert Exchange)	Paediatric Hip Disorders - New Trends? (Interactive Expert Exchange)	ISLASS Session (Specialty & Partner Societies)	
10:30																
11:00																
11:30	Arthroplasty In Shoulder Trauma (FP Session)					General Topics 2 (FP Session)	Hip Fracture Outcomes (EBM)	Diagnosis In Prosthetic Joint Infection (FP Session)	PIP Joint: Arthritis And Deformity (IL)				Spine Trauma (FP Session)			
12:00																
12:30	EFORT Erwin Morscher Honorary Lecture Periprosthetic Joint Infection: Orthopedics On The Verge Of An Evolution															
13:00	LUNCH BREAK															
13:30	LUNCH BREAK															
14:00	LUNCH BREAK															
14:30	LUNCH BREAK															
15:00	Full Day on Advanced Total Knee Replacement (TKR)	Osteosynthesis In The Shoulder & Elbow (FP Session)	ACL And MPFL: To Reconstruct Or Not? (FP Session)	How To Optimize The Surgery Of Your Primary THA? (Symposium)	Ankle (FP Session)	Effective Publishing: How To Improve Your Chances? (Symposium)	Hip Fracture Registries (Symposium)	Infected Non-Unions Of Long Bones Without Defect (Symposium)	Exposing The Glenoid In Shoulder Arthroplasty (IL)	EORS Session (Specialty & Partner Societies)	Treatment Of Open Fractures Within Europe: An Update (Symposium)	Role Of Labrum In Early Treatment Of Unstable DDR (IL)	Non-Surgical And Surgical Strategies For Lumbar Degenerative Disorders (FP Session)			
15:30																
16:00																
16:30																
17:00																
17:30	Reverse Shoulder Arthroplasty To Treat Elderly Fractures (CCD)	Cartilage Preservation And Treatment (FP Session)	Hip Recovery (FP Session)	Ankle Osteoarthritis: Arthrodesis/TAR (CCD)	What Kind Of Assessment Is Required During Residency? (Symposium)	Hip Fractures: Registry, Outcomes And Complications (FP Session)	EBIS Session (Specialty & Partner Societies)	Shoulder & Elbow Instability (FP Session)	Subchondral Bone Remodelling In Osteoarthritis (IL)	Cartilage And Bone (FP Session)	Elbow Trauma (FP Session)	Paediatrics: Lower Limb (FP Session)	Long-Term Consequences Of Fusion After Spinal And Spino-pelvic Trauma (Symposium)			
18:00																
18:30																

下午則是探討非手術治療，從臨床評估、影像診斷、治療決策、成效評估。退化性脊椎疾病雖然有各式手術治療方式，也制定合理的手術適應症：1. 症狀明顯，包括行走跛行，坐骨神經痛，背痛超過 4 週，2. 藥物治療或保守治療無效至少 4 週，3. 發現與臨床理學檢查相符的影像檢查。然而，各種手術方式選擇如下：1. 椎間融合：主要保持原先脊柱結構的負重分佈 2. 後外側融合：更簡單的手術過程來達到穩定 3. 周圍融合（PLF + 椎間融合）：提供最安全的穩定性的融合手術。必定有其術後的續發症：1. 相鄰椎間盤退變的早期發展，2. 導致鄰近節段早期發生不穩定或椎管狹窄，3. 融合區域的僵硬感覺。因此非手術療法仍具相當的重要性，探討內容臨床應用性很高。

2018/06/07 本日議程如下

20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Friday 07 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London	
08:30	Mass Casualty Incidents Within The Orthopaedics & Trauma Community (Symposium)	Multidisciplinary Symposium	EKS Session (Specialty & Partner Societies)	Revision Total Hip Arthroplasty 1 (FP Session)	New Techniques And Spine-Hip Alignment (FP Session)	Timing And Treatment Techniques In Hip Trauma (FP Session)	EPOS Session (Specialty & Partner Societies)	Do Surgeons Trust Registry Data? (Symposium)	Current Management Of Giant Cell Tumour (Symposium)	Clinical Reports Pelvis Hip & Femur	Ankle Fractures (FP Session)	Rotator Cuff (FP Session)	The Limits Of Intramedullary Nailing In Lower Limb Fracture Treatment (CCD)	
09:30														
10:00	Public Ram Fractures In The Elderly (RL)	Clinical Reports Pelvic, Vena & Poly Trauma	Management Of Episodic Patellar Dislocation (RL)	Register Studies THA (FP Session)	Hip Planning And Evaluations Techniques (FP Session)	Periprosthetic And Distal Femur Fractures (FP Session)			What Registries Tell Us (FP Session)	Inadvertent Excision Of Malignant Tumours (RL)	Hip Revisions (Interactive Expert Exchange)	Treatment For Calcaneus Fractures: Non-Operative, Open & MIS (Interactive Expert Exchange)	Challenges In Shoulder Arthroplasty (Interactive Expert Exchange)	ARTOF Session (Specialty & Partner Societies)
10:30	Hip Trauma: Fixation (FP Session)		Meniscal Transplants & New Scaffolding Techniques (RL)						Osteosarcoma: Proliferation & Prognosis (FP Session)					
11:00														
11:30	Early Infection After ORIF - What To Do? (DF)	Clinical Reports Trauma Miscellaneous	Meniscal Repair Vs. Resection (DF)	Hip Preserving Surgery (DF)	Revision Total Hip Arthroplasty 2 (FP Session)	Association Of Infection: Qualification Around The Hip After Trauma (L)			Validation Of New Implants (RL)	Bone Metastasis And Soft-tissue Tumours (FP Session)				ESPA Session (Specialty & Partner Societies)
12:00						Contributors In Hip Trauma (FP Session)			Optimal Implant Fixation (FP Session)					
12:30	EFORT Michael Freeman Honorary Lecture Innovation Versus Evaluation: The Role Of Joint Replacement Registries													
13:00	New EU Medical Device Regulation To Be Implemented: What Are The Consequences For Patients, Surgeons, Orthopaedic Department And The Industry? (Symposium)	LUNCH BREAK												
13:30														
14:00														
14:30														
15:00	Failure Of Osteosynthesis In The Distal Femur (Symposium)	FORTE Session (Specialty & Partner Societies)	Alignment In THA: Where Are We In 2019? (Symposium)	EHS Session (Specialty & Partner Societies)	Axis And Alignment: The Cartilage Salvage (FP Session)	Perioperative Management In Proximal Femur Fractures (FP Session)	The Paediatric Knee (Symposium)	NORE Session - Benchmarking Between Patients, Implants And Surgeons (Symposium)	Prosthetic Reconstructions: Update And Advances (FP Session)	Primary THA (FP Session)	Consequences Of High Energy Trauma On Foot & Ankle (L)	Miscellaneous Shoulder & Elbow (FP Session)	Which Implant For Radial Head Replacement In Acute Trauma? (ESM)	
15:30											Achilles Tendon Rupture (FP Session)			
16:00														
16:30														
17:00	SPOT - EUROSPINE Update In Adult Spinal Deformities (Symposium)		UNI Knee Replacement: Is A New Horizon Opening? (FP Session)		Failed THA: Revision On Stage (FP Session)	Clinical Reports Hip & Femur Trauma	Paediatric Orthopaedics: Spine, SCFE, Basic & Infection (FP Session)	The Current Best Evidence For Pharmaceutical Thrombo-Prophylaxis In Total Hip And Knee Arthroplasty (Symposium)	Surgical techniques, Chondrosarcoma, Giant Cell Tumors And Miscellaneous (FP Session)	Perioperative Risk And Periprosthetic Femoral Fracture (FP Session)	Clinical Reports Knee Trauma	Chronic Elbow Instability (CCD)	Shoulder & Elbow Trauma (FP Session)	
17:30														
18:00														
18:30														



今天參加的會議主題是成人脊椎變形。並非每一位成人脊柱畸形患者都需要治療。事實上，對於絕大多數沒有明顯症狀的成人脊柱畸形，是可以採用簡單的措施，比如定期觀察，止痛藥和運動。

1. 運動的目的是加強腹部和背部核心肌肉的力量和提高柔韌性。
2. 有些患者可能通過短期支具治療從而減輕疼痛。
3. 支具對脊柱畸形的度數是無效的。一般情況下，支具是不建議使用的，因為他們可以降低肌肉的強度。
4. 對於因炎症或神經受壓引起的持續性腿痛或其他症狀，可以通過如硬膜外麻醉，神經阻滯或小關節藥物注射方法進行暫時減緩疼痛。注射目的是診斷和治療。根據患者對注射藥物的反應，以幫助確定他們的疼痛發生的部位。

手術治療適用於一部分採取保守治療（非手術）失敗的患者。他們通常合併背部和/或腿部疼痛以及脊柱不平衡。他們的功能活動受到嚴重限制，生活質量也隨之降低。手術的目標是恢復脊柱平衡，減輕疼痛，解除神經壓迫（減壓），並進行節段性的脊柱融合和穩定性重建。

1. 在某些情況下，可能需要應用微創減壓手術。脊柱穩定手術應用骨鉤或螺釘由金屬棒進行連接，使變形脊柱得到部分矯正，並採用患者自己的骨骼或骨替代物進行脊柱融合手術。

2. 在更嚴重的情況下，需要切除部分脊椎進行矯形（截骨）或切除整個椎體進行脊柱矯形（全椎體切除術）手術。
3. 對於成人脊柱畸形，有很多類型的外科手術治療方案。醫生根據每位患者的需求制定手術方案。當需要進行大手術時（手術時間大於 8 小時），手術可分期進行，時間間隔為 5-7 天。

2019/06/08

上午與骨科部同行參加本次會議的陳俊宇主治醫師、黃盈誠總醫師、李宜軒總醫師道別後，從飯店離開，前往里斯本機場（Lisbon Portela Airport），開始返回台灣的旅程。

### 三、心得

1. 台灣醫療水準並不亞於任何先進國家，然而受限於健保總額預算制度，發展新醫療技術與設備所需經費不易取得。利用他國的研發心得做基礎，可以減少部分經費支出。因此，有效的獎勵措施鼓勵同仁主動出擊與他國專家交流，參加國際性學術會議，可以於最短時間內欣賞最多創新研發。同仁於國際性學術會議發表研究心得，對於自我視野擴展及專業領域水準提升極有幫助，也可增加高雄榮民總醫院的國際能見度。
2. 在 2019/06/06 會議後，與成大醫院骨科部張志偉主任及該院數位住院醫師共進晚餐。彼此談起各自醫院對員工出國參加學術會議的獎勵措施，成大醫院對醫院同仁參加學術會議的獎勵措施相當優厚，規定條件合理，提升不少同仁士氣，值得本院借鏡仿效。
3. 同仁於國際性學術會議發表研究心得，對於自我視野擴展及專業領域水準提升極有幫助，也可增加高雄榮民總醫院的國際能見度。本年度主題「“Registries & Impact on Practice”」(臨床執業的註冊及其影響)，更加凸顯臨床資料庫建置的重要性。應院長指示，職正在執行政策型計畫「臨床資料庫建置與整合及其臨床研究應用」，推動三家榮總臨床資料庫建置與整合，必定戮力以赴，完成任務。

#### 四、建議事項

1. 合理設置獎勵辦法，鼓勵全院同仁多參與國際性學術會議並發表研究心得。

成大醫院為其同仁設置的鼓勵辦法，包含註冊費、機票交通費、和膳宿費。

主治醫師、住院醫師、十二職類醫事人員、和行政人員則須有論文發表，才給予補助，補助額度包括註冊費、機票交通費、和膳宿費。

建議獎勵辦法 1. 針對十二職類醫事人員及行政人員給予優待。非主管級醫事人員或行政人員月薪落在 40000 至 85000 之間，參加一次歐美國家的國際性學術會議需花用註冊費、機票交通費、和膳宿費，可能高達 100000 元，的確是不小負擔。2. 針對住院醫師給予優待，補助註冊費、機票交通費。  
。住院醫師是本院的人才來源，藉由鼓勵措施發現研發人才，實際有效，小投資卻培養真人才。3. 資深主治醫師具備豐富經驗及研究發表能量，多加鼓勵，可以發揮領頭羊的角色效果，全院研究發表風氣自然形成。建議補助註冊費或機票交通費，擇一補助。如果院方經費尚未有足夠預算規劃，可由補助頻次做限制。至少讓努力的人都可以確定受到獎勵。

## 附錄

1. 議程
2. 接受函中、英文版
3. 參加會議佐證照片
4. 摘要及簡報
5. 獲選「BEST POSTER」(Jacques Duparc Award) 證明

# 附錄 1

## 20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Wednesday 05 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London
08:30													
09:00		Common Problems Lower Leg Trauma (FP Session)	The Meniscus: Challenges Of Treatment (FP Session)	PJI In THA: State Of The Art (Symposium)	Midfoot Osteoarthritis: Different Presentations And Surgical Treatment (Symposium)		Shoulder & Elbow Arthroplasty (FP Session)	Outcomes THA (FP Session)	Varia Trauma: Current Issues (FP Session)	General Topics 1 (FP Session)	Cervical Disorders & Scoliosis (FP Session)	Knee Joint Kinematics And Dynamic Loading (Symposium)	Hand & Wrist: Miscellaneous (FP Session)
09:30													
10:00													
10:30		Tibial Nailing (FP Session)	The Role Of Rotating Hinge Implants In Revision THA (L)	Critical Review Of Short Stems In Primary THA (L)	Flatfoot And Heel Pain (FP Session)		Recurrent Shoulder Dislocation And Associated Rotator Cuff Tear (DF)	Bearing In THA (FP Session)	ACTTrauma: Session (Specialty & Partner Societies)	Management Of Septic Defects Of The Long Bones (L)	Clinical Reports: Spine Incl. Trauma	Biomechanics (FP Session)	Common Wrist Injuries: Are We Doing The Right Thing? (EBM)
11:00			Management Of Infected TKA (L)	Head Size In Primary THA (L)						Musculoskeletal Treatment In Menopausal (L)			
11:30	OPENING SESSION												
12:00	OPENING SESSION												
12:30	OPENING SESSION												
13:00	LUNCH BREAK												
13:30	LUNCH BREAK												
14:00	LUNCH BREAK												
14:30	LUNCH BREAK												
15:00					Plantar Fasciitis: Current Concepts (L)								3D In Treatment Of Complex Upper Limb Fractures & Neurons (L)
15:30	Invited Nation Symposium: Metal-On-Metal Hip Arthroplasty Outcomes: Remaining Problems	Very Distal Tibia Fractures: Plate, Nail Or Circular Frame? (Symposium)	Robotic Surgery And Custom-Made Knee Replacement (Symposium)	Risk Factors For Revision In Primary THA (Symposium)	Clinical Reports Foot & Ankle Incl. Trauma			Infected Total Joints (FP Session)	Clinical Reports Knee & Lower Leg	Paediatric Fractures: Upper & Lower Limb (FP Session)		ESTROT Session (Specialty & Partner Societies)	Distal Radius (FP Session)
16:00													
16:30													
17:00													
17:30	Symposium How And When Registries Make A Difference? (General Topics)	Proximal Tibia Fractures (FP Session)	ACL And Boundaries: The Long-Term Results (FP Session)	When To Revise A THA - Predictors For Second Revision (Symposium)	Hallux (FP Session)			Clinical Reports Musculoskeletal Tumors & Infections	Primary TKA - The World Around (FP Session)	Continuities In Indications, Treatment And Fusion Of Common Paediatric Fractures (Symposium)		3D Printing: From Bench To Operating Theatre (Symposium)	Hand & Wrist Trauma: Miscellaneous (FP Session)
18:00													
18:30													

## 20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Thursday 06 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London
08:00													
08:30		Clinical Reports Upper Limb Trauma		Hip Preservation (FP Session)		Patients Safety: Impact Of Smoking On Outcomes After Orthopaedic And Trauma Surgery (Symposium)	Registry: Arthroplasty In Hip Fractures (FP Session)	Prosthetic Joint Infection: One Stage Vs. Two Stage Exchange (CCD)	FRESH Session (Specialty & Partner Societies)	TKA And Related Results (FP Session)	Pelvic And Acetabular Trauma (FP Session)	Paediatric Hip (FP Session)	Emergency Spine Disorders For General Orthopaedic Surgeons (Symposium)
09:00													
09:30													
10:00	Full Day on Advanced Total Hip replacement (THR)		ESSKA Session (Specialty & Partner Societies)		EFAS Session (Specialty & Partner Societies)	Genetic Point: Perioperative Management (L)	ESTES Session (Specialty & Partner Societies)	Local Prevention, Treatment Of Infection And Coating Of Implants (FP Session)	EMAS Session (Specialty & Partner Societies)				
10:30		Clavicle Trauma (FP Session)		Hip: Approaches (FP Session)		Training Tools To Improve Outcomes (FP Session)							ISLASS Session (Specialty & Partner Societies)
11:00													
11:30		Minimally Invasive Treatment Of Clavicular Fractures (L)		Hip: Joint Preserving Surgery (FP Session)			General Topics 2 (FP Session)	HD Fracture Outcomes (EBM)	Diagnosis In Prosthetic Joint Infection (FP Session)	PIP Joint: Arthritis And Deformity (L)		Contemporary Treatment Of Mangled Extremities: Reconstruction Vs. Amputation In Lower Limb (Interactive Expert Exchange)	Paediatric Hip Disorders - New Trends? (Interactive Expert Exchange)
12:00		Arthroplasty In Shoulder Trauma (FP Session)								Hand & Wrist: Tendon & Nerve (FP Session)			Spine Trauma (FP Session)
12:30	EFORT Erwin Morscher Honorary Lecture Periprosthetic Joint Infection: Orthopedics On The Verge Of An Evolution												
13:00	LUNCH BREAK												
13:30	LUNCH BREAK												
14:00	LUNCH BREAK												
14:30	LUNCH BREAK												
15:00													
15:30		Osteosynthesis In The Shoulder & Elbow (FP Session)	ACL And MPFL: To Reconstruct Or Not? (FP Session)	How To Optimize The Surgery Of Your Primary THA? (Symposium)	Ankle (FP Session)	Effective Publishing: How To Improve Your Chances? (Symposium)	Hip Fracture Registries (Symposium)	Infected Non-Unions Of Long Bones Without Defect (Symposium)	Exposing The Glenoid In Shoulder Arthroplasty (L)	EBOS Session (Specialty & Partner Societies)	Treatment Of Open Fractures Within Europe - An Update (Symposium)	Role Of Labrum In Early Treatment Of Unstable DDH (L)	Non-Surgical And Surgical Strategies For Lumbar Degenerative Disorders (FP Session)
16:00													
16:30	Full Day on Advanced Total Knee Replacement (TKR)												
17:00													
17:30		Reverse Shoulder Arthroplasty To Treat Elderly Fractures (CCD)	Cartilage Preservation And Treatment (FP Session)	Hip Recovery (FP Session)	Ankle Osteoarthritis Arthrodesis/TKR (CCD)	What Kind Of Assessment Is Required During Residency? (Symposium)	Hip Fractures: Registry, Outcomes And Complications (FP Session)	EBIS Session (Specialty & Partner Societies)	Shoulder & Elbow Instability (FP Session)	Subchondral Bone Remodelling In Osteoarthritis (L)	Elbow Trauma (FP Session)	Paediatrics: Lower Limb (FP Session)	Long-Term Consequences Of Fixation After Spinal And Spine/Spinal Trauma (Symposium)
18:00										Cartilage And Bone (FP Session)			
18:30													

20th EFORT Congress 2019 Lisbon, Portugal - Day by Day Programme: Friday 07 June

Room	Lisbon	Barcelona	Munich	Brussels	Copenhagen	Istanbul	Florence	Vienna	Paris	Nice	Geneva	Berlin	London	
08:00	Mass Casualty Incidents Within The Orthopaedics & Trauma Community (Symposium)	Multidisciplinary Symposium	EKS Session (Specialty & Partner Societies)	Revision Total Hip Arthroplasty 1 (FP Session)	New Techniques And Spine-Hip Alignment (FP Session)	Timing And Treatment Techniques In Hip Trauma (FP Session)	EFORT Session (Specialty & Partner Societies)	Do Surgeons Trust Registry Data? (Symposium)	Current Management Of Giant Cell Tumour (Symposium)	Clinical Reports Pelvis Hip & Femur	Ankle Fractures (FP Session)	Rotator Cuff (FP Session)	The Limits Of Intramedullary Nailing In Lower Limb Fracture Treatment (CCD)	
09:30														
10:00	Pubic Rami Fractures In The Elderly (IL)	Clinical Reports Pelvic, Varia & Poly Trauma	Management Of Spine/Pelvic Dislocation (L)	Register Studies THA (FP Session)	Hip Planning And Evaluation Techniques (FP Session)	Periprosthetic And Distal Femur Fractures (FP Session)		What Registries Tell Us (FP Session)	Inadvertent Excision Of Malignant Tumours (L)	Hip Revisions (Interactive Expert Exchange)	Treatment For Calcaneus Fractures: Non-Operative, Open & MIS (Interactive Expert Exchange)	Challenges In Shoulder Arthroplasty (Interactive Expert Exchange)	ARTD Session (Specialty & Partner Societies)	
10:30	Hip Trauma: Fixation (FP Session)		Mineral Transplants & New Scaffolding Techniques (L)						Osteosarcoma: Proliferation & Prognosis (FP Session)					
11:00														
11:30	Early Infection After ORIF - What To Do? (Dr)	Clinical Reports Trauma Miscellaneous	Meniscal Repair Vs. Resection (Dr)	Hip Preserving Surgery (Dr)	Revision Total Hip Arthroplasty 2 (FP Session)	Resection Of Heterotopic Ossification Around The Hip After Trauma (L)		Validation Of New Implants (L)	Bone Metastasis And Soft-tissue Tumours (FP Session)					ESPA Session (Specialty & Partner Societies)
12:00						Comorbidities In Hip Trauma (FP Session)		Optimal Implant Fixation (FP Session)						
12:30	EFORT Michael Freeman Honorary Lecture Innovation Versus Evaluation: The Role Of Joint Replacement Registries													
13:00	New EU Medical Device Regulation To Be Implemented. What Are The Consequences For Patients, Surgeons, Orthopaedic Department And The Industry? (Symposium)	LUNCH BREAK												
13:30														
14:00														
14:30														
15:00	Failure Of Osteosynthesis In The Distal Femur (Symposium)	FORTE Session (Specialty & Partner Societies)	Alignment In TKA: Where Are We In 2019? (Symposium)	EHS Session (Specialty & Partner Societies)	Axis And Alignment: The Cartilage Salvage (FP Session)	Perioperative Management In Proximal Femur Fractures (FP Session)	The Paediatric Knee (Symposium)	NORE Session - Benchmarking Between Patients, Implants And Surgeons (Symposium)	Prosthetic Reconstructions: Update And Advances (FP Session)	Primary THA (FP Session)	Consequences Of High Energy Trauma On Foot & Ankle (IL)	Miscellaneous Shoulder & Elbow (FP Session)	Which Implant For Radial Head Replacement In Acute Trauma? (ESM)	
15:30												Achilles Tendon Rupture (FP Session)		
16:00														
16:30														
17:00														
17:30	SPOT - EUROSPINE: Update In Adult Spinal Deformities (Symposium)		UNI Knee Replacement: Is A New Horizon Opening? (FP Session)		Failed TKA, Revision On Stage (FP Session)	Clinical Reports Hip & Femur Trauma	Paediatric Orthopaedics: Spine, SCFE, BSC & Infection (FP Session)	The Current Best Evidence For Pharmaceutical Thrombo-prophylaxis In Total Hip And Knee Arthroplasty (Symposium)	Surgical techniques, Chondrosarcoma, Giant Cell Tumors And Miscellaneous (FP Session)	Perioperative Risk And Periprosthetic Femoral Fracture (FP Session)	Clinical Reports Knee Trauma	Chronic Elbow Instability (CCD)	Shoulder & Elbow Trauma (FP Session)	
18:00														
18:30														

## 附錄 2

2019/2/2

Gmail - 20th EFORT Congress in Lisbon, Portugal - Notification abstract #267



Maurice Hsu <mauricehsu1963@gmail.com>

### 20th EFORT Congress in Lisbon, Portugal - Notification abstract #267

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2019年2月1日 下午3:29



## 20<sup>th</sup> EFORT Congress Lisbon, Portugal: 05-07 June 2019



Rolle, 01 February 2019

Dear author,  
Dear co-authors,

Thank you for the submission of your work to our upcoming Congress in Lisbon, Portugal.

The EFORT Science Committee is pleased to inform you that your abstract #267, has been accepted for Poster Presentation within the Best Poster Session featured during the 3 congress days at the 20th EFORT Congress, 05 June - 07 June 2019.

**Final inclusion of your abstract in the Lisbon scientific programme entirely depends on the completion of the [presenting author's full registration before 28 February 2019](#).**

**Abstract Number: 267**

*Please note this number should always be used as reference in your communications with us.*

Abstract title: Female Patients Of Different Genotypes From A118G Polymorphism In OPRM1 Gene Caused Significant Difference Of Morphine Consumption For Postoperative Pain Control After Total Knee Replacement  
Authors: Chien-Jen Hsu

Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

**Best Posters Session**  
05 May – 07 June 2019

**Schedule:** Lunch break 13:00-14:45  
**Room:** Poster Area (within exhibition)

Authors of Best Posters are NOT required to stay in front of their Poster but EFORT strongly recommends all presenters to be active during the discussions within the Poster Session schedules.

**Authors of Best Posters will compete for the Jacques Duparc Award. Information on how to integrate the competition will follow shortly.**

#### What do you need to do now?

1. Each presenting author (in bold within the authors list displayed above) will soon receive an email from [accountsupport@efort.org](mailto:accountsupport@efort.org) with the guidelines to register to the congress. **Deadline to register is 28 February 2019.** Please note that each congress participant can have a maximum of 3 oral presentations and 3 posters. Changes in the authorship list are possible until 28 February 2019 by direct request to [scicom@efort.org](mailto:scicom@efort.org).
2. Consult our guidelines to prepare your presentation <https://congress.efort.org/presentation-guidelines>
3. Consult the scientific programme (as of 15 March 2019) and prepare your visit to Lisbon <https://congress.efort.org/>

We look forward to welcoming you in June.

**Thierry Bégue**  
EFORT Chair  
Science Committee 2019

**Soren Overgaard**  
EFORT Co-Chair  
Science Committee 2019

**Per Kjærsgaard-Andersen**  
EFORT President 2018-2019



From:scicom@efort.org  
Date: 2019/02/01  
To: mauricehsu1963@gmail.com

許醫師

歐盟骨科醫學會很高興通知你, 你的摘要 #61 已被接受於 2019, 6 月 5 日至 6 月 7 日在葡萄牙里斯本舉辦第二十屆歐盟骨科醫學會, 獲選以最佳海報發表。

詳情如下

摘要類別: 最佳海報

摘要主題: 「Female Patients Of Different Genotypes From A118G Polymorphism In OPRM1 Gene Caused Significant Difference Of Morphine Consumption For Postoperative Pain Control After Total Knee Replacement」

作者: 許建仁醫師

所屬機構: 高雄榮民總醫院

日期: 05-07. 06. 2019

時間: 13:00-14:45

會場: 最佳海報展示廳

大會強力推薦於上述期間作者於海報前備詢, 準備五分鐘說明講解研究內容, 並將與其他最佳海報競爭 Jacques Duparc Award 獎項。

1. 研究報告者將從 [accountsupport@efort.org](mailto:accountsupport@efort.org) 收到註冊指引, 作者調動須於 28/ February/ 2019 前, 至 [scicom@efort.org](mailto:scicom@efort.org) 更改完成。
2. 報告格式請查閱 <https://congress.efort.org/presentation-guidelines>。
3. 大會節目表及里斯本資訊請查閱 <https://congress.efort.org/>。

歐盟骨科醫學會科學委員會 主席 / 副主席  
Thierry Bégué / Søren Overgaard

2018-2019 EFFORT 總裁  
Per Kjærsgaard-Anderson

### 附錄 3



會場前留影存證。



最佳海報(Jacques Duparc Award)，得獎人合影。



### Female Patients Of Different Genotypes From A118G Polymorphism In OPRM1 Gene Caused Significant Difference Of Morphine Consumption For Postoperative Pain Control After Total Knee Replacement

<sup>1</sup>Chien-Jen Hsu, MD, <sup>2</sup>Wen-Ying Chou, MD/MS

<sup>1</sup>Department of Orthopaedics, Kaohsiung Veterans General Hospital, Kaohsiung, **Taiwan**

<sup>2</sup>Institute of Clinical Pharmacy and Pharmaceutical Science, National Chengkung University / Department of Anesthesia, National Chengkung University Hospital, Tainan, **Taiwan**



#### Background

Post-operative pain control is an important issue for patient care after total knee replacements. Previous study proposed evidence to support that A118G polymorphism of *OPRM1* (opioid receptor  $\mu 1$ ) gene involved a genetic modulation of nociception and pharmacodynamics of opioid. However, the association of gender and Single Nucleotide Polymorphism (SNP) of related genes with pain response remains an issue to activate lots of controversies.

#### Purpose

We intended to clarify the effect of gender and A118G polymorphism of *OPRM1* on the required morphine for patients to maintain Visual Analogue Scale  $\leq 3$  for post-operative pain control after total knee replacement (TKR).

#### Subjects and Methods

1. With approval from IRB and obtaining of informed consents, 112 patients (Table 1) undergoing primary TKR were enrolled
2. exclusion criteria : previous history of allergy to morphine, alcohol or substance abuse, use of psychotropic medications, morbid obesity, chronic pain with evidence of central sensitization, and uncooperative use of patient controlled analgesia (PCA) device.
3. The baseline VAS scores for pain were recorded on the morning of surgery day pre-operatively. The patients were instructed to maintain a VAS pain score (Figure 1 & 2)  $\leq 3$  by utilizing the PCA pump. The amount of PCA-delivered morphine for pain control and the 'demand' (the count of button pushing for requiring pain medication from PCA) were recorded at 3, 6, 12, 24, 36, 48 and 72 hours after the operation .

Table 1

Demographic data of the female / male patients for different genotypes of OPRM1 gene : mean (standard deviation)

Genotype	Gender	Patient No.	Age (years)	Height (cm)	Weight (kg)	Body mass index
AA	F	52	63.7(11.0)	152.3(4.4)	63.9(10.4)	27.5(4.6)
	M	16	63.2(12.5)	164.9(6.6)	72.4(8.5)	26.6(2.1)
AG	F	20	66.0(10.1)	150.7(5.6)	65.7(9.7)	28.8(4.2)
	M	7	63.7(11.0)	158.5(5.4)	64.4(10.1)	26.4(4.1)
GG	F	11	68.3(6.9)	152.8(6.1)	66.3(11.4)	28.2(4.0)
	M	5	57.7(12.7)	175.3(7.6)*	83.0(6.9)*	25.9(3.4)

Figure 1

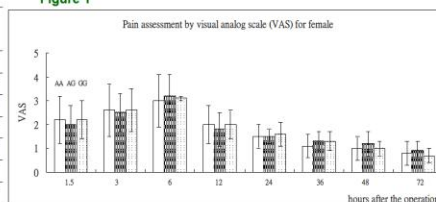
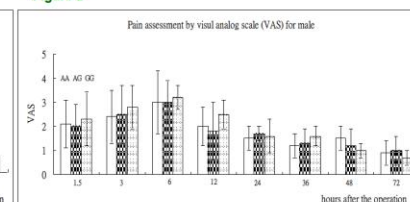


Figure 2



#### Statistical analysis

One-way ANOVA with *post hoc* test by Scheffe's method was adopted for statistical analysis of each variant (AA, AG, GG). The Kruskal-Wallis test was used to compare the severity of side-effects (nausea, vomiting and sedation) (Table 3) from morphine. (P < 0.05 : significant.)

#### Results

1. With sequencing by ABI PRISM 310 Genetic Analyser, we disclosed that the allele frequency was 75.5% for the A allele (female: 77.5%, male: 69.6%) and 24.5% for the G allele (female: 22.5%, male: 30.4%). The frequency of genotype occurrence was 61.3% for AA, 24.3% for AG and 14.4% for GG. (Table 1)
2. Considering the effect of interaction between gender and genotypes the data of male and female patients were separately studied. (Table 2 and 3). Female patients of homozygous G118G of OPRM1 required more morphine from PCA device for post-operative pain control than patients of AA and AG genotypes. No significant difference in morphine consumption for post-operative pain control was disclosed among three genotypes for male patients.
3. Patients of GG genotype developed less nausea and vomiting than the other two genotype no matter what gender was. (Table 3) Notably, female patients of GG genotype consumed more morphine but caused less nausea and vomiting in our study.

Table 2

Consumed morphine dose (mg) and Demands for the female / male patients who received patient-controlled analgesia

Genotype	gender	Patient No.	In 24 hours	In 48 hours	Demands in 24 hours	Demands in 48 hours
AA	F	52	15.0(6.4)	24.4(14.6)	26.3(15.9)	39.3(23.9)
	M	16	20.2(10.7)	29.3(16.1)	28.2(16.3)	41.4(26.3)
AG	F	20	14.5(7.3)	24.6(12.6)	24.5(14.7)	34.9(24.7)
	M	7	15.9(6.9)	28.4(8.7)	25.4(15.2)	36.4(20.2)
GG	F	11	22.9(11.8)*	40.8(26.2)*	37.0(18.6)	58.0(28.3)
	M	5	20.7(2.1)	39.3(4.7)	38.3(19.1)	57.3(16.1)

Table 3

Consumed morphine dosage (mg/kg) for the female / male patients who received patient-controlled analgesia

Genotype	gender	Patient No.	dosage in 24 hours	dosage in 48 hours	Nausea	Vomiting	Pruritus	Sedation	Respiratory depression
AA	F	52	0.24(0.10)	0.39(0.23)	5	13	0	0	0
	M	16	0.38(0.15)	0.38(0.24)	1	4	3	0	0
AG	F	20	0.22(0.10)	0.38(0.20)	1	4	0	1	0
	M	7	0.38(0.13)	0.45(0.15)	0	0	0	0	0
GG	F	11	0.34(0.15)*	0.57(0.36)*	0	1	0	0	0
	M	5	0.25(0.01)	0.46(0.12)	0	0	0	0	0

#### Discussion

1. A118G in human *OPRM1* was agreed to be a relevant candidate genes and polymorphisms for pain studies.
2. Total knee replacement is reasonably supposed to cause similar degree of pain by standardized surgical procedures among orthopaedic surgeons. We adopted visual analogue scale (VAS) for patients to determine their pain sensation in consideration of its popularity and rationality.
3. The PCA device automatically recorded the amount of morphine consumption and the button pressing for demanding morphine. More morphine consumption might proportionally reflect the degree of pain rated by the patients' subjectivity. We calculated the amount of morphine consumption that patients needed to control pain sensation at similar level for comparing the impact of different genotypes.
4. The statistic analysis provided adequate evidence to support that female patients with homozygous GG allele required more morphine for pain control after total knee replacement than patients with AA or AG genotype. It implied that gender could influence how the genotypes of A118G polymorphism of *OPRM1* function.

#### Conclusion

Female patients of homozygous G118G of OPRM1 required more morphine from PCA device for post-operative pain control after total knee replacements in comparison with patients of AA and AG genotypes. No significant difference in morphine consumption for post-operative pain control was disclosed among three genotypes for male patients. The impact caused by G118G polymorphism of OPRM1 on requirement of morphine consumption for post-operative pain control is potentially gender-linked.

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## Female Patients Of Different Genotypes From A118G Polymorphism In OPRM1 Gene Caused Significant Difference Of Morphine Consumption For Postoperative Pain Control After Total Knee Replacement

Orthopaedics / Knee & Lower Leg / Miscellaneous

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Keywords: A118G Polymorphism, OPRM1 Gene, Postoperative Pain Control ,Total Knee Replacement

### Background

Women were usually supposed to be more sensitive to pain even without relevant studies regarding the impact of gender on the required amount of analgesic for pain relief. However, pain perception is subjective, the self-reported pain degree therefore becomes a common method for pain assessment. Therefore, it is difficult to recognize the difference of allodynia and hyperalgesia between women and men. Although the A118G polymorphism of OPRM1 (mu1-opioid receptor gene) were commonly reported to cause a modulation of nociception. Limited literatures provided genetic information for addressing the relationship between pharmacodynamics of opioid and gender.

### Objectives

We intended to investigate the impact of gender on the morphine consumption for postoperative pain control after total knee replacement (TKR) by analyzing A118G polymorphism of OPRM1 (mu1-opioid receptor gene).

### Study Design & Methods

We chose the total knee replacement as a standardized procedure that provoked similar degree of pain postoperatively on account of the accordance of surgical steps among different orthopaedic surgeons. The degree of pain was reported by the patients according to the visual analogue scale (VAS). The patients were instructed to maintain a VAS pain score no more than 3 by utilizing the patient controlled analgesic (PCA) pump. The amount of morphine consumption was recorded and calculated by the PCA machine. Pain scores were recorded at 30-min intervals in the post-anaesthesia care unit and thereafter assessed at 3, 6, 12, 24, 36, 48 and 72 hours after the completion of the operation.

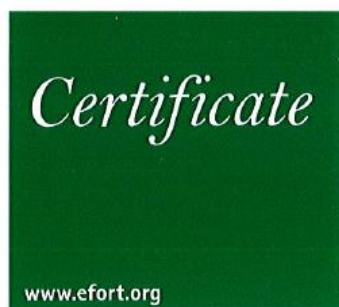
The A118G polymorphism were determined by ABI PRISM 310 Genetic Analyser. The one-way analysis of variance was utilized to test the difference of genders and their genotypes in addition to the demographic parameters. The interaction of genotypes and sex was testified by the multivariate regression analysis.

### Results

For female patients in group GG consumed significantly more morphine ( $22.9 \pm 11.8$  mg) than groups AA ( $15.0 \pm 6.4$ mg) and AG ( $14.5 \pm 7.3$  mg) not only in the initial 24 hours but also in 48 hrs following operations (GG,  $40.8 \pm 26.2$  mg; AA,  $24.4 \pm 14.8$  mg; AG,  $24.6 \pm 12.6$  mg). However, no significant differences of consumed morphine or demanded doses were disclosed among three genotypes of male patients.

### Conclusions

The A118G polymorphism in OPRM1 gene caused significant difference of morphine consumption in female patients for postoperative pain control that was contributed by a genotype-by-sex interaction pattern. Only the female patients with a mutant homozygous genotype (GG) had a significantly more morphine consumption in patient-controlled analgesia after total knee replacements.



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Author: Chien-Jen Hsu  
Co-author: Wen-Ying Chou

for **one of the ten best posters** during the 20<sup>th</sup> EFORT Congress  
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