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Education and Training：

高雄醫學大學 醫學院 醫學系 學士

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Experience：

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Major Awards:

近五年內執行及申請中之研究計畫

| 計畫名稱 | 計畫內擔任的工作 | 起訖年月 | 補助或委託機構 | 執行情形 | 經費總額 |
|--|----------|----------------------------|---------|------|-----------|
| 探討粒線體治療對於增進前十字韌帶損傷細胞活性及肌腱植入物成熟化之成效 (第二、三年) 112-2314-B-037 -100 -MY2 | 計畫主持人 | 2023/08/01 至 2025/07/31 | 國科會 | 執行中 | 3,978,888 |
| 研究脂肪幹細胞釋放的細胞外囊泡對關節軟骨細胞老化發炎的影響及退化性關節炎的治療效果(3/3) 112-2314-B-037 -001 - | 共同主持人 | 2023/08/01 至 2024/07/31 | 國科會 | 已結案 | 1,250,000 |
| 探討粒線體治療對於增進前十字韌帶損傷細胞活性及肌腱植入物成熟化之成效 111-2314-B-037 -057 - | 計畫主持人 | 2022/08/01 至 2023/07/31 | 國科會 | 已結案 | 956,000 |
| 利用震波刺激捐體部位後激發之新鮮骨髓濃縮幹細胞及其細胞外泌微粒促進脊椎骨融合 111-2314-B-037 -054 - | 共同主持人 | 2022/08/01 至 2023/07/31 | 國科會 | 已結案 | 1,250,000 |
| 研究脂肪幹細胞釋放的細胞外囊泡對關節軟骨細胞老化發炎的影響及退化性關節炎的治療效果(1/3) 110-2314-B-037 -031 - | 共同主持人 | 2021/08/01 至 2022/07/31 | 國科會 | 已結案 | 1,250,000 |
| 探討感測技術評估結合多元措施介入在中高齡家庭照顧者之肌肉骨骼傷害、肌少症與照顧負荷的成效 110-2314-B-037 -080 -MY2 | 共同主持人 | 2021/08/01 至 2024/01/31 | 國科會 | 已結案 | 1,500,000 |
| 利用震波增加異體肌腱孔洞化提升細胞移動及穿透性之研究 109-2314-B-037 -031 - | 計畫主持人 | 2022/08/01 至 2021/07/31 | 國科會 | 已結案 | 895,000 |
| 利用震波激發之前十字韌帶斷端小囊泡促進前十字韌帶再生之研究 (第二、三年) 109-2314-B-037 -016 -MY2 | 計畫主持人 | 2020/08/01 至 2022/07/31 | 國科會 | 已結案 | 2,840,000 |

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| 利用震波激發之前十字韌帶斷端小囊泡促進前十字韌帶再生之研究 108-2314-B-037 -076 - | 計畫主持人 | 2019/08/01 至 2020/07/31 | 國科會 | 已結案 | 849,000 |
| 老年肌少症下肢神經肌肉運動單元肌電生理特徵及其對於不同運動介入之肌肉神經適應策略之探討 107-2410-H-037 -008 - | 共同主持人 | 2018/08/01 至 2019/07/31 | 國科會 | 已結案 | 810,000 |
| 利用震波激發之異體前十字韌帶斷端奈米小囊泡促進肌腱植入物之再生研究 107-2314-B-037 -034 - | 計畫主持人 | 2018/08/01 至 2019/07/31 | 國科會 | 已結案 | 1,076,000 |
| 利用機械式循環活化骨髓幹細胞片及去細胞肌腱複合層片治療旋轉肌破裂 107-2314-B-037 -096 - | 共同主持人 | 2018/08/01 至 2019/07/31 | 國科會 | 已結案 | 840,000 |
| 利用手術中分離之骨髓單核幹細胞促進異體肌腱植入物之再生及韌帶化 106-2314-B-037 -070 - | 計畫主持人 | 2017/08/01 至 2018/07/31 | 國科會 | 已結案 | 1,327,000 |

期刊論文

1. Hon Lok Lo, Sung-Yen Lin, Cheng-Jung Ho, Yeh Ming-kung, Cheng-Chang Lu*. Effect of lyophilized exosomes derived from umbilical cord stem cells on chronic anterior cruciate ligament cell injury. Journal of Orthopaedic Surgery and Research. 2024/09. doi: 10.1186/s13018-024-05029-8. NSTC-109-2314-B-037-016-MY2. 本人為通訊作者.
2. Sung-Yen Lin, Shun Cheng Wu, Zi-Miao Liu, Paul Pei-Hsi Chou, Chun feng Zhao, Mei-Ling Ho, Cheng-Chang Lu*. Bone marrow stromal and anterior cruciate ligament remnant cell co-culture- derived extracellular vesicles promote cell activity in both cell types. Journal of Cellular and Molecular Medicine. 2024/08. doi:10.1111/jcmm.70049. NSTC-113-2314-B-037-084-MY3). 本人為通訊作者.
3. C-C. Lu, C-J. Ho, S-J. Chen, Z-M. Liu, P. P-H. Chou, M-L. Ho, Y-C. Tien (2022, Oct). Anterior

cruciate ligament remnant preservation attenuates apoptosis and enhances the regeneration of hamstring tendon graft.. *Bone and Joint Research*, 2022/10. (Accepted).

nstc 109-2314-B-037-016-MY2. 本人為第一作者.

4. Liu ZM, Shen PC, Lu CC, Chou SH, Tien YC. (2022, Oct). Suramin enhances chondrogenic properties by regulating the p67phox/PI3K/AKT/SOX9 signalling pathway.. *Bone and Joint Research*, 11(10):723-738. doi: 10.1302/2046-3758.. nstc 108-2314-B-037-060.

5. Kao WC, Chen JC, Liu PC, Lu CC, Lin SY, Chuang SC, Wu SC, Chang LH, Lee MJ, Yang CD, Lee TC, Wang YC, Li JY, Wei CW, Chen CH. (2022, Sep). The Role of Autophagy in Osteoarthritic Cartilage.. *Biomolecules*, 12(10):1357. doi: 10.3390/biom12101357.

6. Lin SY, Ho CJ, Liu WC, Chen JK, Tu HP, Lee TC, Chang JK, Chen CH, Lu CC*. (2022, Jun). Predicting the Poor Clinical and Radiographic Outcomes after the Anatomical Reduction and Internal Fixation of Posterior Wall Acetabular Fractures: A Retrospective Analysis.. *Journal of Clinical Medicine*, 11(11):3244. doi: 10.3390/jcm11113244. nstc 110-2314-B-037-025. 本人為通訊作者.

7. Lin YC, Lin HT, Lu CC, Pei-Hsi Chou P, Su FC (2022, Jun). Is early trunk rotation really hazardous for shoulder biomechanics in baseball throwing?. *J Shoulder Elbow Surg*, 31(6):1282-1293. doi: 10.1016/j.jse.2021.12.042. .

8. Liu HY, Chang CF, Lu CC, Wu SC, Huang B, Cheng TL, Lin SY, Ho CJ, LeeMJ, Yang CD, Wang YC, Li JY, Liu PC, Wei CW, Kang L, Chen CH. (2022, Jun). The Role of Mitochondrial Metabolism, AMPK-SIRT Mediated Pathway, LncRNA and MicroRNA in Osteoarthritis.. *Biomedicines*, 10(7):1477. doi:10.3390/biomedicines10071477..

9. Liu WC, Chen CT, Lu CC, Tsai YC, Liu YC, Hsu CW, Shih CL, Chen PC, Fu YC. (2022, Jun). Extracorporeal Shock Wave Therapy Shows Superiority Over Injections for Pain Relief and Grip Strength Recovery in Lateral Epicondylitis: A Systematic Review and Network Meta-analysis.. *Arthroscopy*, 38(6):2018-2034.e12. doi: 10.1016/j.arthro.2022.01.025..

10. Huang SH, Chou SH, Lu CK, Lo H, Fu YC, Chen CC, Lu CC. (2022, May). Arthroscopic

Partial Trapeziectomy for Thumb Carpometacarpal Joint Osteoarthritis: 5-Year Follow-up. . Orthopedics, 45(3):e140-e147. doi:10.3928/01477447-20220128-04.. nstc 107-2314-B-037-034.本人為通訊作者.

11. Li JY, Lee JI, Lu CC, Su YD, Chiu CT, Chen SC, Geng JH, Chen CH. (2022,May).

Hyperuricemia and Its Association with Osteoporosis in a Large Asian Cohort.. Nutrients, 26;14(11):2206. doi: 10.3390/nu14112206..

12. Lu CC*, Yao HI, Fan TY, Lin YC, Lin HT, Chou PP. (2021, Nov). Twelve Weeks of a Staged Balance and Strength Training Program Improves Muscle Strength, Proprioception, and Clinical Function in Patients with Isolated Posterior Cruciate Ligament Injuries.. ,

18(23):12849. doi: 10.3390/ijerph182312849.. (SCI,41/176 (23.30%) PUBLIC,

ENVIRONMENTAL & OCCUPATIONAL HEALTH). MOST 109-2314-B-037-016-MY2. 本人為第一作者.

13. Po-Chih Shen, Cheng-Chang Lu*, Shih-Hsiang Chou, Zi-Miao Liu ,* , Shu-Jem Su and Yin-Chun Tien (2021, Nov). Zonal-Layered Chondrocyte Sheets for Repairment of Full-Thickness Articular Cartilage Defect: A Mini-Pig Model. , 9,1806.

<https://doi.org/10.3390/biomedicines9121806>. (SCI, Biochemistry &Molecular Biology).

14. Chou SH, Li WW, Lu CC*, Lin KL, Lin SY, Shen PC, Tien YC, Huang HT.(2021, Oct). Hybrid versus total sublaminar wires in patients with spinalmuscular atrophy undergoing scoliosis surgery. , 22(1):867. doi: 10.1186/s12891- 021-04737-0.. (SCI, 41 / 82 (50.00%)

ORTHOPEDECS).

15. Chou SH, Lu CC*, Lin SY, Shen PC, Liu ZM, Chih WH, Shih CL (2021, Oct). Impact of Wedge Effect on Outcomes of Intertrochanteric Fractures Treated with Intramedullary Proximal Femoral Nail. , 10(21):5112. doi: 10.3390/jcm10215112.. MOST 110-2314-B-037-

025. 本人為第一作者.

16. Chou SH, Lin SY, Shen PC, Tu HP, Huang HT, Shih CL, Lu CC*. (2021, Sep). Pain Control

Affects the Radiographic Diagnosis of Segmental Instability in Patients with Degenerative Lumbar Spondylolisthesis.. , 10(17):3984. doi: 10.3390/jcm10173984.. (SCI, 39 / 169 (23.08%) MEDICINE, GENERAL & INTERNAL). 本人為通訊作者.

17. Chou SH, Lin SY, Wu MH, Tien YC, Jong YJ, Liang WC, Lu YM, Shih CL, Lu CC*. (2021, Sep). Intravenous Tranexamic Acid Reduces Blood Loss and Transfusion Volume in Scoliosis Surgery for Spinal Muscular Atrophy: Results of a 20-Year Retrospective Analysis.. , 18(19):9959. doi: 10.3390/ijerph18199959..(SCI,41/176(23.30%)PUBLIC,ENVIRONMENTAL & OCCUPATIONAL HEALTH). 本人為通訊作者.

18. Liu ZM, Lu CC*, Shen PC, Chou SH, Shih CL, Chen JC, Tien YC (2021, Aug). Suramin attenuates intervertebral disc degeneration by inhibiting NF- κ B signalling pathway. , 10(8):498-513. doi: 10.1302/2046-3758.108.BJR-2020-0041.R3.. (SCI, 4 / 82 (4.88%) ORTHOPEDICS). MOST 108-2314-B-037-060.

19. Chou SH, Shen PC, Lu CC*, Liu ZM, Tien YC, Huang PJ, Chou CM, Shih CL. (2021, Jul). Comparison of Efficacy among Three Radiofrequency Ablation Techniques for Treating Knee Osteoarthritis: A Systematic Review and Meta- Analysis.. , 12;18(14):7424. doi: 10.3390/ijerph18147424.. (SCI, 41 / 176 (23.30%) PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH).

20. Shen PC, Chou SH, Lu CC*, Huang HT, Chien SH, Huang PJ, Liu ZM, Shih CL, Su SJ, Chen LM, Tien YC (2021, Jul). Shockwave Treatment Enhanced Extracellular Matrix Production in Articular Chondrocytes Through Activation of the ROS/MAPK/Nrf2 Signaling Pathway. Cartilage. (SCI, 13 / 82 (15.85%) ORTHOPEDICS).

21. Li WW, Lu CC* (2021, Jun). Knee deformity following a motor vehicle accident. EMERGENCY MEDICINE JOURNAL, 38(6):449-473. doi: 10.1136/emermed-2020-210054.. (SCI, 11 / 32 (34.38%) EMERGENCY MEDICINE). 本人為通訊作者.

22. Tseng HJ, Lo HL, Lin YC, Liu WC, Lin SY, Chou PH, Lu CC* (2021, May). Analyze the Differential Rates of Anterior Cruciate Ligament Injuries Between Men and Women by

Biomechanical Study of Single-Leg Landing in Badminton.. . (SCI, 71 / 82 (86.59%)

ORTHOPEDICS). 本人為通訊作者.

23. Huang SH, Huang PJ, Li JY, Su YD, Lu CC*, Shih CL. (2021, Mar). Hemoglobin A1c Levels Associated with Age and Gender in Taiwanese Adults without Prior Diagnosis with Diabetes. INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH.

(SCI, 41 / 176 (23.30%) PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH). 本人為通訊作者.

24. Lu CC*, Ho CJ, Huang HT, Lin SY, Chou SH, Chou PH, Ho ML, Tien YC (2021, Mar). Effect of Freshly Isolated Bone Marrow Mononuclear Cells and Cultured Bone Marrow Stromal Cells in Graft Cell Repopulation and Tendon- Bone Healing after Allograft Anterior Cruciate Ligament Reconstruction. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES,

10;22(6):2791. doi: 10.3390/10;22(6):2791. doi: 10.3390/ijms22062791... (SCI, 67 / 298

(22.48%) BIOCHEMISTRY & MOLECULAR BIOLOGY). MOST 109-2314- B-037-016-MY2. 本人為第一作者.

25. Lin YC, Chou PP, Lin HT, Shih CL, Lu CC*, Su FC (2021, Jan). A New Method for Evaluating Pelvic and Trunk Rotational Pitching Mechanics: From Qualitative to

Quantitative Approaches. , 21;18(3):905. doi: 10.3390/ijerph18030905.. (SCI, 41 / 176 (23.30%) PUBLIC,ENVIRONMENTAL & OCCUPATIONAL HEALTH).

26. Huang HT, Cheng TL, Ho CJ, Huang HH, Lu CC*, Chuang SC, Li JY, Lee TC, Chen ST, Lin YS, Lee CY, Kang L, Lin SY, Chen CH (2020, Dec). Intra-Articular Injection of (-)-Epigallocatechin 3-Gallate to Attenuate Articular Cartilage Degeneration by Enhancing Autophagy in a Post-Traumatic Osteoarthritis Rat Model. Antioxidants, 23;10(1):8. doi:

10.3390/antiox10010008.. (SCI, 10 / 139 (7.19%) FOOD SCIENCE & TECHNOLOGY).

27. Shen PC, Lu CC*, Liang WC, Tien YC, Jong YJ, Lu YM, Liu ZM, Shih CL, Chou SH. (2020, Oct). Predictors for Deformity Progression in a Spinal Muscular Atrophy Cohort After

Scoliosis Correction Surgery. *Clin Spine Surg*, 2020 Oct;33(8):E407-E414..

28. Shen PC, Chou SH, Lu CC*, Fu YC, Lu CK, Liu WC, Huang PJ, Tien YC, Shih CL (2020, Sep).

Comparative effectiveness of various treatment strategies for trigger finger by pairwise meta-analysis. *Clin Rehabil*, 2020 Sep;34(9):1217- 1229.. (SCI, 15/139, REHABILITATION).

29. Lu CC*, Chou SH, Shen PC, Chou PH, Ho ML, Tien YC (2020, Aug). Extracorporeal shock wave promotes activation of anterior cruciate ligament remnant cells and their paracrine regulation of bone marrow stromal cells' proliferation, migration, collagen synthesis, and differentiation. *Bone Joint Res*, 2020 Aug 11;9(8):458-468. (SCI, 13/82, Orthopaedic). MOST 109-2314-B-037- 016-MY2. 本人為第一作者.

30. Shih CL, Shen PC, Lu CC*, Liu ZM, Tien YC, Huang PJ, Chou SH. (2020, Aug). A comparison of efficacy among different radiofrequency ablation techniques for the treatment of lumbar facet joint and sacroiliac joint pain: A systematic review and meta-analysis. *Clin Neurol Neurosurg*, 2020 Aug;195:105854.. (SCI, 134/210, Surgery).

31. Lin SY, Kan JY, Lu CC*, Huang HH, Cheng TL, Huang HT, Ho CJ, Lee TC, Chuang SC, Lin YS, Kang L, Chen CH (2020, Apr). Green Tea Catechin (-)- Epigallocatechin-3-Gallate (EGCG) Facilitates Fracture Healing . *Biomolecules*, 2020 Apr 16;10(4):620.. (SCI, 98/297;BIOCHEMISTRY & MOLECULAR BIOLOGY).

32. Liu WC, Chang CH, Lu CC*, Fu YC, Lu CK (2020, Jan). Reconstruction of massive knee defects with extensor mechanism deficiency through concurrent anterolateral thigh flap and autogenous hamstring tendon: A report of two cases. *J Orthop Surg (Hong Kong)*, 2020 Jan-Apr;28(2):2309499020935994.. (SCI, 65/82, Orthop).

33. Su HC, Chou SH, Ho HY, Lu CC*, Tien YC, Shih CL, Liu ZM, Shen PC, Huang PJ (2020, Jan). Management of nonunion of humeral medial condyle fracture: A case series and review of the literature. *J Orthop Surg (Hong Kong)* , 2020 Jan- Apr;28(2):2309499020921755.. (SCI, 65/82, Orthop).

34. Lin SY, Huang HT, Chou SH, Ho CJ, Liu ZM, Chen CH, Lu CC* (2019, Sep). The Safety of

Continuing Antiplatelet Medication Among Elderly Patients Undergoing Urgent Hip Fracture Surgery.. *Orthopedics*, 1;42(5):268-274. . (SCI, Orthop; 58%). MOST 106-2314-B-037-070. 本人為通訊作者.

35. Cheng-Chang Lu; Tao Zhang; Ramona L. Reisdorf , Peter C. Amadio; Kai-Nan An; Steven L. Moran; Anne Gingery; Chunfeng Zhao. (2019, Jul). Biological Analysis of Flexor Tendon Repair-Failure Stump Tissue: A Potential Recycling Tissue for Tendon Regeneration.. *Bone and Joint Research*, 5;8(6):232-245.. (SCI, Orthop 12%). 本人為第一作者.

36. Lu CC, Zhang T, Amadio PC, An KN, Moran SL, Gingery A, Zhao C* (2019, Jun). Lateral slit delivery of bone marrow stromal cells enhances regeneration in the decellularized allograft flexor tendon.. *Journal of Orthopaedic Translation* , 6;19:58-67. (SCI, Orthop; (14/76=18%)). 本人為第一作者.

37. Liu ZM, Shen PC, Lu CC, Chou SH, Tien YC. (2019, Mar). Characterization of the Proliferating Layer Chondrocytes of Growth Plate for Cartilage Regeneration.. *Tissue Eng Part A*, 25(5-6):364-378. (SCI, BIOTECHNOLOGY & APPLIED MICROBIOLOGY; 27%). MOST 106-2314-B-037-010.

38. Lo H, Shen PY, Shen PC, Chou PH, Lu CC. (2019, Feb). The Elbow Technique: A Novel Reduction Technique for Anterior Shoulder Dislocations.. *The Journal of Emergency Medicine*, 56(2):201-204. (SCI, Emergency medicine; 65%). 衛福部: MOHW107-TDU-B-212-123006. 本人為通訊作者.

39. Shih-Tse Chen, Lin Kang, Chau-Zen Wang, Peng-Ju Huang, Hsuan-Ti Huang, Sung-Yen Lin, Shih-Hsiang Chou, Cheng-Chang Lu, Po-Chih Shen, Yi-Shan Lin and Chung-Hwan Chen (2019, Jan). (-)-Epigallocatechin-3-Gallate Decreases Osteoclastogenesis via Modulation of RANKL and Osteoprotegrin. *Molecules*, 3;24(1). (SCI, MULTIDISCIPLINARY ; 67/172=39%).

40. Zhang T, Hatta T, Thoreson AR, Lu C, Steinmann SP, Moran SL, Zhao C. (2018, Mar). Rotator cuff repair with a novel mesh suture: An ex vivo assessment of mechanical

properties. *Journal of Orthopaedic Research*, 36(3):987-992. (SCI, 16/75; Orthopaedics).

41. Zhang T, Lu CC, Reisdorf RL, Thoreson AR, Gingery A, Moran SL, Amadio PC, Zhao C (2018, Mar). Revitalized and synovialized allograft for intrasynovial flexor tendon reconstruction in an in vivo canine model.. *Journal of Orthopaedic Research*. (SCI, 16/75; Orthopaedics).

42. Chou SH, Lin GT, Shen PC, Lue YJ, Lu CC, Tien YC, Lu YM. (2017, Jan). The effect of scoliosis surgery on pulmonary function in spinal muscular atrophy type II patients.. *Eur Spine J.*, *Eur Spine J.* 2017 Jun;26(6):1721-1731. . (SCI, 24/74; Orthopaedic).