Technology Transfer of Biomedical Equipment in Uruguay: Lessons Learned

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Introduction: Technology is applied knowledge to produce goods and services while Technology Transfer (TT) is the concession of knowledge from inventor to industry. Intellectual Property is not transferable but its use may be negotiated. "Invention" is the result of creativity, while "innovation" implies a market for the invention and "dissemination and adoption" happens when the innovation makes its way well into society. The functions of University are Teaching, Research and also Development [1]. "Spin off" firms or other agreements with Industry are ways to output research. Specifically, **nib** is an academic group in the University Hospital to detect equipment needs derived from clinical practice and research. With an interdisciplinary approach original solutions are sought, designed and tested. We consider TT cases taken from **nib** experience:

1) A clinically successful prototype having been produced to report on fetal heart rate variability, a spin off firm was created by graduates. The University bought the first units, but no other clients were interested and the initial money was used to keep the firm operating. This was the first failure: "***there are no clients for a "no-firm"***".

2) Recent graduates with clinical devices to offer are accepted in a "firm incubator", received business mentoring and had no running expenses. The firm was not attractive because the partners were employed in large Engineering firms. The lesson: "***firms must have personal commitment".***

3) A clinical prototype reached a mature product, and funding was obtained for TT. We contacted a firm with no biomedical experience, but solid engineering reputation in elevator controls. An academic staff worked in the firm to help adopt the prototype. Sales boosted. The lesson is "***academic staff must get involved in firms to reach market".***

4) Case 3 showed a limitation: the product saturated market, and it was decided to explore the Region. But no CE marking interrupted conversations to sell the device abroad. The lesson is "***certification is necessary to open markets***".

5) A biomedical monitor sensors firm asked **nib** for support to better production. After 2 years of one **nib** academic staff in the firm, quality of procedures were improved and received certification, thus increasing sales. The lesson is ***"presence of Academia in Industry is beneficial".***

Discussion & Conclusions: We found that the detection of clinical needs in a University Hospital turned into prototypes, followed by an agreement with established firms willing to adopt inventions, may lead to innovations, provided ample cooperation of academic staff with industry is allowed. Additionally we found that University should not expect royalties until a considerable benefit is reached by the licensed company.

References:

[1] Simini, F. - "XXI century biomedical engineering in Latin America: top quality or disappear". Physics in Medicine and Biology; 39(1):240, 1994.